

**For a dollar, would you...?**

**How (we think) money affects compliance with our requests**

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**Abstract**

Research has shown a robust tendency for people to underestimate their ability to get others to comply with their requests. In five studies, we demonstrate that this underestimation-of-compliance effect is reduced when requesters offer money in exchange for compliance. In Studies 1 and 2, participants assigned to a no-incentive or monetary-incentive condition made actual requests of others. In both studies, requesters who offered no incentives underestimated the likelihood that those they approached would grant their requests; however, when requesters offered monetary incentives, this prediction error was mitigated. In Studies 3-5, we present evidence in support of a model to explain the underlying mechanism for this attenuation effect. Studies 3 and 4 demonstrate that offering monetary incentives activates a money-market frame. In Study 5, we find that this activation reduces the discomfort associated with asking, allowing requesters to more accurately assess the size of their request and, consequently, the likelihood of compliance.

Keywords: Compliance, Money, Morality, Prosocial Behavior, Social Influence, Social Prediction

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Have you ever offered someone gas money in exchange for a ride, or beer money in exchange for helping with a tough move? Maybe you've given too much money to someone who was going out to pick up lunch anyway and told them they could "keep the change" if they brought you back something, too. Many of us do this, but why? Do we think we are less likely to be rejected when we offer money in exchange for compliance with a request? If so, are we right?

A simple request is a powerful tool of influence that often requires no additional incentive to elicit compliance. Yet, absent any exchange of money, people tend to underestimate their ability to get others to comply with their requests (Bohns, 2016; Bohns, Roghanizad & Xu, 2014; Flynn & Lake, 2008; Newark, Flynn & Bohns, 2014). In the initial demonstration of this phenomenon, Flynn and Lake (2008) had participants ask people to do them a favor. Some participants asked random strangers to fill out a questionnaire or to lend them a cell phone, while others asked for donations for a charity run or for help finding a location on their college campus. In each case, participants substantially underestimated—often by as much as 50%—the number of people who would comply with their requests. These findings have proved robust, having been replicated in the United States, Canada, the Netherlands, and China; by student and non-student samples; in urban and suburban settings; with different measures of compliance; and using a variety of prosocial and unethical requests (Aaldering & Handgraaf, 2011; Bohns et al., 2011; Bohns et al., 2014; Flynn & Lake, 2008; Newark et al., 2014).

The explanation for this phenomenon is that requesters fail to appreciate the impact of social-emotional mechanisms of influence. But what about other mechanisms of influence, such as economic means? Do requesters make the same error when attempting to influence others with money?

In the current research, we hypothesize that offering money in exchange for compliance will moderate this robust social prediction error. Previous research has found that when a request is framed as asking for a favor, pertinent social norms combined with the anxieties of asking lead requesters to overestimate the instrumental costs to targets of saying “yes” (Flynn, 2003, 2006; McGuire, 2003) and underestimate the social-emotional costs to targets of saying “no” (Bohns et al., 2011; Bohns et al., 2014; Flynn & Lake, 2008; Newark et al., 2014). This biased cost-benefit analysis leads requesters to expect—erroneously—that rejection is imminent (Greenberg, 1980; Greenberg, Block & Silverman, 1971). In exchanges involving money, however, the norms and emotions that bias requesters’ evaluations of a favor request are either reduced or eliminated entirely (Blau, 1986, 1994; Fiske, 1992; Kouchaki, Smith-Crowe, Brief, & Sousa, 2013; Pillutla & Chen, 1999). Consequently, requesters who offer money in exchange for compliance should be less likely to commit this social prediction error.

### **Why people underestimate compliance with favor requests**

Why do requesters tend to exaggerate the likelihood of rejection when asking for a favor? One reason is the strong interaction norms that characterize these requests (Goffman, 1955, 1959, 1971; Goldschmidt, 1998; Grice, 1975). Both predicted and actual compliance depend on assessments of the costs and benefits of compliance (Greenberg, 1980; Greenberg, Block & Silverman, 1971). However, the implicit norms

of favor exchange encourage requesters to exaggerate just how much of an imposition they are actually proposing, whereas targets are encouraged to minimize it. When asking for a favor, requesters are expected to “save face” for both themselves and their targets by politely conveying their appreciation through apologies and expressions of gratitude (Brown & Levinson, 1987; Goffman, 1955, 1959, 1971). The feelings of humility and thanks that should accompany even the smallest of favor requests increase requesters’ judgments about the costs of compliance (Blau, 1986, 1994; Flynn, 2003, 2006). On the other hand, while requesters are encouraged to be appreciative and to avoid trivializing or taking for granted another’s help, targets wishing to be courteous are expected to downplay the effort or hassle that helping entails (Flynn, 2003; Grice, 1975). Flynn (2003, 2006) has demonstrated that these interaction norms push requesters’ and targets’ subjective evaluations of the magnitude of a favor in opposite directions. In particular, requesters’ focus on expressing gratitude (“Thank you so much”; “I’m so sorry to impose...”) leads them to believe that what they are asking for is relatively large, while targets’ focus on graciously minimizing their contributions (“It’s no big deal”) leads them to believe that the request is relatively small. Together, these politeness norms cause requesters to overestimate the instrumental costs of complying with a request relative to targets (Flynn, 2003; McGuire, 2003).

In addition to the norms of favor interactions, the anxiety and discomfort one often feels when asking for a favor also bias requesters’ estimation of the costs of compliance. Requesters put their self-esteem on the line and expose themselves to the possibility of rejection (Bohns & Flynn, 2010; DePaulo & Fisher, 1980; Fisher, Nadler & Whitcher-Alagna, 1982; Goffman, 1971). Even seemingly modest requests, such as

asking for a seat on the subway, have been shown to cause requesters extreme distress (Milgram, 1974; Blass, 2009). Using their emotions as information about the task, requesters are likely to assume that if it feels so unpleasant to ask for something, they must be asking for something imposing or unreasonable (Loewenstein & Lerner, 2003; Schwarz, 2011). Further, negative emotions focus requesters' attention on the undesirable consequences of complying—for example, the risks or costs to the target of saying “yes” (Loewenstein & Lerner, 2003; Schwarz, 2000).

Finally, requesters' focus on their own anxieties also means that, while they exaggerate the instrumental costs a target incurs by saying “yes,” they tend to overlook important benefits of compliance. In particular, the social-emotional costs a target incurs by saying “no” (and, consequently, avoids by saying “yes”) are considerable (Bohns & Flynn, 2015; Flynn, 2003, 2006; Van Boven & Loewenstein, 2005; Van Boven, Loewenstein, & Dunning, 2005; Van Boven, Loewenstein, Dunning, & Nordgren, 2013). Unable to assume the perspective of their targets, requesters in the throes of asking for a favor fail to appreciate how often targets will agree to requests—even those they would rather not grant—simply to escape the discomfort of refusing (Bohns et al., 2014; Flynn & Lake, 2008; Newark et al., 2014).

Altogether, the norms and emotions that characterize the act of asking for a favor lead requesters to overestimate the likelihood that targets will say “no” to their requests. However, offering money in exchange for compliance should mitigate many of these considerations, allowing requesters to more realistically assess the likelihood that their requests will be fulfilled.

**Why money should attenuate the underestimation-of-compliance effect**

There are several terms for interactions characterized by the exchange of money for services, including a market pricing relationship (Fiske, 1992), a monetary market (Heyman & Ariely, 2004), a business decision frame (Kouchaki, Smith-Crowe, Brief, & Sousa, 2013), and an economic exchange, schema, or context (Blau, 1986, 1994; Molinsky, Grant, & Margolis, 2012; Pillutla & Chen, 1999). Although there are noteworthy differences among these classifications, they all agree that requests involving money (a) have more objectively defined criteria for determining value, (b) emphasize rationality and self-interest over politeness, and (c) are less personal, sentimental, and emotionally wrought than requests that do not involve money or involve non-monetary incentives. These qualities of monetary exchanges are likely to attenuate requesters' tendency to underestimate compliance by reducing or eliminating the aforementioned sources of bias in requesters' predictions.

Favor exchanges involve subjective, often tacit, evaluations of the magnitude of a request (Blau, 1986, 1994; Flynn, 2003, 2006). And, as has been argued, an actor who is concerned with conveying adequate gratitude or consumed by his or her anxiety is likely to exaggerate the costs to a target of agreeing to a request, for example, believing that asking someone to complete a small survey is a "big deal."

The norms of monetary exchanges, however, emphasize "rationality, efficiency, and self-interest, concepts at the heart of economics" (Molinsky et al., 2012, p. 28; see also Blau, 1986, 1994; Etzioni, 1988; Fiske, 1992; Frank, 1988; Frank, Gilovich & Regan, 1993; Kouchaki et al., 2013; Pillutla & Chen, 1999). According to Blau (1994), "social exchange engenders diffuse obligations, whereas those in economic exchange are

specified” (p. 152-156, as cited in Flynn, 2006). In economic exchanges, things are given a specific monetary value, and market mentalities encourage ascertaining a good or service’s true value. Actors are encouraged to plainly specify the value of items and labor in order to facilitate the “comparison of many qualitatively and quantitatively diverse factors” (Vohs, Mead, & Goode, 2008, p. 209, as cited in Kouchaki et al., 2013).

These interaction norms are unlikely to bias requesters’ assessments of the instrumental costs of saying “yes” in the same way as the expressions of gratitude that characterize a favor request. An actor concerned with rationality, efficiency, and self-interest (and who believes the other party is concerned with the same) has no reason to overstate what he or she is asking. Rather, he or she should be concerned with evaluating a request posed as a monetary exchange in an unbiased manner, for example, recognizing that completing a small survey is, in fact, a fairly minor task.

In addition, exchanges involving money tend to be less emotional than those that characterize favor exchanges, hence reducing another source of bias. According to Kouchaki and colleagues (2013), within a business decision frame, “individual targets are objectified and the social bonds with them weakened” (p. 54). In essence, exchanges involving money are less personal than favor requests, a quality that reduces the threatening nature of both the act of asking and the meaning of rejection: it all becomes “just business.” Consider the matter-of-fact, unemotional, take-it-or-leave-it tone that exemplifies a typical business proposition. By reducing the self-consciousness, anxiety, and dread many requesters feel when making a request, offering money reduces the emotional sources of bias reviewed above (e.g., Bohns & Flynn, 2015; Loewenstein &

Lerner, 2003; Schwarz, 2000) and should therefore boost requesters' estimations of compliance.

In sum, requests involving money emphasize rationality, objective valuation, and self-interest over politeness, and are less personal, sentimental, and emotionally wrought than favor requests. These qualities are likely to attenuate requesters' tendency to underestimate compliance by eliminating the sources of bias that lead requesters to overestimate the instrumental costs and/or underestimate the social-emotional benefits to targets of saying "yes". Based on this rationale, we propose our primary hypothesis:

**Hypothesis 1.** Offering money in exchange for compliance will reduce requesters' tendency to underestimate compliance with their requests.

It is worth noting that previous research has demonstrated that small monetary incentives tend to have little or no effect on actual behavior (Gneezy & Rustichini, 2000; Gneezy, Meier, & Rey-Biel, 2011). Consequently, any impact offering small amounts of money has on requesters' predictions of compliance is unlikely to be met with changes in targets' ultimate willingness to comply. We therefore argue that the manipulations in our studies will affect requesters' predictions of compliance, but not actual compliance. This reasoning leads us to the following hypothesis:

**Hypothesis 2.** Offering a small amount of money in exchange for compliance will increase requesters' *predictions* of compliance, but will have little or no effect on *actual* compliance, hence narrowing the gap between the two.

Pillutla and Chen (1999) have stated that, "a different set of norms will be evoked if an activity is viewed as economic rather than as non-economic" (p. 85), and according to Heyman and Ariely, simply "[u]sing monetary payments causes participants to invoke

monetary-marketplace frames and norms” (p. 787). Accordingly, offering monetary incentives should evoke for requesters the types of frames and norms that characterize monetary exchanges—frames and norms associated with rationality, objective valuation, self-interest, and a depersonalization of social relationships. We argue that offering money in exchange for compliance will lead requesters to adopt a money-market frame, in turn reducing their tendency to underestimate compliance. This reasoning leads us to the following hypothesis:

**Hypothesis 3.** The mitigation of the underestimation-of-compliance effect that is predicted to occur when requesters offer money in exchange for compliance will result from requesters’ adoption of a money-market frame.

The adoption of a money-market frame should reduce the emotional sources of bias (the self-consciousness and anxiety many requesters feel when making a request; Bohns & Flynn, 2015; Loewenstein & Lerner, 2003; Schwarz, 2000) and/or normative sources of bias (the emphasis on humility and gratitude one is expected to display when asking for a favor; Blau, 1986, 1994; Flynn, 2003, 2006) reviewed above. This means requesters should be less likely to overestimate the instrumental costs and underestimate the social-emotional benefits of compliance. As a result, reducing these sources of bias should attenuate requesters’ tendency to underestimate compliance through one or both of these paths. This reasoning leads us to our fourth and final hypothesis:

**Hypothesis 4.** Offering a monetary incentive when making a request will reduce the sources of bias that otherwise cause requesters to underestimate compliance in one of three ways: (a) Monetary incentives will reduce the discomfort of asking, allowing requesters to more accurately assess the size of their request; (b) Monetary incentives will

reduce the discomfort of asking, allowing requesters to view the predicament of their targets more clearly (i.e., by recognizing the discomfort targets' would avoid by saying "yes"); Or, (c) Monetary incentives will reduce concerns with humility and gratitude, encouraging requesters to more accurately assess the size of their request.

### **Overview of the Current Studies**

We conducted a series of five studies in order to test our four hypotheses. In Study 1, participants asked people to fill out a brief questionnaire and estimated the likelihood that the people they approached would comply with their requests. We gave half of the participants a small cash incentive to offer the people they approached and compared predicted and actual compliance in this "monetary incentive" condition to a "no incentive" condition. In order to ensure that our findings generalized to other types of requests, in Study 2 we replicated the methodology from Study 1 but had participants ask people to vandalize a library book rather than fill out a survey.

In Studies 3-5, we explored our proposed model to explain the underlying mechanism for the predicted attenuation effect. Namely, we tested whether monetary incentives lead requesters to adopt a money-market frame, thereby reducing the discomfort associated with asking and allowing requesters to more accurately assess the size of their request.

In Studies 3 and 4, we explored the first part of this model by examining whether our findings could be explained by requesters' adoption of a money-market frame. In Study 3, we added a non-monetary "Candy Bar Incentive" condition in order to ensure that our effects were specific to money. If our findings do in fact result from the theorized activation of a money-market frame, non-monetary incentives, such as candy,

should not have the same effect. In our fourth study, we recruited a larger online sample of participants to respond to hypothetical scenarios, which allowed us to pit our proposed mechanism—that requesters’ use of money leads them to adopt a money-market frame—against four plausible competing explanations: power (Anderson & Galinsky, 2006; Anderson, John & Keltner, 2012), self-efficacy (Vohs et al., 2006, 2008; Zhou, Vohs & Baumeister, 2009), lay theories of motivation that overemphasize extrinsic motivation (Heath, 1999; Kipnis et al., 1976; Miller & Ratner, 1998; Miller, 1999; Nolan et al., 2008; Strickland, 1958), and concerns with reciprocity or indebtedness (Gouldner, 1960; Greenberg, 1980).<sup>1</sup>

In Study 5, we explored the second part of this model and delved further into the psychological process underlying the attenuation prediction. We have proposed a number of psychological explanations for what thinking of a request within a money-market frame (i.e., thinking of a request as “just business”) does to a requester’s experience of making a request. In this study, we tested three possible explanations directly: (1) A business exchange is less awkward and embarrassing than a favor request; therefore, requesters are less consumed by their own emotions and better able to accurately assess the magnitude of what they are asking. (2) A business exchange is less awkward and embarrassing than a favor request; therefore, requesters are less consumed by their own emotions and better able to take the perspective of their targets. (3) Requesters feel less obligated to be appreciative and grateful in a business exchange; therefore, they are better able to accurately assess the magnitude of what they are asking. Using a second set of hypothetical scenarios, we tested each of these possibilities in an online sample of participants.

### **Study 1: The Effect of Monetary Incentives on Predicted and Actual Compliance with a Request to Complete a Questionnaire**

As an initial test of our primary prediction, we replicated and extended Flynn & Lake's (2008; Study 1) questionnaire study, adding a condition in which we introduced a monetary incentive. Participants approached random students on campus and made a small request (to fill out a questionnaire) either with no incentive or in exchange for \$1. Before doing so, they predicted how easy it would be to get other students to agree to their request. We compared participants' beliefs about their capacity to get others to fill out the questionnaire to their actual effectiveness at getting others to do so in both the No Incentive and Monetary Incentive conditions.

#### **Participants**

Forty-nine "primary" participants (36 Female; 13 Male) were recruited through the psychology department participant pool's research website and paid \$10 to solicit 205 "secondary" participants to fill out a questionnaire. Sample size was determined by approximating for each condition the sample size used by Flynn and Lake (2008; Study 1;  $N=23$  primary participants) in the original version of this study. Primary participants were randomly assigned to one of only two conditions (No Incentive, Monetary Incentive). Secondary participants in the No Incentive condition received no monetary remuneration for completing the questionnaire. Secondary participants in the Monetary Incentive condition were paid \$1 if they agreed to complete the questionnaire. One primary participant in the No Incentive condition dropped out of the study after reading the task instructions (before attempting the task) and was paid \$5 to complete only the pre-task questionnaire. We did not include this person's incomplete data in our analyses.

## Procedure

Upon arrival to the lab, our “primary” participants were given a pre-task questionnaire. In this questionnaire, participants read the complete task instructions before answering any questions about the task. An excerpt from the task instructions, with the Monetary Incentive condition instructions bolded and in brackets, is below:

“In this study, you will ask strangers (in person) to do you a small favor [**in exchange for \$1**]. Specifically, you will ask them to fill out a brief questionnaire...”

Participants were allowed to review the questionnaire they would be asking secondary participants to complete. The questionnaire was a single-page, abbreviated version of the “Big Five Inventory,” a personality questionnaire consisting of items such as, “I see myself as someone who is talkative” (Rammstedt & John, 2007). Participants were also provided the script they were to use when approaching people:

“Will you do me a favor? [**If I give you a dollar, w**] [W]ill you fill out this questionnaire?”

Primary participants in the monetary incentive condition were instructed to show secondary participants a \$1 coin<sup>2</sup> when they made this request.

After learning the complete details of the task (no information was withheld), participants in both conditions predicted how effectively they would solicit people to fill out the questionnaire by providing a free-response answer to the question, “How many people do you think you will have to approach before you get 3 people to agree to fill out a questionnaire [**in exchange for \$1**]?”

Participants were then provided the following materials for their task: a clipboard; a pen; three blank questionnaires; a tally sheet on which to record the responses of each person they approached; a copy of the task instructions. Participants in the Monetary Incentive condition were also provided three \$1 coins to give to secondary participants who completed the questionnaire. To avoid multiple participants covering the same areas of campus, all primary participants were sent to designated campus locations to complete the task. These locations were distributed equally across conditions.

Secondary participants who agreed to complete the questionnaire were subsequently told that they were part of a study and handed a detailed debriefing form. For confidentiality reasons, their completed “Big Five” questionnaires were returned to them. If they were in the Monetary Incentive condition, they were also given \$1 to keep.

After getting three people to complete a questionnaire, primary participants returned to the lab, where they were thanked, debriefed, and paid.

### **Results**

We ran a 2 (Compliance: Predicted vs. Actual) x 2 (Incentive Condition: No Incentive vs. Monetary Incentive) mixed-model ANOVA with Compliance as a within-subjects factor and Incentive Condition as a between-subjects factor. [The correlation between predicted and actual compliance was  $r(48)=.27, p=.07$ .] There was a main effect of Compliance such that participants predicted that they would have to ask more people overall ( $M=8.56, SD=5.33$ ) than they actually had to ask ( $M=4.27, SD=1.93$ ) in order to get three individuals to complete a questionnaire,  $F(1, 46)=37.48, p<.001, \eta_p^2=.41$ . There was also a significant interaction of Compliance with Incentive Condition,  $F(1, 46)=7.15, p=.01$ . In the No Incentive condition, participants overestimated the number of

people they would need to approach to complete their task by a ratio of  $M=10.42$  (Predicted) to  $M=4.25$  (Actual),  $F(1, 23)=25.50$ ,  $p<.001$ ,  $\eta_p^2=.53$ . However, in the Monetary Incentive condition, participants overestimated the number of people they would need to approach by a ratio of  $M=6.71$  (Predicted) to  $M=4.29$  (Actual),  $F(1, 23)=12.31$ ,  $p=.002$ ,  $\eta_p^2=.35$  (confidence intervals depicted in Figure 1).

Further analyses confirmed that although there was no difference in *actual* compliance between the No Incentive ( $M=4.25$ ,  $SD=2.23$ ) and Monetary Incentive ( $M=4.29$ ,  $SD=1.63$ ) groups,  $F(1, 46)=.005$ ,  $p=.94$ , there was a significant difference in participants' *predictions* of compliance between the No Incentive ( $M=10.42$ ,  $SD=6.44$ ) and Monetary Incentive ( $M=6.71$ ,  $SD=3.07$ ) groups,  $F(1, 46)=6.48$ ,  $p=.01$ ,  $\eta_p^2=.13$ .

**Additional Analyses.** Consistent with previous findings (Flynn & Lake, 2008), there were no interactions or main effects of gender (all p-values  $>.52$ ).

### Summary and Discussion

As expected, we replicated the findings of Flynn and Lake (2008): Participants overestimated the number of individuals they would need to ask to get three people to agree to their request to fill out a questionnaire. However, this effect was moderated by whether participants offered a monetary incentive to the people they asked. When providing a monetary incentive, participants' predictions were significantly more accurate; they overestimated the number of participants they would need to ask to a lesser degree. Despite the fact that requesters' expectations of compliance increased to become more accurate when they offered a small monetary incentive, actual compliance remained fixed.

Study 1 provides initial evidence that the introduction of a monetary incentive

attenuates the underestimation-of-influence effect. We used a task previously used by Flynn and Lake (2008) as an example of a prosocial request, which makes this finding consistent with work by Miller and Ratner (1998) in which people incorrectly assumed others would be more likely to engage in prosocial behavior if they had a monetary incentive to do so. However, our theorizing is not specific to prosocial contexts. To demonstrate the generalizability of these findings, Study 2 replicates Study 1 using a very different type of request.

**Study 2: The Effect of Monetary Incentives on Predicted and Actual Compliance  
with a Request to Vandalize a Library Book**

In Study 2, we used a task from Bohns et al. (2014) in which participants approached students on campus and asked them to vandalize a library book. In the original study, secondary participants considered the act of vandalizing a library book to be unethical; some targets even expressed their own discomfort with the task, as well as concerns about getting in trouble for vandalism. In the current study, primary participants asked secondary participants to commit this act either with no economic incentive (as in the original study) or in exchange for \$1. Before doing so, they predicted how easy it would be to get other students to commit this act. We compared participants' beliefs about their capacity to get others to deface a library book to their actual effectiveness at getting others to do so in the No Incentive and Monetary Incentive conditions.

## Methods

### Participants

Forty-three “primary” participants (32 Female; 11 Male) were recruited through

the psychology department participant pool's recruitment website and paid \$10 to solicit 246 "secondary" participants. Sample size was determined by approximating for each condition the sample size used by Bohns et al. (2014; Study 2;  $N=25$  primary participants) in the original version of this study. Primary participants were randomly assigned to one of only two conditions (No Incentive, Monetary Incentive). Secondary participants in the No Incentive condition received no monetary remuneration for agreeing to vandalize a purported library book. Secondary participants in the Monetary Incentive condition were paid \$1 if they agreed to vandalize the book. One primary participant in the Monetary Incentive condition dropped out of the study after reading the task instructions (before making any requests) and was paid \$5 to complete only the pre-task questionnaire. We did not include this person's incomplete data in our analyses. Two primary participants predicted that they would have to ask fewer than three individuals in order to get three individuals to comply with the request, indicating that they did not understand the instructions. These two participants are not included in the reported analyses; however, our findings are the same when these participants are included.

### **Procedure**

Upon arrival to the lab, our "primary" participants were given a pre-task questionnaire. In this questionnaire, participants read the complete task instructions before answering any questions about the task. An excerpt from the task instructions, with the Monetary Incentive condition instructions bolded and in brackets, is below:

"In this study, you will ask strangers (in person) to commit a small act of vandalism **[in exchange for \$1]**. Specifically, you will ask them to write the word 'pickle' on a page of a library book..."

Participants were also provided the script they were to use when approaching people:

“Hi, I’m trying to play a prank on someone, but they know my handwriting. **[If I give you \$1, w]** [W]ill you just quickly write the word ‘pickle’ on this page of this library book?”

Primary participants in the monetary incentive condition were instructed to show secondary participants a \$1 coin when they made this request.

After learning the complete details of the task (again, no information was withheld), primary participants in both conditions predicted their ability to convince others to vandalize the book by providing a free-response answer to the question, “How many people do you think you will have to approach before you get 3 people to agree to write the word ‘pickle’ in a library book **[in exchange for \$1]?**”

Participants were then provided the following materials for their task: a hard-cover book with a library reference number taped to the spine (the book was made to look identical to library books at the university campus library; see Bohns et al., 2014); a pen; a tally sheet on which to record the responses of each person they approached; debriefing forms for the secondary participants; a copy of the task instructions. Participants in the Monetary Incentive condition were also provided three \$1 coins to give to secondary participants who completed the vandalism task. Once again, participants were sent to designated campus locations to complete the task and these locations were distributed equally across conditions.

Secondary participants who agreed to vandalize the fake library book were subsequently told that they were part of a study, and were assured that the book was not a library book and that they had not in fact done anything wrong. They were then handed a

detailed debriefing sheet. If they were in the Monetary Incentive condition, they were also given \$1 to keep. After getting three people to write “pickle” in pen on separate, clean pages of the book, primary participants returned to the lab and were thanked, debriefed, and paid.

## Results

We ran a 2 (Compliance: Predicted vs. Actual) x 2 (Incentive Condition: No Incentive vs. Monetary Incentive) mixed-model ANOVA with Compliance as a within-subjects factor and Incentive Condition as a between-subjects factor. [The correlation between predicted and actual compliance was  $r(42)=.30, p=.051$ .] As in Study 1, there was a main effect of Compliance such that participants predicted that they would have to ask more people overall ( $M=9.23, SD=6.34$ ) than they actually had to ask ( $M=5.93, SD=2.82$ ) in order to get three individuals to comply,  $F(1, 38)=13.14, p=.001, \eta_p^2=.19$ . There was also a significant interaction of Compliance with Incentive Condition,  $F(1, 38)=6.67, p=.01$ . This interaction indicates that in the No Incentive condition, participants overestimated the number of people they would need to approach to complete their task ( $M=11.45$  Predicted,  $M=5.80$  Actual),  $F(1, 19)=13.21, p=.002, \eta_p^2=.41$ . However, in the Monetary Incentive condition, participants no longer significantly overestimated the number of people they would need to approach ( $M=7.00$  Predicted,  $M=6.05$  Actual),  $F(1, 19)=1.01, p=.33, \eta_p^2=.05$  (confidence intervals depicted in Figure 2).

As in Study 1, there was no difference in *actual* compliance between the No Incentive ( $M=5.80, SD=1.94$ ) and Monetary Incentive ( $M=6.05, SD=3.55$ ) groups,  $F(1, 38)=.08, p=.78$ , but there was a significant difference in participants' *predictions* of

compliance between the No Incentive ( $M=11.45$ ,  $SD=7.96$ ) and Monetary Incentive ( $M=7.00$ ,  $SD=2.96$ ) groups,  $F(1, 39)=5.90$ ,  $p=.02$ ,  $\eta_p^2=.08$ .

**Additional Analyses.** Consistent with previous findings (Bohns et al., 2014) and Study 1, there were no interactions or main effects of gender (all  $p$ -values  $>.47$ ).

### **Summary and Discussion**

In Study 2, we replicated the moderating effect of monetary incentives from Study 1 using a very different type of request. This finding suggests that this effect is not the result of underestimating others' prosocial intentions in the absence of economic incentives; rather, the effect is more general, arising in different domains due to requesters' basic perceptions of their ability to influence others with and without monetary incentives.

### **Study 3: Comparing Monetary and Non-Monetary Incentives**

Studies 1 and 2 provide evidence that the underestimation-of-compliance effect is attenuated when a monetary incentive is introduced. We have theorized that this finding is the result of the activation of a money-market frame. Heyman and Ariely (2004) have differentiated between the effects of monetary and non-monetary incentives, such as candy. Only monetary incentives have been shown to activate the kind of frames and norms that we have argued are driving our findings in the current studies. By Heyman and Ariely's reasoning, offering candy in exchange for compliance would activate "social-exchange" or "social-market" frames and norms, which are more similar to the frames and norms that characterize a typical favor exchange. Accordingly, only monetary incentives should activate a money-market frame, and therefore only monetary incentives should mitigate the underestimation-of-compliance effect.

To determine whether this effect is indeed specific to monetary incentives, which would support our proposed mechanism, or whether it would occur with any kind of extrinsic incentive, we replicated Study 2 and added a third condition in which primary participants asked secondary participants to vandalize a library book in exchange for a candy bar. We chose candy as our non-monetary incentive because candy has been contrasted with monetary incentives in previous research (Heyman & Ariely, 2004). We once again compared participants' beliefs about their capacity to get others to deface a library book to their actual effectiveness at getting others to do so in the No Incentive and Monetary Incentive conditions, as well as in the new Candy Bar Incentive condition.

## **Methods**

### **Participants**

Seventy-six “primary” participants (55 Female; 21 Male) were recruited through the psychology department participant pool’s recruitment website and paid \$10 to solicit 401 “secondary” participants. Sample size was again determined by approximating for each condition the sample size used by Bohns et al. (2014; Study 2;  $N=25$  primary participants) in the original version of this study. Primary participants were randomly assigned to one of only three conditions (No Incentive, Monetary Incentive, Candy Bar Incentive). Secondary participants in the No Incentive condition received no remuneration for agreeing to vandalize a purported library book. Secondary participants in the Monetary Incentive condition were paid \$1 if they agreed to vandalize the book. Secondary participants in the Candy Bar Incentive condition received a Snickers© chocolate bar (worth approximately \$1.25 locally) for agreeing to vandalize the book. Six primary participants (one in the No Incentive condition, one in the Monetary

Incentive condition, and four in the Candy Bar Incentive condition) dropped out of the study and were paid \$5 to complete only the pre-task questionnaire. We did not include these participants' incomplete data in the analyses.

### **Procedure**

Upon arrival to the lab, our “primary” participants were given a pre-task questionnaire. In this questionnaire, participants read the complete task instructions before answering any questions about the task. An excerpt from the task instructions with the Monetary Incentive and Candy Bar Incentive conditions bolded and in brackets is below:

“In this study, you will ask strangers (in person) to commit a small act of vandalism **[in exchange for \$1/in exchange for a Snickers bar]**. Specifically, you will ask them to write the word ‘pickle’ on a page of a library book...”

Participants were also provided the script they were to use when approaching people:

“Hi, I’m trying to play a prank on someone, but they know my handwriting. **[If I give you \$1, w/ If I give you this Snickers bar, w]** [W]ill you just quickly write the word ‘pickle’ on this page of this library book?”

Primary participants in the Monetary Incentive and Candy Bar Incentive conditions were instructed to show secondary participants a \$1 coin or a Snickers bar, respectively, when they made this request.

After learning the complete details of the task (again, no information was withheld), primary participants in all three conditions predicted how effectively they would persuade people to vandalize the book by providing a free-response answer to the question, “How many people do you think you will have to approach before you get 3

people to agree to write the word ‘pickle’ in a library book [**in exchange for \$1/in exchange for a Snickers bar**]?”

Participants were then provided the following materials for their task: a hard-cover book with a library reference number taped to the spine; a pen; a tally sheet on which to record the responses of each person they approached; debriefing forms for the secondary participants; a copy of the task instructions. Participants in the Monetary Incentive condition were also provided three \$1 coins to give to secondary participants who completed the vandalism task. Participants in the Candy Bar Incentive condition were provided three Snickers bars to give to secondary participants who completed the vandalism task. Participants were again sent to designated campus locations, which were distributed equally across conditions, to complete the task<sup>3</sup>. Participants were debriefed as in the previous study, and, once again, secondary participants who agreed to vandalize the book were allowed to keep their incentive (the \$1 or the Snickers bar).

### Results

We ran a 2 (Compliance: Predicted, Actual) x 3 (Incentive Condition: No Incentive, Monetary Incentive, Candy Bar Incentive) mixed-model ANOVA with Compliance as a within-subjects factor and Incentive Condition as a between-subjects factor. [The correlation between predicted and actual compliance was  $r(70)=.09$ ,  $p=.46$ .] As in Studies 1 and 2, there was a main effect of Compliance such that participants predicted that they would have to ask more people overall ( $M=11.27$ ,  $SD=7.64$ ) than they actually had to ask ( $M=5.73$ ,  $SD=2.03$ ) to complete the task of getting three individuals to comply,  $F(1, 67)=38.89$ ,  $p<.001$ ,  $\eta_p^2=.37$ . However, this main effect was once again qualified by an interaction of Compliance with Incentive Condition,  $F(2, 67)=3.83$ ,

$p=.03$ . This interaction indicates that, excluding the Candy Bar Incentive condition, we replicated the interaction of the Monetary Incentive versus No Incentive condition on the accuracy of participants' predictions,  $F(1, 47)=4.20, p=.05$ . In the No Incentive condition, participants overestimated the number of people they would need to approach to complete their task ( $M=11.58$  Predicted,  $M=5.54$  Actual),  $F(1, 23)=14.12, p=.001, \eta_p^2=.38$ . In the Monetary Incentive condition, participants also overestimated the number of people they would need to approach ( $M=8.24$  Predicted,  $M=5.92$  Actual),  $F(1, 24)=6.85, p=.02, \eta_p^2=.22$ , but to a lesser degree. However, the interaction between the No Incentive condition and the Candy Bar Incentive condition was not significant,  $F(1, 43)=.75, p=.39$ . In fact, participants in the Candy Bar Incentive condition overestimated the number of people they would need to approach to a slightly greater degree than did participants in either of the other two conditions ( $M=14.00$  Predicted,  $M=5.71$  Actual),  $F(1, 20)=16.07, p=.001, \eta_p^2=.45$  (confidence intervals depicted in Figure 3).

As in Studies 1 and 2, there was no difference in *actual* compliance across the three groups (No Incentive  $M=5.54, SD=2.11$ ; Monetary Incentive  $M=5.92, SD=2.16$ ; Candy Bar Incentive  $M=5.71, SD=1.85$ ),  $F(2, 67)=.21, p=.81$ . However, there was a significant difference in participants' *predictions* of compliance,  $F(2, 72)=3.43, p=.04, \eta_p^2=.087$ . Participants in the Monetary Incentive condition thought they would be more effective (i.e., would need to ask fewer people to reach their goal;  $M=8.24, SD=3.78$ ) than those in the No Incentive condition ( $M=11.58, SD=8.15$ ),  $F(1, 48)=3.45, p=.07, \eta_p^2=.067$ . However, participants' predictions in the Candy Bar condition ( $M=14.00, SD=9.40$ ) did not differ from those in the No Incentive condition,  $F(1, 43)=.85, p=.36$ . (Participants' predictions did differ significantly between the Monetary Incentive

condition and the Candy Bar Incentive condition,  $F[1, 44]=7.89, p=.007, \eta_p^2=.15$ .)

**Additional Analyses.** Consistent with previous findings and Studies 1 and 2, there were no interactions or main effects of gender (all p-values  $>.44$ ).

### **Summary and Discussion**

For a third time, we demonstrated moderation by monetary incentives. When primary participants offered a monetary incentive to secondary participants, they underestimated compliance to a lesser degree. Further, in support of our proposed mechanism, this effect appears to be specific to monetary incentives. When primary participants offered a non-monetary (candy) incentive equivalent in value to the monetary incentive, their predictions were statistically equivalent to those in the no incentive condition, even trending in the opposite direction (towards predicting even lower levels of compliance). In other words, offering non-monetary incentives to another person in exchange for their compliance did not influence participants' predictions; however, offering money specifically did.

### **Study 4: A Scenario Study to Test**

#### **Four Alternative Mechanisms for the Attenuation Effect**

Thus far, we have found support for our primary hypothesis (i.e., that monetary incentives attenuate the underestimation of compliance) in three behavioral studies in which a total of 167 primary participants made actual requests of 852 secondary participants. We have argued that this effect is the result of the activation of a money-market frame and have found initial support for this proposed mechanism in our third study in which we found that money, but not non-monetary incentives, attenuated the underestimation-of-compliance effect.

One specific type of money-market frame that money has been shown to evoke is a business decision frame (Tenbrusel & Messick, 1999), which, in addition to sharing many features with other money-market frames, is uniquely characterized by the depersonalization of social relationships and has been found to mediate the association between money primes and unethical outcomes (Kouchaki et al., 2013). Adapting Kouchaki and colleagues' mechanistic use of a business decision frame to the favor exchange contexts (Flynn, 2003, 2006) we focus on in the current research, we operationalized the money-market frame activated by monetary incentives in the current study as the adoption of a *business exchange orientation*—an orientation characterized by rationality, self-interest, objective valuation, and a depersonalization of social relationships. In this study, we predict that offering money in exchange for compliance will lead requesters to adopt a business exchange orientation, in turn reducing their tendency to underestimate compliance.

We recruited approximately four times as many participants per condition compared to our previous studies in order to test this proposed mechanism (the adoption of a money-market frame operationalized as a business exchange orientation) against four alternative mechanisms using a vignette paradigm. In particular, we tested this proposed mechanism against the following alternative possibilities: (1) power (Anderson & Galinsky, 2006; Anderson, John & Keltner, 2012), (2) self-efficacy (Vohs et al., 2006, 2008; Zhou et al., 2009), (3) lay theories of motivation that overemphasize extrinsic incentives (Heath, 1999; Miller, 1999; Miller & Ratner, 1998), and (4) concerns with reciprocity or indebtedness (Gouldner, 1960; Greenberg, 1980). Each of these alternative explanations and the measures used to test them is described below.

## Method

### Participants

Two-hundred eighty-one participants (178 Male; 103 Female;  $M_{Age}=35.5$ ) were recruited through Amazon Mechanical Turk. Participants completed the study online and were randomly assigned to condition using Qualtrics.

### Procedure

Participants were assigned to one of only three conditions (Monetary Incentive, No Incentive, Candy Bar Incentive). All participants read only two scenarios within their condition. After each scenario, they answered only the scales listed below related to each scenario. First, each participant was presented with all six scales constructed to test our competing mechanisms (business exchange orientation, power, self-efficacy, lay theories of extrinsic motivation, reciprocity) plus one control variable (communal orientation) in randomized order. After these questions relating to our mechanisms, participants were presented with our primary DV (likelihood of compliance).

**Scenarios.** We created two scenarios in which participants were asked to imagine making the two requests from Studies 1-3 (completing a questionnaire and vandalizing a library book) of other people. There were three versions of each scenario—in one version, participants imagined making each request with no mention of money, and in the other versions participants imagined offering the other person either \$1 or a candy bar, as they did in the behavioral studies. All participants read two scenarios within their assigned incentive condition (Monetary Incentive, No Incentive, or Candy Bar Incentive). The scenarios were presented randomly to control for order effects. Both scenarios, with the wording for the Monetary and Candy Bar incentive conditions bolded and in brackets,

are below:

*Questionnaire Scenario.* Imagine that you are doing survey research on university students. You just need one more student to fill out a questionnaire for you. The questionnaire is brief—only about 2 pages long. **[You have a dollar/candy bar to give each student who agrees to fill out the questionnaire.]** You go up to a student on campus **[with a dollar/candy bar in your hand]** and ask, "Will you fill out this questionnaire **[for \$1/a candy bar]**?"

*Vandalism Scenario.* Imagine that you want to pull a prank on your friend. You come up with a plan to write the word "pickle" (an inside joke) in a library book your friend borrowed from your university library, which might get your friend in trouble when the book is returned. Since your friend knows your handwriting, you can't write in the book yourself. You look around and see a stranger sitting nearby. **[You have a dollar/candy bar, so y/]** **[Y]ou** go up to the stranger with a pen **[and the dollar/candy bar]** and say, "I'm playing a prank on my friend. Would you write the word 'pickle' in this library book for me **[if I give you \$1/this candy bar]**?"

### **Business Exchange Orientation Measure**

Our primary proposed mechanism is that money activates a money-market frame. In the current study, we operationalized this frame as a *business exchange orientation* using a set of items adapted from Aggarwal & Larrick (2012). Aggarwal and Larrick had

participants identify corporate brands as either communal- or exchange-oriented using four items that capture the emphasis on self-interest—what each person expects to get out of the exchange—and depersonalization—it’s “just business”— that typify a business exchange orientation (cf., Kouchaki et al., 2013; Tenbrusel & Messick, 1999).

Specifically, as a measure of “exchange orientation,” Aggarwal and Larrick asked participants to indicate the extent to which each brand was: (1) like a businessperson, and (2) concerned about making money from them. We adapted these two items for the purposes of our study to be specific to a request context. Because two of our three incentive conditions did not involve money, we also removed the explicit mention of money as the unit of exchange. In the end, the two items we used to measure business exchange orientation were: “To what extent does this situation feel like a business transaction?” and “To what extent do you think the other person is concerned with getting something from you in this situation?” These two items, along with all other items for our competing mechanisms, were captured on a 7-point scale ranging from “1=Not at all” to “7=To a great extent.” The Cronbach’s alpha for these two items was .64. We note that this alpha level is fairly low. In the context of the current results, this shortcoming ultimately makes our results more conservative; however, it may be worth fine-tuning this measurement for future research.

In their study, Aggarwal and Larrick also asked participants to indicate the extent to which the corporate brands in their study were (a) concerned about their needs, and (b) like a family member, as a measure of how communal-oriented participants perceived these brands to be. To be consistent with Aggarwal and Larrick, we also adapted these two items and used them as a control. Specifically, we included two measures of

communal orientation in our study: “To what extent is the other person concerned about your needs in this situation?” and “To what extent does this situation feel like interacting with a close friend or family member?” The Cronbach’s alpha for these two items was .79.

### **Alternative Explanations and Measures**

**Power.** One alternative explanation for our observed pattern of results is that using money in an attempt to influence someone else increases one’s sense of power, which in turn makes one more confident that one’s requests will be granted. According to Keltner, Gruenfeld and Anderson (2003), power refers to the extent to which a person can “modify others’ states by providing or withholding resources” (p. 265). This definition could potentially apply to the monetary-incentive condition described in the current research. Further, a heightened sense of power has been linked to optimism (Anderson & Galinsky, 2006), an exaggerated sense of control over desired outcomes (Fast, Gruenfeld, Sivanathan, & Galinsky, 2009), and overconfident decision-making (Fast, Sivanathan, Mayer, & Galinsky, 2012), all of which could be related to requesters’ increased confidence in their ability to influence targets.

To test this possibility, we used the sense of power scale developed by Anderson & Galinsky (2006). This scale contains eight items that measure a person’s sense of power, such as “I can get him/her/them to listen to what I say,” and “My wishes do not carry much weight.” According to Anderson, John & Keltner (2012), the sense of power scale is typically used to assess a person’s sense of power in a particular situation using instructions at the beginning of the scale indicating the interaction or relationship of interest, such as, “In this negotiation...” or “In my relationship with my friend...” (p.

344). (See Cesario and McDonald [2013] for a more extensive discussion of the context-specific nature of power.) In this case, we used the phrase “In this interaction...” to precede each of the sense of power items. The Cronbach’s alpha for these eight items was .89.

**Self-Efficacy.** In contrast to the situation-specific nature of power, another possible explanation for our results is that thinking about using money makes people feel more generally self-efficacious, outside of any specific interpersonal context. This increased sense of self-efficacy, in turn, would have increased our participants’ beliefs that their requests would be granted. Research on the psychology of money has shown that simply activating the concept of money through a variety of methods can lead to a generalized sense of self-sufficiency, efficaciousness, and confidence, which has important consequences across a variety of contexts, ranging from choosing to work alone to displaying greater endurance of physical pain (Vohs et al., 2006, 2008; Zhou et al., 2009). According to Zhou et al. (2009), “Money provides a feeling of confidence that problems can be solved and needs can be met,” and may therefore be “a social resource in which resides efficacious power to manipulate the social system for one’s benefit” (p. 700). Such “efficacious power” could presumably also boost requesters’ confidence in their ability to influence targets.

To test this possibility, we used a general self-efficacy scale developed by Chen, Gully, and Eden (2001). This is an eight-item scale that includes items such as, “I will be able to achieve most of the goals that I have set for myself,” and “When facing difficult tasks, I am certain that I will accomplish them.” In contrast to the sense of power scale (Anderson & Galinsky, 2006) and other task-specific self-efficacy scales (Bandura,

2006), this scale specifies no particular context to which the items are intended to apply. The Cronbach's alpha for these eight items was .96.

**Lay theories of motivation.** Another alternative explanation is that people have lay theories of others' motivation that over-emphasize the importance of extrinsic rewards as determinants of others' behavior. In general, people tend to think that others are more driven by extrinsic incentives than they actually are (Heath, 1999; Kipnis et al., 1976; Miller & Ratner, 1998; Nolan et al., 2008; Strickland, 1958). Miller (1999), in particular, has argued that people hold lay theories of others' behavior that overemphasize the role of self-interest. Relatedly, people have been shown to overweight the role of extrinsic rewards when explaining others' behavior. For example, in a series of survey studies by Heath (1999), participants mistakenly expected their peers' career choices to be motivated primarily by pay and other extrinsic incentives (e.g., title, job security).

This mechanism would likely apply to candy as well as money, so based on our findings in Study 3, this particular explanation seems unlikely. However, to confirm, we included a measure of extrinsic incentives in our study. We used Heath's (1999) definition of extrinsic incentives to create a four-item, face-valid index to assess the extent to which participants assumed the other person's behavior in the scenarios would depend on the extrinsic rewards associated with complying or not complying with each request. Note that we could not use Heath's actual items, which were originally adapted from Nadler and Lawler (1989), because these items were highly specific to the questions he was studying (e.g., "How important [to you] is...the amount of pay you get [in your job]?").

The items we created were: “To what extent do you think the other person would say ‘yes’ or ‘no’ to your request because of the costs and benefits to them?”; “To what extent do you think the other person would say ‘yes’ or ‘no’ to your request based on what they might gain or lose in this situation?”; “To what extent do you think the other person would say ‘yes’ or ‘no’ to your request based on the risks they might incur or the rewards they might reap in this situation?”; “To what extent do you think the other person would say ‘yes’ or ‘no’ to your request because of what’s in it for them?” The Cronbach’s alpha for these four items was .90.

**Reciprocity.** A final possibility is that offering money in exchange for compliance with a request makes a requester feel less indebted to his or her target. Part of what makes the act of asking a stranger for something so awkward is the sense that we are violating a norm of reciprocity—the informal agreement that if you do something for me now, I’ll do something for you later (Gouldner, 1960; Greenberg, 1980). Being indebted to or “owing” someone else is extremely uncomfortable, yet it is difficult to reciprocate someone’s compliance if we have no ongoing relationship with that person. Offering another person a clear incentive to comply solves this problem, allowing a requester to evade this uncomfortable feeling of irresolvable indebtedness, which could make requesters feel more confident when making a request.

As with the aforementioned extrinsic incentives mechanism, this mechanism would likely apply to candy as well as money, so based on our findings in Study 3, this explanation seems unlikely. However, to confirm, we also included items asking how indebted requesters would feel if targets were to comply. Three items were adapted from Tsang (2006) and Watkins et al. (2006). Specifically, participants were asked to indicate

how *indebted* they would feel if the target were to comply with their request, how *obligated to reciprocate* they would feel, and how much they would feel like they *owed* the target. The Cronbach's alpha for these three items was .95.

### **Dependent Measure**

**Likelihood of Compliance.** Our primary dependent variable measured participants' expectations of compliance with a single question specific to each scenario: "How likely is it that the person you approach would agree to [write in the book/ fill out the questionnaire]?" Responses were captured on a 7-point scale ranging from "1=Not at all" to "7=Extremely." Because no differences were found in *actual* compliance in Studies 1-3, and the scenarios created for Study 4 were identical to the requests used in these previous studies, we considered this measure of *predicted* compliance alone to be sufficient for testing our five competing mechanisms.

### **Additional Measures**

**Demographic Questions.** At the end of the survey, participants were asked their gender and age.

## **Results**

**Main Effects Analyses.** A 3(Incentive Condition: No Incentive, Monetary Incentive, Candy Bar Incentive) x 2(Individual Scenarios) Mixed Model ANOVA with "likelihood of compliance" as our dependent variable revealed our predicted main effect of condition,  $F(2, 278)=9.88, p<.001, \eta_p^2=.07$  (there was no interaction of scenario,  $p>.21$ ). Participants in the Monetary Incentive condition ( $M=4.70, SD=1.15$ ) thought the people they asked would be more likely to comply with their requests than those in the No Incentive condition, ( $M=3.85, SD=1.56$ ),  $F(1, 186)=18.38, p<.001, \eta_p^2=.09$ , and those

in the Candy Bar Incentive condition, ( $M=4.24$ ,  $SD=1.21$ ),  $F(1, 188)=7.10$ ,  $p=.008$ ,  $\eta_p^2=.04$ .

The same analyses were conducted for each of our five mechanism variables (business exchange orientation, power, self-efficacy, extrinsic motivation, and reciprocity). A significant effect of Incentive Condition emerged for only two of our five scales: business exchange orientation ( $F[2, 278]=24.37$ ,  $p<.001$ ,  $\eta_p^2=.15$ ) and extrinsic motivation ( $F([2, 278]=5.26$ ,  $p=.006$ ,  $\eta_p^2=.04$ ). There were no significant differences by condition on our power ( $p>.90$ ), self-efficacy ( $p>.75$ ), or indebtedness ( $p>.61$ ) scales.

Mirroring our findings on predicted compliance, participants in the Monetary Incentive condition ( $M=5.07$ ,  $SD=1.17$ ) adopted more of a *business exchange orientation* than participants in the No Incentive condition ( $M=3.81$ ,  $SD=1.33$ ),  $F(1, 186)=48.15$ ,  $p<.001$ ,  $\eta_p^2=.21$ , and participants in the Candy Bar Incentive condition ( $M=4.62$ ,  $SD=1.27$ ),  $F(1, 188)=6.53$ ,  $p=.011$ ,  $\eta_p^2=.03$ .

Participants in the Monetary Incentive condition also thought that their targets would be more motivated by *extrinsic incentives* than participants in the No Incentive condition ( $M=4.29$ ,  $SD=1.38$ ),  $F(1, 186)=8.22$ ,  $p=.005$ ,  $\eta_p^2=.04$ . However, there was no significant difference between the Monetary Incentive and Candy Bar Incentive conditions on expectations of extrinsic motivation ( $p>.60$ ).

**Mediation Analyses.** We first conducted a separate mediation analysis for each mediator using the PROCESS macro for SPSS with incentive condition as our IV, likelihood of compliance as our DV, and each of our five mechanism scales (business exchange orientation, power, self-efficacy, extrinsic motivation, and reciprocity) as our potential mediators (Preacher & Hayes, 2008). Because incentive condition is a

multicategorical IV, dummy codes for the No Incentive versus Monetary Incentive (D1) and No Incentive versus Candy Incentive conditions (D2) were included as predictors (making the No Incentive condition the reference group; Hayes & Preacher, 2014). In these analyses, the only 95% bias-corrected confidence intervals that did not include zero were the indirect effect of *business exchange orientation* and *extrinsic motivation*; the 95% confidence intervals for the remaining three scales all included zero (see Table 1). We subsequently conducted a multiple mediator analysis with these latter two mediators (controlling for the remaining three mediators as covariates in the analysis) and found that when both potential mediators were entered into the analysis, only the 95% bias-corrected confidence interval for business exchange did not include zero (see Table 2). In other words, mediation was confirmed for business exchange frame, but not for extrinsic motivation. All of these results remained unchanged when also controlling for communal orientation.

**Additional Analyses.** Consistent with previous findings (Bohns et al., 2014; Flynn & Lake, 2008) and Studies 1, 2, and 3, there were no interactions or main effects of gender (all p-values >.32).

Separate analyses, including mediation analyses were conducted for both the questionnaire and vandalism scenarios separately. The results are identical to the combined results presented here. These additional analyses, including mediation results, are available in Appendix B.

### **Summary and Discussion**

In our fourth study, we found support for our prediction that participants would report higher levels of expected compliance in the Monetary Incentive condition than in

the No Incentive condition, despite the fact that no difference in *actual* compliance was found between these conditions in Studies 1-3. In addition, we once again tested a Candy Bar Incentive condition, as we did in Study 3, and found that monetary incentives had a greater effect than non-monetary incentives on requesters' predictions of compliance. Further, we used bootstrapping mediation analysis to test our proposed mechanism, the activation of a money-market frame, against four competing mechanisms (power, self-efficacy, extrinsic motivation, and reciprocity), and found that only the activation of a money-market frame (specifically, a business exchange orientation) explained our findings.

Notably, the Candy Bar Incentive condition, while significantly different from the Monetary Incentive condition, did not replicate our findings from Study 3 in which requesters' predictions of compliance in the candy bar incentive condition were statistically equivalent to those in the no incentive condition. This may be an artifact of the study having been online. In Study 3, participants actually held candy bars in their hands and gave them out to targets, which likely did not feel very "businesslike." In Study 4, participants simply imagined providing individuals with a candy bar as an incentive to comply with a request. In this context, the "exchange" nature of the transaction may have been more salient than the exact nature of what was being exchanged, since participants were not in fact interacting with the item. For these reasons, we have more confidence in our Study 3 findings. However, this inconsistency does make the role of candy in this phenomenon less clear and opens up some alternative explanations for our findings, which we discuss in more detail in the General Discussion. It may be possible that in some cases, non-monetary incentives such as candy may,

similar to money, make an interaction feel more like it is “just business.” That said, it seems clear that money is more reliable and effective at evoking this kind of frame.

Study 4 provides further evidence for our primary hypothesis about the effect of money in attenuating the underestimation-of-compliance effect. Further, this study provides additional evidence for the role of the activation of a business exchange orientation in explaining the effect of money on predicted compliance.

### **Study 5: A Scenario Study to Test the Underlying Psychological Mechanism for the Attenuation Effect**

In Studies 1 and 2, we provided evidence for an attenuation of the underestimation-of-compliance effect when requesters offered money in exchange for compliance. In Studies 3 and 4, we provided evidence that this attenuation effect is driven by the extent to which a requester thinks of making a request as “just business,” a thought process that is strongly—though perhaps not exclusively—activated by offering money in exchange for compliance. In our fifth and final study, we explore the underlying psychological explanation for this effect. Specifically, we test which of three psychological explanations reviewed in the introduction contribute to requesters’ more accurate predictions when offering money. The three possible pathways we tested are: (1) A business exchange is less awkward and embarrassing than a favor request; therefore, requesters are less consumed by their own emotions and better able to accurately assess the magnitude of what they are asking. (2) A business exchange is less awkward and embarrassing than a favor request; therefore, requesters are less consumed by their own emotions and better able to take the perspective of their targets. (3) Requesters feel less obligated to be appreciative and grateful in a business exchange; therefore, they are better

able to accurately assess the magnitude of what they are asking.

To test these possibilities, we recruited a sample of online participants and had them imagine making requests of different people either with or without offering monetary incentives. A secondary goal of Study 5 was to induce a money-market frame without specifying a particular monetary amount to ensure that our findings are the result of adopting this framework more generally, rather than being the artifact of a particular dollar amount. Thus, in each scenario, participants imagined either that they were to simply “pay someone” for their compliance with a request or that they were to make the request as a favor. A third and final goal of Study 5 was to extend our findings beyond the two favor requests we have used thus far in Studies 1-4. Thus, in Study 5, we used four new favor requests, which we pilot tested in order to ensure that they shared the same properties as the requests used in Studies 1-4—namely, that targets of these requests were just as likely to agree to these requests for free as for pay.

## **Method**

### **Participants**

One-hundred participants (43 Male; 57 Female;  $M_{Age}=35.4$ ) were recruited through Amazon Mechanical Turk. Participants completed the study online and were randomly assigned to condition using Qualtrics.

### **Procedure**

Participants were assigned to one of only two conditions (No Incentive, Monetary Incentive). All participants read only four scenarios within their condition. After each scenario, they answered only the scales listed below related to each scenario. First, each participant was randomly presented with all four scales constructed to test our

psychological mechanisms (requester's discomfort, requester's gratitude, perceived size of request, target's perceived discomfort saying "no"). After completing these four scales, all participants were presented with our primary DV (expected likelihood of compliance).

**Scenarios.** We created four scenarios in which participants were asked to imagine making requests of other people (moving a couch, walking a dog, getting a ride to the airport, and shoveling snow). There were two versions of each scenario—in one version, participants imagined offering to pay the other person to perform the task, and in the other version, participants imagined asking the other person to perform the task as a favor. All participants read four scenarios within their assigned incentive condition (Monetary Incentive, No Incentive). The four scenarios, with the wording for the Monetary and No Incentive conditions bolded and in brackets, are listed below:

*Moving a Couch.* Imagine that you were to [**offer to pay someone/ask someone as a favor**] to move a couch into your apartment.

*Walking a Dog.* Imagine that you were to [**offer to pay someone/ask someone as a favor**] to walk your dog one afternoon.

*Ride to the Airport.* Imagine that you were to [**offer to pay someone/ask someone as a favor**] for a ride to the airport.

*Shoveling Snow.* Imagine that you were to [**offer to pay someone/ask someone as a favor**] to shovel your driveway after a snowstorm.

These scenarios were developed through pilot testing to ensure that any differences requesters *predicted* in compliance between requests for pay and requests for favors did not represent differences in targets' *actual* willingness to comply. We recruited 97 pilot participants through Amazon Mechanical Turk (55

Female; 42 Male;  $M_{Age}=34.8$ ) and randomly assigned them to either a Monetary Incentive or a No Incentive request condition. In the Monetary Incentive condition, participants rated how likely (on a Likert scale of 1=Not at all to 7=Extremely) they would be to agree to each request for pay (e.g., “Imagine that someone were to offer to pay you to move a couch into their apartment. How likely is it that you would agree to move this person’s couch?”). In the No Incentive condition, participants rated how likely they would be to agree to perform each request as a favor (e.g., “Imagine that someone were to ask you, as a favor, to move a couch into their apartment. How likely is it that you would agree to move this person’s couch?”). When participants imagined these requests from the perspective of the *target*, they reported that they would be equally likely to agree to each request for free ( $M=4.79$ ,  $SD=1.29$ ) as they would be to agree for pay ( $M=4.87$ ,  $SD=1.30$ ),  $F(1, 95)=.086$ ,  $p=.77$ ,  $\eta_p^2=.001$ . This pattern of results did not differ by scenario  $p>.89$ . Thus, as in Studies 1-4, any increase in requesters’ predictions of compliance in exchange for pay reflects attenuation of a social prediction error, not increases in actual compliance.

**Psychological Mechanism Measures.** We have theorized that requesters achieve greater accuracy when making requests using money because a money-market frame increases requesters’ predictions of compliance in one of three ways: (1) Monetary incentives reduce the discomfort of asking, allowing requesters to more accurately assess the size of their request; (2) Monetary incentives reduce the discomfort of asking, allowing requesters to view the predicament of their targets more clearly (i.e., by recognizing the discomfort targets seek to avoid by complying); Or, (3) Monetary

incentives reduce concerns with humility and gratitude, encouraging requesters to more accurately assess the size of their request.

To test these three possibilities, we created four scales to measure requesters' discomfort, requesters' perceptions of the size of their request, requesters' concerns with being grateful, and requesters' perceptions of the discomfort targets would experience were they to say "no."

*Requesters' Discomfort.* We adapted items used by Bohns and Flynn (2010) in order to measure requesters' own discomfort with making these requests. Specifically, we asked Ps to indicate how "comfortable" (reverse-scored), "awkward," and "nervous" they would feel making each of these requests on 7-point Likert scales (1=Not at all; 7=Extremely;  $\alpha=.92$ ).

*Requesters' Gratitude.* To measure requesters' concern with gratitude, theorized by Blau (1986), we asked participants how "grateful," "appreciative," and "indebted" they would feel towards the other person if they agreed to each request on 7-point Likert scales (1=Not at all; 7=Extremely;  $\alpha=.77$ ).

*Perceived Size of the Request.* To measure requesters' perceptions of the size of each request, we created three items that Ps answered on 7-point Likert scales (1=Not at all; 7=Extremely;  $\alpha=.91$ ): "How 'big of a deal' is the thing you are asking this person to do?" "How significant of an imposition is this request?" "To what extent is this a pretty minor request?" (reverse scored).

*Target's Perceived Discomfort Saying "No."* Adapting work by Flynn and Lake (2008) and Bohns et al. (2011), we used three items to measure requesters' perceptions of how uncomfortable targets would feel saying "no" to their requests. We asked Ps to

indicate how “easy” it would be for targets to say “no” to this request (reversed scored) and how “comfortable” (reverse scored) and “awkward” they would feel saying “no” on a 7-point Likert scale (1=Not at all; 7=Extremely;  $\alpha=.85$ ).

**Dependent Variable.** Finally, participants indicated for each scenario how likely the other person would be to comply on a scale of 1 (Not at all) to 7 (Extremely): “How likely is it that someone would agree to [move your couch/give you a ride to the airport/walk your dog/shovel your driveway]?”

## Results

**Main Effects Analyses.** A 2(Incentive Condition: No Incentive, Monetary Incentive) x 4(Individual Scenarios) Mixed Model ANOVA with “likelihood of compliance” as our dependent variable revealed our predicted main effect of condition,  $F(1, 98)=3.22, p=.01, \eta_p^2=.06$ . Participants in the Monetary Incentive condition ( $M=5.00, SD=0.93$ ) thought the people they asked would be more likely to comply with their requests than those in the No Incentive condition ( $M=4.54, SD=0.86$ )<sup>4</sup>.

The same analyses were conducted for each of our four psychological mechanism variables (requesters’ discomfort, requesters’ gratitude, perceived size of request, and target’s perceived discomfort saying “no”). There was no significant difference on perceptions of targets’ discomfort saying “no” ( $p>.68$ ). However, there were significant differences on the remaining three scales. Participants said they would feel less comfortable making these requests in the absence of money ( $M=4.34, SD=1.24$ ) than if they were to pay someone ( $M=3.63, SD=1.15$ ),  $F(1, 98)=8.88, p=.004, \eta_p^2=.08$ . Participants also said they would be more appreciative and grateful when asking in the absence of money ( $M=5.93, SD=0.81$ ) as compared to when offering payment ( $M=5.37,$

$SD=0.87$ ),  $F(1, 98)=10.85$ ,  $p=.001$ ,  $\eta_p^2=.10$ . Finally, participants indicated that the task they were asking someone to do was larger when asking in the absence of money ( $M=4.56$ ,  $SD=1.01$ ) than when offering payment ( $M=4.01$ ,  $SD=0.86$ ),  $F(1, 98)=8.65$ ,  $p=.004$ ,  $\eta_p^2=.08$ .

**Mediation Analyses.** We conducted a separate mediation analysis for each mediator using the PROCESS macro for SPSS with incentive condition as our IV, likelihood of compliance as our DV, and each of our four psychological mechanism scales (requesters' discomfort, requesters' gratitude, perceived size of request, and perceptions of targets' discomfort saying "no") as our potential mediators (Preacher & Hayes, 2008). In these analyses, the only 95% bias-corrected confidence intervals that did not include zero were the indirect effect of *requesters' discomfort* and *perceived size of the request*; the 95% confidence intervals for the two remaining scales both included zero (see Table 3).

This pattern of results is consistent with our first proposed psychological explanation—namely, the hypothesis that money reduces requesters' discomfort, which allows requesters to more accurately assess the true size of their request. To further test this explanation, we conducted a sequential mediation analysis using Model 6 in the PROCESS macro for SPSS. In this analysis, we included incentive condition as our IV, likelihood of compliance as our DV, and requesters' discomfort and perceived size of the request as mediators (controlling for requesters' gratitude and perceived discomfort saying "no" by including them as covariates in the model). While the predicted sequential mediation was not significant at the 5% level, it was significant at the 10% level: The 90% confidence interval for the indirect effect of incentive condition on predicted

likelihood of compliance, mediated sequentially through requesters' discomfort and perceived size of the request, did not contain zero ([0.0006, 0.0712]). In addition, the 90% confidence interval for the indirect effect of requesters' discomfort alone similarly did not include zero ([0.0194, 0.3397]; see Table 4).

**Additional Analyses.** Consistent with previous findings (Bohns et al., 2014; Flynn & Lake, 2008) and Studies 1-4 there were no interactions or main effects of gender (all  $p$ -values  $>.53$ ).

### **Summary and Discussion**

We found evidence for our first proposed psychological explanation for the attenuation effect. Specifically, we found that monetary incentives reduce the discomfort of asking, allowing requesters to more accurately assess the size of their request. Viewing these requests more objectively – as not such “big deals” – boosts requesters' predictions of compliance, ultimately making them more accurate about the likelihood that others will comply with their requests.

### **General Discussion**

Asking for a favor can be awkward and uncomfortable. Requesters are expected to convey their appreciation and gratitude, while simultaneously facing the embarrassing prospect of rejection. The current research suggests that by offering their targets money, requesters may activate the rational, self-serving frames and norms that characterize monetary exchanges, hence mitigating this discomfiting experience. Viewing a request as “just business” makes it less personally and interpersonally threatening and allows a requester to make a more cool, calculated assessment of the actual costs and benefits of compliance, ultimately recognizing that many ordinary requests are “no big deal.” For

these reasons, we find that offering money is likely to mitigate requesters' documented tendency to doubt their ability to get others to comply with their requests (Bohns et al., 2011; Bohns et al., 2014; Flynn & Lake, 2008; Newark et al., 2014).

In five studies, we found that requesters thought they would be more effective at soliciting compliance with a request when they offered their targets small monetary incentives than when they offered no incentives. This was true despite the fact that these monetary incentives had no effect on actual compliance. Further, we found evidence for the underlying mechanism for this effect. Specifically, we found that offering monetary incentives activates a money-market frame, which we operationalized as a business exchange orientation; this activation, in turn, reduced the sources of bias that cause requesters to exaggerate what they are asking for – and therefore the likelihood of rejection – in the absence of money.

### **Practical and Theoretical Contributions**

Our findings suggest that although people tend to be unaware of their influence over others through social-emotional means, they seem to be more aware of their influence over others when offering monetary incentives. However, if people attribute their influence to the money they are offering, they may erroneously think monetary means of influence are superior to social-emotional means. In other words, people may believe it is more effective to offer another person money in exchange for their compliance when, in fact, others may be quite willing to do things for free. At the end of the day, offering money helps us avoid belief in rejection more than it helps us avoid rejection itself.

Our findings replicate and extend previous research on the underestimation-of-

compliance effect (Bohns et al., 2011; Bohns et al., 2014; Flynn & Lake, 2008; Newark et al., 2014), identifying an important moderator of this effect. Specifically, introducing monetary incentives into the request dynamic appears to mitigate requesters' undue pessimism in their ability to get others to comply with their requests.

The current research also provides a complementary perspective to work by Heyman and Ariely (2004) on the psychology of money. While Heyman and Ariely explored the varying effects of different incentive types on individuals who *receive* them, the current research demonstrates that different incentive types can also have varying effects on the psychology of those who offer them. In particular, we find that even small amounts of money can affect everyday interpersonal interactions, such as making a simple request of another person. Further, our studies provide additional support for the “special” nature of money compared to other types of resources like candy (Heyman & Ariely, 2004) or time (DeVoe & House, 2012; DeVoe & Pfeffer, 2007, 2010; Pfeffer & DeVoe, 2009), although just how unique our effects are to money is not entirely clear (see discussion below).

### **Limitations and Future Directions**

We believe these studies provide compelling evidence for the moderation of the underestimation-of-compliance effect by monetary incentives, as well as the proposition that the introduction of money reframes a favor request into a monetary transaction or business exchange. However, a number of questions remain. For example, What effects might varying the type and magnitude of both incentives and requests have on our findings? Might simple reminders of money similarly attenuate the effect, or is it essential for requesters to at least imagine using money as a specific means of influence?

Would these same effects occur when making requests of friends or people with whom the requester has an ongoing relationship? These questions are described in more detail below and offer fertile ground for future research.

We noted earlier that the current research provides support for the “special” nature of money, since non-monetary incentives did not moderate the attenuation effect in Study 3 and was significantly different from money in Study 4. However, the only non-monetary incentive we tested in the current studies was candy, an incentive that has specifically been associated with “social market” frames and norms (Heyman & Ariely, 2004). Further, our findings using candy were inconsistent between Studies 3 and 4: requesters’ predictions of compliance were statistically equivalent in the Candy and No Incentive conditions in Study 3, but requesters’ predicted greater compliance when they imagined offering candy in Study 4. An interesting area for future research will be to examine just how specific this effect is to money. As noted earlier, it may be that, in some cases, non-monetary incentives such as candy may make an interaction feel more businesslike. There may also be other types of non-monetary incentives that, like money, do not draw upon “social markets,” and may therefore have effects similar to money. As DeVoe and Iyengar (2010) have argued, there are non-monetary incentives that share a number of the defining characteristics of money. For example, research participation credit at a university is both a “unit of account (a standard and easily divided numerical unit of value),” and a “store of value (reliably saved and retrieved),” while airline points are a “medium of exchange (an asset used to purchase goods and services)” (DeVoe & Iyengar, 2010, p. 160). It remains to be seen whether money is truly the only type of incentive that would invoke a “business exchange orientation” in these sorts of

interactions.

Further, in monetary markets, “participants’ payments for their labor are based on a wage rate that reflects the amount and quality of the work performed” (Heyman & Ariely, 2004, p. 788). Given this emphasis on the proportionality of inputs to outputs (Fiske, 1992), both the magnitude of incentives and the size of a request are likely to play a larger role in requests made within a money-market framework than a social-market framework (DeVoe & Iyengar, 2010; Gneezy & Rustichini, 2000; Heyman & Ariely, 2004). Previous research has found differences in predicted compliance, but not actual compliance, when varying request size within a favor exchange context (Flynn & Lake, 2008, Study 6). However, different findings may emerge within the context of a monetary market. It would be interesting to see whether varying the magnitude of the monetary incentives and/or the size of the requests to the point where differences in actual compliance started to emerge (e.g., offering \$1 for the completion of an extremely extensive questionnaire, or \$20 to write a word in a library book) would reveal a similar pattern of results. Would requesters continue to adjust their predictions of compliance more steeply than any changes in actual compliance?

There may also be request domains for which offering money is considered inappropriate. For example, it is considered taboo by many cultures to exchange money for certain types of goods and services (e.g., offering money in exchange for votes or organs [Tetlock, Kristel, Elson, Green, & Lerner, 2000]). Targets may similarly take offense to being offered a monetary incentive for doing something they feel morally or socially obligated to do (or not do). Offering a financial incentive when it may be insulting to do so could potentially lower both predicted and actual compliance, but to

different extents.

Participants in our studies actually used monetary incentives as a means of influence (Studies 1-3), or imagined using monetary incentives as a specific means of influence (in Study 4). However, in a number of ways, our findings mirror work on the effects of money primes in which simple reminders of money have been shown to have a variety of effects on an individual's psychological state even when money is not specifically used as a medium of exchange. For example, as discussed earlier, Kouchaki and colleagues (2013) found that simply priming the concept of money using methods such as a word descrambling task led participants in their studies to adopt a "business decision frame," and the activation of this frame was associated with the enactment of unethical behaviors (see also Vohs et al., 2006, 2008; Zhou et al., 2009). Similarly, priming money prior to making a request could make requesters feel more "businesslike," which could potentially reduce their feelings of discomfort and concern with favor request mores in our studies. An interesting area for future research would be to explore whether simply priming money would similarly mitigate the underestimation of compliance, or whether the act (or thought) of actually offering money to one's target is essential to reducing this prediction error.

Finally, the current studies involved requests made between strangers, rather than individuals in ongoing relationships. It is highly possible that adding monetary incentives to requests made between friends would have different effects, in part because it may be less awkward to ask a friend for something than a stranger, and money may therefore play a less pronounced role in boosting predicted compliance in these instances. Alternatively, non-monetary incentives may behave differently for requests made

between friends, since the social exchange norms activated by non-monetary incentives such as candy or pizza are more appropriate to close relationships. Similarly, it would be interesting to see whether similar effects might occur in ongoing work relationships, which may have both social and economic qualities. For example, would a boss's predictions about how likely her employees would be to work overtime show a similar pattern depending on whether she offered overtime pay?

### **Conclusion**

A simple request is an incredibly powerful, although underrated, tool of influence that often requires no additional incentive to elicit compliance. Yet, in the absence of monetary incentives, many people feel uncomfortable making requests and doubt their effectiveness. The current research suggests that offering even small monetary incentives may mitigate these concerns by reframing an awkward social interaction as a business exchange, making people more optimistic—indeed, more realistic—about the possibility that their requests will be granted.

### Footnotes

<sup>1</sup>We have followed the recommendations of Simmons, Nelson, and Simonsohn (2011) in reporting all of our methods and analyses. Note that the primary DVs in each of our behavioral studies (Studies 1-3) are predicted and actual compliance. In the primary text, we report our full behavioral findings—that is, the effect of all our manipulations on all of our primary dependent variables (predicted and actual compliance). However, we also included a small number of exploratory self-report measures in Studies 1-3, which we ultimately decided were not essential to our theory. These supplemental measures and our complete analyses of them can be found in the appendix.

<sup>2</sup>Studies 1-3 were conducted in Canada where \$1 coins are used instead of \$1 bills.

<sup>3</sup>To address the possibility of repeat secondary participants, primary participants were instructed to record any repeats on their tally sheet and move on to another person (i.e., repeats did not count as either a “yes” or “no”). There were no reported repeats in Studies 1 or 2, and four reported repeats in Study 3 (two in the no-incentive condition, one in the monetary incentive condition, and one in the candy incentive condition).

<sup>4</sup> This analysis also revealed an interaction of incentive condition with scenario type  $F(1, 96)=3.96, p=.02$ , which appears to be driven by a single scenario (the “couch” scenario), which did not follow the same pattern of results as the other three scenarios on the primary DV. Although we report the results in the main text with this scenario included, removing this scenario strengthens all of the reported mechanism results, including

bringing the significance of the sequential mediation to  $p < .05$ .

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**Figures**

*Figure 1.* Participants' predictions of how many people they would have to approach to get three to agree to a request to complete a questionnaire differed in the No Incentive and Monetary Incentive conditions, even though actual compliance was the same across the two conditions. (Study 1.) (Bars indicate +/- one standard error.)

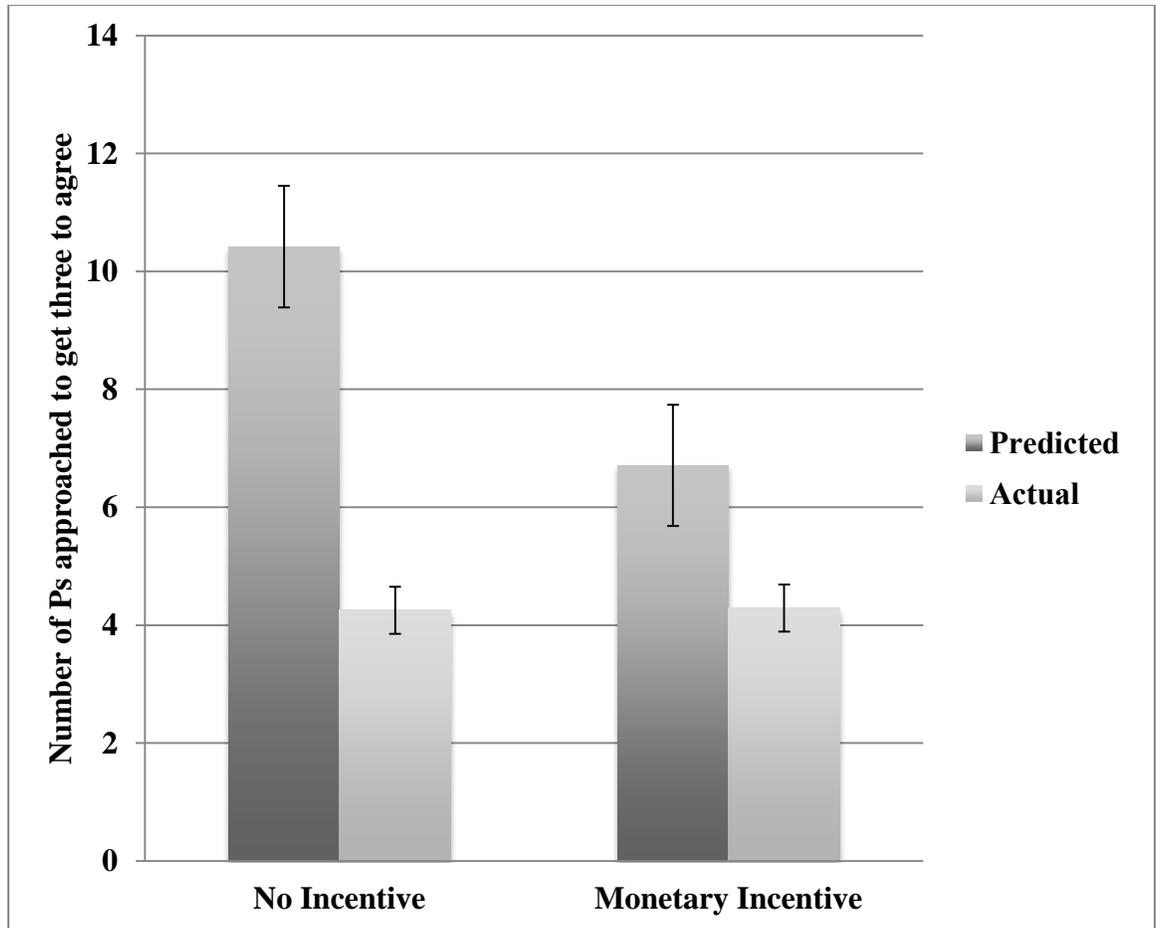


Figure 2. Participants' predictions of how many people they would have to approach to get three to comply with a request to vandalize a library book differed in the No Incentive and Monetary Incentive conditions, even though actual compliance was the same across the two conditions. (Study 2.) (Bars indicate +/- one standard error.)

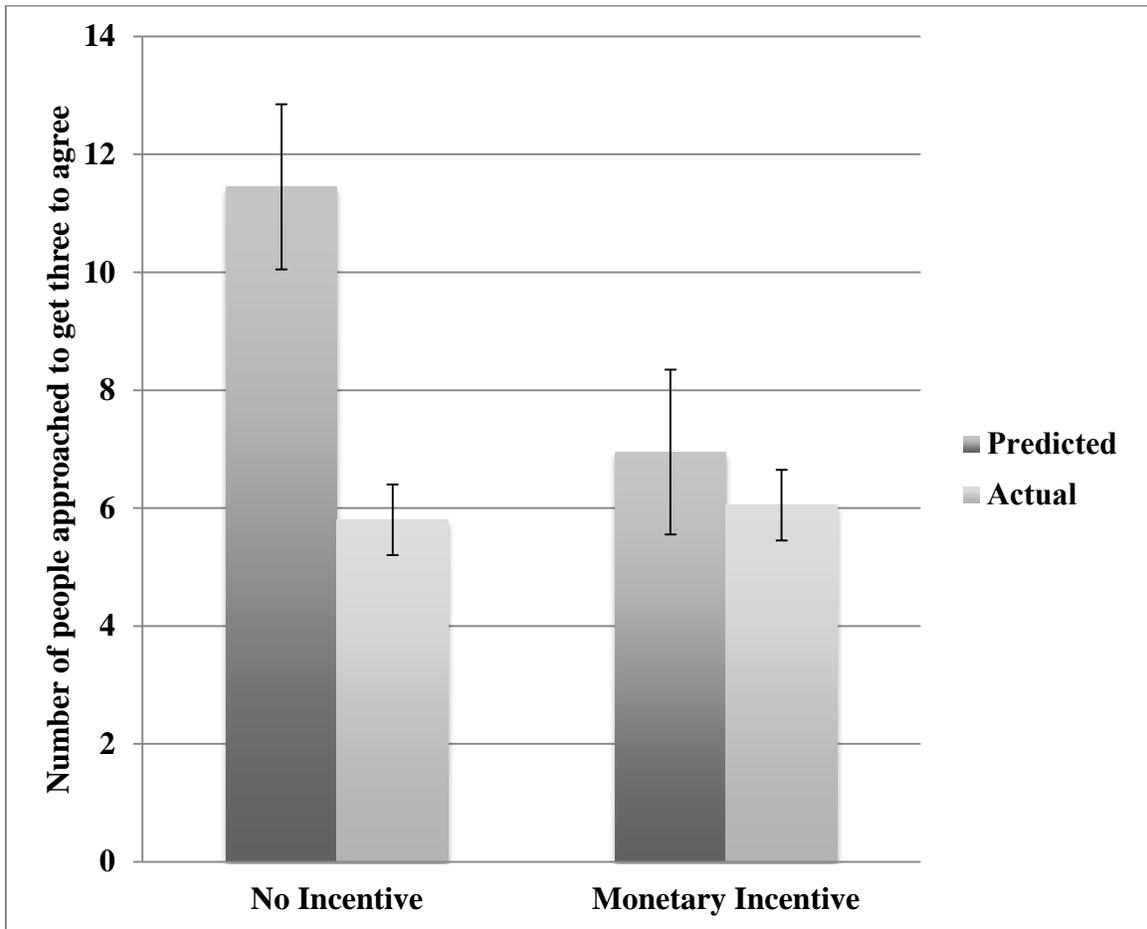


Figure 3. A monetary incentive decreased participants' predictions of how many people they would have to approach to get three to comply with a request to vandalize a library book, but a candy bar incentive did not. Actual compliance was the same across all three conditions. (Study 3.) (Bars indicate +/- one standard error.)

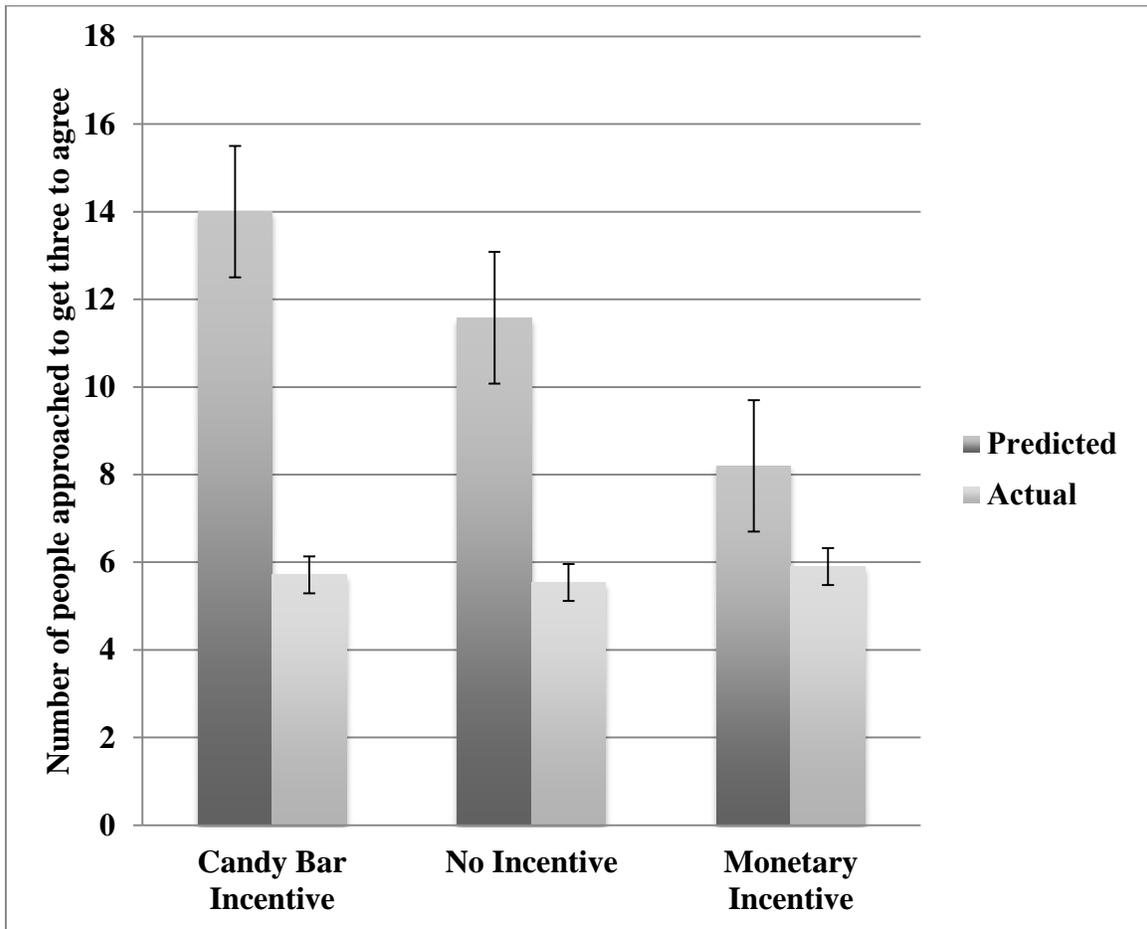


Table 1. Mediation analysis in Study 4 with dummy codes for No Incentive vs. Money (D1) and No Incentive vs. Candy (D2) for each mediator individually.

Predictor	Mediator	Estimated Indirect Effect	SE	Bias Corrected 95% CI	
				Lower	Upper
D1	Business Exchange Orientation	0.2757	0.0927	0.0981	0.4632
D2	Business Exchange Orientation	0.1761	0.0693	0.0601	0.3440
D1	Power	0.0402	0.1070	-0.1910	0.2407
D2	Power	0.0402	0.1069	-0.1668	0.2630
D1	Self-Efficacy	-0.0307	0.0498	-0.1609	0.0501
D2	Self-Efficacy	-0.0328	0.0467	-0.1418	0.0529
D1	Extrinsic Motivation	0.0864	0.0536	0.0109	0.2198
D2	Extrinsic Motivation	0.1021	0.0589	0.0202	0.2492
D1	Indebtedness	-0.0487	0.0517	-0.1678	0.0431
D2	Indebtedness	-0.0216	0.0509	-0.1325	0.0747

N=281; 1000 Bootstrap Resamples

*Table 2.* Multiple-mediator analysis comparing business exchange frame to extrinsic incentives in Study 4 with dummy codes for No Incentive vs. Money (D1) and No Incentive vs. Candy (D2).

<b>Predictor</b>	<b>Mediator</b>	<b>Estimated Indirect Effect</b>	<b>SE</b>	<b><u>Bias Corrected 95% CI</u></b>	
				<b>Lower</b>	<b>Upper</b>
D1	Business Exchange Orientation	0.1825	0.0796	0.0503	0.3620
	Extrinsic Motivation	0.0602	0.0456	-0.0029	0.1774
D2	Business Exchange Orientation	0.1161	0.0565	0.0310	0.2576
	Extrinsic Motivation	0.0497	0.0402	-0.0024	0.1608

*N*=281; 1000 Bootstrap Resamples

Table 3. Mediation analysis in Study 5 for each mediator individually.

<b>Mediator</b>	<b>Estimated Indirect Effect</b>	<b>SE</b>	<b><u>Bias Corrected 95% CI</u></b>	
			<b>Lower</b>	<b>Upper</b>
Requesters' Discomfort	0.2705	0.1119	0.0775	0.5078
Requesters' Gratitude	0.0705	0.0678	-0.0537	0.2171
Perceived Size of Request	0.1826	0.0836	0.0512	0.3805
Perceived Discomfort to Target of Saying "No"	-0.0053	0.0257	-0.0940	0.0264

*N*=100; 1000 Bootstrap Resamples

*Table 4.* Sequential mediation analysis in Study 5 for requesters' discomfort and perceived size of the request.

<b>Mediator</b>	<b>Estimated Indirect Effect</b>	<b>SE</b>	<b><u>Bias Corrected 90% CI</u></b>	
			<b>Lower</b>	<b>Upper</b>
Incentive Condition → Discomfort → Compliance	0.1479	0.0982	0.0194	0.3397
Incentive Condition → Discomfort → Size → Compliance	0.0182	0.0196	0.0006	0.0712
Incentive Condition → Size → Compliance	0.0199	0.0306	-0.0076	0.0952

*N*=100; 1000 Bootstrap Resamples

### **Acknowledgements**

The research reported in this article was supported in part by the Social Sciences and Humanities Research Council of Canada.

## Appendix A: Supplementary Measures and Analyses for Studies 1-3

### Study 1

**Supplementary Measures.** In addition to our primary measures of predicted and actual compliance, we included only 12 exploratory questions. Seven of these questions asked about our primary participants' expectations of secondary participants' feelings about being approached with this request; five asked about primary participants' own feelings about the task. Specifically, we had participants indicate on a scale from 1 (Not at all) to 7 (Extremely): "How easy do you think it would be for the students you approach to say 'no' to your request?"; "How difficult do you think it would be for the students you approach to say 'no' to your request?"; "How [comfortable, awkward, guilty, uncomfortable, and embarrassed] do you think the students you approach would feel saying 'no' to your request?". We also had participants indicate on the same scale: "How [confident, comfortable, awkward, guilty, and embarrassed] do you feel about approaching students with this request?"

**Supplementary Results and Discussion.** We analyzed each of the 12 exploratory mechanism items described above individually using ANOVA. Nine of these items clearly did not vary across the two conditions ( $p > .30$ ). However, one of the items related to primary participants' perceptions of secondary participants' reactions to the task, and two of the items related to primary participants' own reactions to the task, showed trends of note. There was a marginally significant trend in which primary participants rated secondary participants' experience saying "no" as less awkward in the Monetary Incentive condition ( $M=3.79$ ) than in the No Incentive condition ( $M=4.54$ ),  $F(1, 47)=2.99, p=.09, \eta_p^2=.06$ . However, this same pattern did not appear in the related

items of how embarrassed, guilty, or uncomfortable/comfortable secondary participants would feel saying “no,” so this may have been a spurious finding. In addition, there was a trend in which primary participants rated their own confidence with the task as higher in the Monetary Incentive condition ( $M=4.92$ ) than in the No Incentive condition,  $F(1, 46)=2.74$ ,  $p=.10$ ,  $\eta_p^2=.06$ , and a significant finding in which primary participants reported feeling more comfortable with the task in the Monetary Incentive condition ( $M=5.21$ ) than in the No Incentive condition ( $M=4.17$ ),  $F(1, 46)=5.69$ ,  $p=.02$ ,  $\eta_p^2=.11$ .

## Study 2

**Supplementary Measures.** In addition to our primary measures of predicted and actual compliance, we included only the seven exploratory questions from Study 1 asking about our primary participants’ expectations of the secondary participants’ feelings about being approached with this request. Specifically, we had participants indicate on a scale from 1 (Not at all) to 7 (Extremely): “How easy do you think it would be for the students you approach to say ‘no’ to your request”; “How difficult do you think it would be for the students you approach to say ‘no’ to your request”; “How [comfortable, awkward, guilty, uncomfortable, and embarrassed] do you think the students you approach would feel saying ‘no’ to your request”.

**Supplementary Results and Discussion.** We analyzed each of the seven exploratory mechanism items described above individually. Four of the seven items clearly did not vary across condition (all  $ps>.40$ ). However, primary participants reported that secondary participants would feel less awkward ( $M=4.25$ ), embarrassed ( $M=3.05$ ), and uncomfortable ( $M=2.80$ ) saying “no” in the Monetary Incentive condition than in the No Incentive condition ( $M$ s= 5.50, 4.30, and 4.05, respectively), all  $ps<.01$

and  $\eta_p^2 > .17$ .

These findings mirror the trend identified in Study 1 in which participants reported that secondary participants would feel less awkward saying “no” in the Monetary Incentive condition than in the No Incentive condition. This finding may reflect primary participants’ feelings about the Monetary Incentive condition being a generally less awkward and uncomfortable exchange; however, this possibility is speculative.

### Study 3

**Supplementary Measures.** In addition to our primary measures of predicted and actual compliance, we included only three exploratory questions. On a scale from 1 (Not at all) to 7 (Extremely), participants answered the following questions regarding how confident they felt as they prepared to get three people to vandalize a library book: “How confident are you in your ability to get the students you approach to agree to your request?”; “To what extent do you think you will be effective at getting the students you approach to agree to your request?”; “How difficult do you consider the task of getting 3 students to agree to your request?” (reverse-scored). These three items had a Cronbach’s alpha of .79, so they were combined into a single “task confidence” scale.

### Supplementary Results and Discussion

We conducted an ANOVA to analyze the confidence scale described above. Although there was not a significant difference between the three conditions (Monetary Incentive, No Incentive, and Candy Bar Incentive) on this scale,  $F(2, 70)=2.0$ ,  $p=.14$ ,  $\eta_p^2=.05$ , the pattern of responses on this scale did mirror participants’ predictions across the three conditions. Participants’ confidence in their task in the No Incentive ( $M=3.49$ )

and Candy Bar Incentive ( $M=3.33$ ) conditions were both lower than their confidence in the Monetary Incentive condition ( $M=4.0$ ).

In sum, these three exploratory items suggest that using money may make participants feel more confident in their task.

## Appendix B: Supplementary Measures and Analyses for Study 4

### Results: Questionnaire Scenario

**Main Effects Analyses.** A one-way ANOVA with “likelihood of compliance” as our dependent variable revealed a main effect of Incentive Condition (No Incentive, Monetary Incentive, Candy Bar Incentive),  $F(1, 278)=11.52, p<.001, \eta_p^2=.08$ .

Participants in the Monetary Incentive condition ( $M=5.14, SD=1.37$ ) thought the people they asked would be more likely to comply with their requests than those in the No Incentive condition, ( $M=4.10, SD=1.74$ ),  $F(1, 186)=21.11, p<.001, \eta_p^2=.10$ , and those in the Candy Bar Incentive condition, ( $M=4.76, SD=1.39$ ),  $F(1, 188)=7.10, p=.059, \eta_p^2=.02$ .

The same analyses were conducted for each of our five mechanism variables (business exchange orientation, power, self-efficacy, extrinsic motivation, and reciprocity). A significant effect of Incentive Condition emerged for only two of our five scales: business exchange orientation ( $F[2, 278]=5.52, p=.004, \eta_p^2=.04$ ) and extrinsic motivation ( $F([2, 278]=5.52, p=.004, \eta_p^2=.04$ ). There were no significant differences by condition on our power ( $p>.45$ ), self-efficacy ( $p>.55$ ), or indebtedness ( $p>.43$ ) scales.

Mirroring our findings on predicted compliance, participants in the Monetary Incentive condition ( $M=5.39, SD=1.17$ ) adopted more of a business exchange orientation than participants in the No Incentive condition ( $M=3.81, SD=1.23$ ),  $F(1, 186)=33.82, p<.001, \eta_p^2=.15$ , and participants in the Candy Bar Incentive condition ( $M=5.00, SD=1.36$ ),  $F(1, 188)=4.35, p=.04, \eta_p^2=.02$ .

Participants in the Monetary Incentive condition ( $M=5.06, SD=1.24$ ) also thought that their targets would be more motivated by extrinsic incentives than participants in the No Incentive condition ( $M=4.46, SD=1.44$ ),  $F(1, 186)=9.15, p=.003, \eta_p^2=.05$ . However,

there was no significant difference between the Monetary Incentive and Candy Bar Incentive conditions on expectations of extrinsic motivation ( $p > .62$ ).

**Mediation Analysis.** We conducted a separate mediation analysis for each mediator using the PROCESS macro for SPSS with incentive condition as our IV, likelihood of compliance as our DV, and each of our five mechanism scales (business exchange orientation, power, self-efficacy, extrinsic motivation, and reciprocity) as our potential mediators (Preacher & Hayes, 2008). Because incentive condition is a multicategorical IV, dummy codes for the No Incentive versus Monetary Incentive (D1) and No Incentive versus Candy Incentive conditions (D2) were included as predictors (Hayes & Preacher, 2014). In these analyses, the only 95% bias-corrected confidence intervals that did not include zero were the indirect effect of business exchange orientation and extrinsic motivation; the 95% confidence intervals for the remaining three scales all included zero (see Table B1). We subsequently conducted a multiple mediator analysis with these latter two mediators and found that when both potential mediators were entered into the analysis, only the 95% bias-corrected confidence interval for business exchange did not include zero (see Table B2). In other words, mediation was confirmed for business exchange frame, but not for extrinsic motivation. All of these results remained unchanged when controlling for communal orientation.

*Table B1.* Mediation analysis for Questionnaire Scenario only in Study 4 with dummy codes for No Incentive vs. Money (D1) and No Incentive vs. Candy (D2) for each mediator individually.

<b>Predictor</b>	<b>Mediator</b>	<b>Estimated Indirect Effect</b>	<b>SE</b>	<b><u>Bias Corrected 95% CI</u></b>	
				<b>Lower</b>	<b>Upper</b>
D1	Business Exchange Orientation	0.2588	0.1015	0.0936	0.4942
D2	Business Exchange Orientation	0.1710	0.0742	0.0517	0.3424
D1	Power	0.1042	0.1165	-0.1497	0.3236
D2	Power	0.1428	0.1199	-0.1187	0.3743
D1	Self-Efficacy	-0.0597	0.0666	-0.1994	0.0617
D2	Self-Efficacy	-0.0690	0.0653	-0.2062	0.0499
D1	Extrinsic Motivation	0.1107	0.0585	0.0219	0.2624
D2	Extrinsic Motivation	0.0941	0.0574	0.0119	0.2534
D1	Indebtedness	-0.0452	0.0420	-0.1499	0.0144
D2	Indebtedness	-0.0310	0.0402	-0.1312	0.0330

*N*=281; 1000 Bootstrap Resamples

*Table B2.* Multiple-mediator analysis for Questionnaire Scenario comparing only business exchange frame to extrinsic incentives in Study 4 with dummy codes for No Incentive vs. Money (D1) and No Incentive vs. Candy (D2).

<b>Predictor</b>	<b>Mediator</b>	<b>Estimated Indirect Effect</b>	<b>SE</b>	<b><u>Bias Corrected 95% CI</u></b>	
				<b>Lower</b>	<b>Upper</b>
D1	Business Exchange Orientation	0.2068	0.1100	0.0054	0.4279
	Extrinsic Motivation	0.0587	0.0559	-0.0299	0.1985
D2	Business Exchange Orientation	0.1367	0.0795	0.0074	0.3201
	Extrinsic Motivation	0.0499	0.0527	-0.0250	0.1971

*N*=281; 1000 Bootstrap Resamples

### Results: Book Vandalism Scenario

**Main Effects Analyses.** A one-way ANOVA with “likelihood of compliance” as our dependent variable revealed a main effect of Incentive Condition (No Incentive, Monetary Incentive, Candy Bar Incentive),  $F(1, 278)=3.45$ ,  $p=.03$ ,  $\eta_p^2=.02$ . Participants in the Monetary Incentive condition ( $M=4.26$ ,  $SD=1.76$ ) thought the people they asked would be more likely to comply with their requests than those in the No Incentive condition, ( $M=3.59$ ,  $SD=1.95$ ),  $F(1, 186)=6.04$ ,  $p=.02$ ,  $\eta_p^2=.03$ , and those in the Candy Bar Incentive condition, ( $M=3.72$ ,  $SD=1.84$ ),  $F(1, 188)=4.23$ ,  $p=.04$ ,  $\eta_p^2=.02$ .

The same analyses were conducted for each of our five mechanism variables (business exchange orientation, power, self-efficacy, extrinsic motivation, and reciprocity). A significant effect of Incentive Condition emerged for only business exchange orientation ( $F[2, 278]=17.97$ ,  $p<.001$ ,  $\eta_p^2=.11$ ), along with a marginally significant effect for extrinsic motivation ( $F([2, 278]=2.45$ ,  $p=.09$ ,  $\eta_p^2=.02$ ). There were no significant differences by condition for our power ( $p>.90$ ), self-efficacy ( $p>.92$ ), or indebtedness ( $p>.80$ ) scales.

Mirroring our findings on predicted compliance, participants in the Monetary Incentive condition ( $M=4.75$ ,  $SD=1.57$ ) adopted more of a business exchange orientation than participants in the No Incentive condition ( $M=3.38$ ,  $SD=1.60$ ),  $F(1, 186)=35.33$ ,  $p<.001$ ,  $\eta_p^2=.16$ , and participants in the Candy Bar Incentive condition ( $M=4.24$ ,  $SD=1.59$ ),  $F(1, 188)=4.99$ ,  $p=.03$ ,  $\eta_p^2=.03$ .

Participants in the Monetary Incentive condition ( $M=4.57$ ,  $SD=1.36$ ) also thought that their targets would be more motivated by extrinsic incentives than participants in the No Incentive condition ( $M=4.12$ ,  $SD=1.65$ ),  $F(1, 186)=4.20$ ,  $p=.04$ ,  $\eta_p^2=.02$ . However,

there was no significant difference between the Monetary Incentive and Candy Bar Incentive conditions on expectations of extrinsic motivation ( $p > .72$ ).

**Mediation Analysis.** We conducted a separate mediation analysis for each mediator using the PROCESS macro for SPSS with incentive condition as our IV, likelihood of compliance as our DV, and each of our five mechanism scales (business exchange orientation, power, self-efficacy, extrinsic motivation, and reciprocity) as our potential mediators (Preacher & Hayes, 2008). Because incentive condition is a multicategorical IV, dummy codes for the No Incentive versus Monetary Incentive (D1) and No Incentive versus Candy Incentive conditions (D2) were included as predictors (Hayes & Preacher, 2014). In these analyses, the only 95% bias-corrected confidence interval that did not include zero on both factors was the indirect effect of business exchange orientation. The 95% bias-corrected confidence interval for the indirect effect of extrinsic motivation included the 95% when comparing the Candy Incentive to No Incentive conditions (D2), but not when comparing the Monetary Incentive to No Incentive conditions (D1). The confidence intervals for the remaining three scales all included zero (see Table B3). We subsequently conducted a multiple mediator analysis with business exchange and extrinsic motivation and found that when both potential mediators were entered into the analysis, only the 95% bias-corrected confidence interval for business exchange did not include zero (see Table B4). In other words, mediation was once again confirmed for business exchange frame, but not for extrinsic motivation. All of these results remained unchanged when controlling for communal orientation.

*Table B3.* Mediation analysis for Book Vandalism Scenario only in Study 4 with dummy codes for No Incentive vs. Money (D1) and No Incentive vs. Candy (D2) for each mediator individually.

<b>Predictor</b>	<b>Mediator</b>	<b>Estimated Indirect Effect</b>	<b>SE</b>	<b><u>Bias Corrected 95% CI</u></b>	
				<b>Lower</b>	<b>Upper</b>
D1	Business Exchange Orientation	0.5127	0.1297	0.2888	0.7823
D2	Business Exchange Orientation	0.3221	0.1097	0.1403	0.5803
D1	Power	-0.0308	0.1597	-0.3656	0.2649
D2	Power	-0.0726	0.1637	-0.3872	0.2822
D1	Self-Efficacy	-0.0178	0.0560	-0.1853	0.0591
D2	Self-Efficacy	-0.0156	0.0513	-0.1398	0.0809
D1	Extrinsic Motivation	0.1054	0.0698	0.0101	0.2900
D2	Extrinsic Motivation	0.0885	0.0662	-0.0084	0.2540
D1	Indebtedness	-0.0173	0.0400	-0.1364	0.0388
D2	Indebtedness	0.0025	0.0382	-0.0682	0.0895

*N*=281; 1000 Bootstrap Resamples

*Table B4.* Multiple-mediator analysis for Questionnaire Scenario only comparing business exchange frame to extrinsic incentives in Study 4 with dummy codes for No Incentive vs. Money (D1) and No Incentive vs. Candy (D2).

<b>Predictor</b>	<b>Mediator</b>	<b>Estimated Indirect Effect</b>	<b>SE</b>	<b><u>Bias Corrected 95% CI</u></b>	
				<b>Lower</b>	<b>Upper</b>
D1	Business Exchange Orientation	0.4822	0.1373	0.2370	0.7894
	Extrinsic Motivation	0.0213	0.0506	-0.0518	0.1608
D2	Business Exchange Orientation	0.3029	0.1129	0.1188	0.5625
	Extrinsic Motivation	0.0179	0.0446	-0.0475	0.1480

*N*=281; 1000 Bootstrap Resamples