Paying for Performance: Performance Incentives Increase Desire for the Reward Object

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The current research examines how exposure to performance incentives affects one's desire for the reward object. We hypothesized that the flexible nature of performance incentives creates an attentional fixation on the reward object (e.g., money), which leads people to become more desirous of the rewards. Results from 5 laboratory experiments and 1 large-scale field study provide support for this prediction. When performance was incentivized with monetary rewards, participants reported being more desirous of money (Study 1), put in more effort to earn additional money in an ensuing task (Study 2), and were less willing to donate money to charity (Study 4). We replicated the result with nonmonetary rewards (Study 5). We also found that performance incentives increased attention to the reward object during the task, which in part explains the observed effects (Study 6). A large-scale field study replicated these findings in a real-world setting (Study 7). One laboratory experiment failed to replicate (Study 3).

Keywords: attention, desire, money, performance incentive, reward

> I would think about my bonus every day. Every day for a year, I would think: What is it gonna be? Who's gonna get paid more than me? . . . I wanted more money for exactly the same reason an alcoholic needs another drink: I was addicted.
>
> —Sam Polk, a former Wall Street trader

Parents rewarding their children for every "A" they receive in school, athletes earning bonus pay for making the playoffs, and companies linking salaries to firm profits are all familiar examples of performance incentives. In a performance incentive system, how much one is rewarded for a task is contingent on meeting a specified standard of performance (Rusbult, Campbell, & Price, 1990). The consequences of performance incentives have been studied for decades, with a heavy focus on two principle issues: whether they improve performance (Jenkins Jr, Mitra, Gupta, & Shaw, 1998) and whether they affect intrinsic motivation for the task (Cameron, Pierce, Banko, & Gear, 2005). For example, research has examined whether paying students for good grades increases GPA (Angrist, Lang, & Oreopoulos, 2009) and whether it affects their motivation to learn (Harackiewicz & Manderlink, 1984).

Yet, another important consequence of performance incentives has gone largely unexamined: how performance incentives affect one's desire for the reward object (e.g., money). If, for instance, students receive $50 for every "A" they earn, what impact does the experience have on their long-term desire for money? We argue that exposure to performance incentives has the unintended consequence of increasing one's desire for the reward object. Thus, we predict that paying students for good grades would lead them to become more desirous of money in the future—an issue that is separate from whether it affects their academic performance or interest in learning.

Performance Incentives

Performance incentives are rewards given for meeting or exceeding a specific standard in a task (Cameron, Banko, & Pierce, 2001). Performance incentives are also referred to as performance-contingent rewards (Ryan, Mims, & Koestner, 1983), pay-for-performance schemes (Cadsby, Song, & Tapon, 2007), and performance-based rewards (Murayama, Matsumoto, Izuma, & Matsumoto, 2010) in various literatures. The defining characteristic of performance incentives is that the amount one is rewarded is directly tied to one's level of performance—how many math questions correctly answered or how many cars sold, for example (Mayer & Davis, 1999). The principle alternative to a performance incentive is a task-based incentive, which involves receiving a fixed amount of reward for participating in or completing a task (Enzle & Ross, 1978). Fixed salaries are a good example of a task-based incentive, as individuals' salaries do not vary, at least in the short- to medium-term, based on their day-to-day performance.

The logic for performance incentives is that linking rewards to performance increases one's motivation to perform well on the task, which has deep intuitive appeal for lay people and experts alike. Therefore, performance incentives have been used in a wide variety of domains including parenting, education, health behavior,

This article was published Online First July 14, 2016.

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We thank members of the Human Ecology Lab for helpful comments on an earlier version of this article.

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 http://dx.doi.org/10.1037/pspa0000059

and management (Ryan & Deci, 2000), and considerable research has been devoted to understanding their effects on performance (Jenkins Jr et al., 1998). For example, numerous studies have examined how performance-based pay, as opposed to hourly wages, impacts work productivity (Harrison, Virick, & William, 1996; Lazear, 2000; Wageman & Baker, 1997). In the context of education, studies have examined the effectiveness of incentive programs that reward students for meeting standards related to attendance (Epstein & Sheldon, 2002), grades (Angrist et al., 2009), and test scores (Baumert & Demmrich, 2001). Likewise, in the domain of health, researchers have examined whether paying people for meeting certain health standards improves their behavior such as weight loss (Jeffery et al., 1993), smoking cessation (Juliano, Donny, Houtsmuller, & Stitzer, 2006), and adherence to medication (Claassen, Fakhoury, Ford, & Priebe, 2007).

A substantial amount of research has also examined the effect of performance incentives on intrinsic motivation—the motivation to engage in an activity simply because one enjoys it (Harackiewicz & Manderlink, 1984; Karniol & Ross, 1977). For example, research has examined the effect of pay-for-performance structures on employees' work motives and attitudes (Eisenberger, Rhoades, & Cameron, 1999; Miceli, Jung, Near, & Greenberger, 1991). Likewise, researchers have tested whether providing performance-based rewards to students affects their interest and enjoyment in learning-related activities, such as reading (Fawson & Moore, 1999) and problem-solving activities (Cameron et al., 2005; Harackiewicz, 1979).

The current research examines another important yet unexamined consequence of performance incentives: how exposure to performance incentives affects one's desire for the reward object. We predict that exposure to performance incentives has the unintended effect of increasing one's desire for the incentivized rewards. To the best of our knowledge, no research to date has directly tested this prediction. We conducted an extensive search of the PsycINFO and PudMed databases for published research that examined the effect of performance incentives on desire for the reward object. Using broad and narrow variations of terms related to performance incentives (e.g., "performance incentives," "performance-based reward," "pay for performance," "performance-contingent," and "performance reward"), we searched and found a total of 343 original articles that empirically tested the effect of performance incentives on various variables. Among the articles, 198 articles examined the effect of performance incentives on productivity or performance, 84 on intrinsic motivation, and 89 on other variables (e.g., perceived fairness, job satisfaction). None of them, however, empirically tested the effect of performance incentives on one's desire for the reward object, and compared that with the effect of other reward structures (e.g., task-based incentives).

Desire for Rewards

How much one is rewarded in a performance incentive system is flexible and varies depending on how well one performs on a task. Because of the flexible nature of performance incentives, individuals are frequently reminded of rewards during the task by external cues (e.g., I just sold another car, which means another check) and voluntary monitoring (e.g., If I sell this car, I will receive another check), resulting in increased attention to the rewards (Beilock & Carr, 2005; Markman, Maddox, & Worthy, 2006). In other words, rewards in a performance incentive system are generally more salient than are those in other reward structures because each decision and action in the task has implications for how much one will be rewarded. Past research has shown that a performance incentive system can increase attention to rewards to such an extent that it consumes cognitive resources and impedes performance (DeCaro, Thomas, Albert, & Beilock, 2011).

We argue that the heightened attention to rewards created by performance incentives increases one's global desire for the reward object. This prediction comes from the well-established finding that preferential attention to reward cues increases one's desire to attain those rewards (Lovibond & Colagiuri, 2013; Suri & Gross, 2015; Waters, Shiffman, Bradley, & Mogg, 2003). The link between attention and desire is perhaps most prominent in research on temptation cues, which carry short-term rewards but conflict with long-term goals (Berridge, 2009; Field, Munafò, & Franken, 2009). In the domain of eating, for example, research has shown that increased attention to tempting food cues increases desire for those foods (Hofmann, Friese, & Roefs, 2009; Sobik, Hutchison, & Craighead, 2005), and an attentional bias toward food images is associated with obesity (Castellanos et al., 2009). Similarly, repeated exposure to attractive women tends to increase heterosexual men's desire for sex (Ronay & von Hippel, 2010; Wilson & Daly, 2004), and greater attention to alcohol cues increases craving for alcohol (Niaura et al., 1988).

Attention is also central to the Elaborated Intrusion theory of desire (Kavanagh, Andrade, & May, 2005), which argues that intrusive and elaborative thoughts about rewards are two cognitive processes that develop and prolong desire for those rewards (Papies, Stroebe, & Aarts, 2008). First, attention to reward cues triggers automatic and intrusive thoughts about the rewards (e.g., a piece of cake might be nice). Then, once the intrusive thoughts occupy one's attention, they elicit elaborative thoughts about the rewards (e.g., imagine the taste of the cake, recall the last time that I had a piece). This elaborative processing of the rewards simultaneously intensifies desire (Harvey, Kemps, & Tiggemann, 2005) and maintains attention to the reward cues, which subsequently triggers more intrusive thoughts (Hofmann, Schmeichel, & Baddeley, 2012).

Finally, research has shown that one of the most effective strategies for inhibiting desire is to shift attention away from reward cues (Kemps, Tiggemann, & Christianson, 2008; Mann & Ward, 2007; Van Dillen & Papies, 2015). For example, cognitive load inhibits the attentional fixation on tempting food stimuli, resulting in decreased desire for those foods (Van Dillen, Papies, & Hofmann, 2013). Likewise, brain-imaging studies have shown that high working memory load reduces neural responses to reward cues, indicating reduced desire for the rewards (Van Dillen, Heslenfeld, & Koole, 2009).

Drawing on the literature above, we hypothesized that exposure to performance incentives would increase attention to rewards during the task, and this heightened attention would further increase one's desire for the reward object. Our prediction is consistent with, though conceptually distinct from, research showing that the manner in which rewards are obtained can affect the value one places on those rewards (DeVoe & Pfeffer, 2009). Specifically, prior literature on the source-dependence of income suggests that money is valued and spent differently depending on whether

it is received as wages or as windfall gains (Shefrin & Thaler, 1988; Thaler & Shefrin, 1981). For instance, money is valued more highly and is less likely to be gambled when it comes from one's hard work rather than from a lucky lottery (Zeelenberg & van Dijk, 1997).

The present research differs from the source-dependence literature in two notable ways. First, our focus is not on whether the reward is earned or not earned (e.g., wages vs. a lottery) but instead on whether earning the reward is tied to one's performance. Second, with the exception of Devoe, Pfeffer, and Lee (2013), the source-dependence literature has been mostly concerned with the valuation of a specific reward. For example, if one finds a $20 bill on the ground, does one value and spend that *particular* $20 bill differently than $20 earned for completing a task? By contrast, our research examines whether exposure to performance incentives changes one's global desire for the reward object, such as whether earning money through performance incentives increases one's desire for money in general.

Current Research

We conducted six experiments and one large-scale field study to test the hypothesis that exposure to performance incentives would increase one's desire for the reward object. Study 1 examined whether those who received monetary rewards for their performance on a task would report greater desire for money than would those who received the same amount of rewards for simply engaging in the task. In Study 2, we aimed to replicate this finding with a behavioral measure of desire by testing whether those who received monetary rewards for performance would put in more effort to obtain additional money in an ensuing task. Study 3 tested whether this finding can be replicated with another behavioral measure of desire: willingness to donate the earned rewards. Study 4 examined whether this effect would hold when participants performed relatively poorly—that is, when they did not meet the standard for optimal performance. In Study 5, we aimed to replicate this finding with nonmonetary rewards. Study 6 tested whether attention to rewards served as the underlying mechanism for this effect by examining whether performance incentives would increase attention to monetary rewards during the task. Lastly, Study 7 tested our predictions outside of the laboratory, in an automotive company that uses both performance-based (i.e., commission) and task-based (i.e., fixed-salary) incentives. We examined whether sales agents who received performance incentives would report thinking about and desiring money more, compared with those who received task-based incentives.

Study 1

The main purpose of Study 1 was to test the effect of performance incentives on one's desire for the reward object. Participants were randomly assigned to one of three conditions: a performance-incentive, a task-incentive, and a baseline condition. Participants in the two incentive conditions worked on a cognitive task and received monetary rewards for either their performance on (performance-incentive) or participation in (task-incentive) the task. Participants in the baseline condition did not work on the task or receive the rewards. All participants then reported their global desire for money.

Method

Participants. Ninety-five undergraduates from a university in the United States (M_{age} = 20.53, SD_{age} = 2.41; 59% female) were recruited in the campus library. Because we did not know what effect size to expect, we determined to have at least 93 participants to provide adequate power ($1 - \beta > .80$) to detect a medium to large effect ($f = 0.33$), using G*Power 3 software (Faul, Erdfelder, Lang, & Buchner, 2007).

Procedure. In the performance-incentive condition, participants were asked to complete four maze puzzles, and were told they would receive one dollar for each puzzle they solved correctly ("You will receive $1 for each puzzle you solve, so you have a chance to receive up to $4 depending on your performance"). In the task-incentive condition, participants engaged in the same task, and were told they would receive a fixed amount of money (four dollars) for their participation, regardless of their performance on the task ("You will receive $4 for your participation in the puzzles, regardless of your performance").[1]

Participants had 15 min to work on the task, and the number of puzzles solved was recorded for each participant. The puzzles were pretested to ensure that nearly all participants in the performance-incentive condition would solve all four puzzles in 15 min. This was done to ensure that the two conditions did not differ by the amount of monetary rewards participants received. After engaging in the maze-puzzle task, participants in both incentive conditions received confirmation from an experimenter that they earned four dollars based on either their performance on or participation in the task. They then rated their desire for money with four items on a 7-point scale (Cronbach's alpha = .72; e.g., "Money is important"; adapted from Tang, 1995). Participants in the baseline condition rated their desire for money without engaging in the maze-puzzle task or receiving any rewards. Lastly, all participants provided demographics.

Results and Discussion

Ninety-eight percent of the participants in the two incentive conditions completed all four puzzles in 15 min. Two participants who did not complete the maze-puzzle task were excluded. The results were identical in direction and significance when we retained the excluded participants.

A one-way ANOVA on desire for money showed significant differences across the conditions, $F(2, 90) = 3.50$, $MSE = .93$, $p = .034$, $\eta^2 = 0.07$. Specifically, participants in the performance-incentive condition reported desiring money more ($M = 4.40$, $SD = .80$) than those in the task-incentive condition ($M = 3.91$, $SD = .91$), $t(61) = 2.26$, $p = .027$, 95% CI [0.07, 1.08], $d = 0.57$. Participants in the performance-incentive condition also desired money more than those in the baseline condition ($M = 3.78$, $SD = 1.16$), $t(58) = 2.43$, $p = .018$, 95% CI [0.11, 1.15], $d = 0.63$. The difference between the task-incentive and baseline conditions was

[1] The research assistant also repeated the instruction. Participants in the performance-incentive condition were told: "In this maze task, you will receive money for your participation. You will receive $1 for each maze puzzle you solve." Those in the task-incentive condition were told: "In this maze task, you will receive money, $4, for your participation. Everyone will receive the same amount of money regardless of performance." Similar instructions were used in the following studies.

not statistically significant, $t(61) = .51$, $p = .609$, 95% CI [−0.37, 0.62], $d = 0.13$. The results provide initial support for our prediction that exposure to performance incentives increases desire for the reward object.

Study 2

The primary goal of Study 2 was to replicate the findings observed in Study 1 using a behavioral measure of desire for the reward object. We assessed the amount of effort participants would exert to obtain additional rewards, which served as a behavioral measure of desire for the reward object (Stellar & Willer, 2014). Study 2 otherwise followed the same procedure as Study 1.

Another aim of Study 2 was to test whether affect could serve as an alternate explanation for our findings. It is conceivable that participants in the performance incentive condition might find the variable reward system stressful or stimulating, which could affect their subsequent desire for the reward object. To address this concern, we measured positive and negative affect immediately after the task in order to test the possibility that the increase in desire for the reward object in the performance-incentive condition is due to temporary changes in affect.

Lastly, we added an additional condition in which whether one received a reward was not based on performance or engagement in the task, but was rather due to chance (Devoe et al., 2013). That is, while the baseline condition did not provide any task or rewards, this additional condition provided the same rewards as the other incentive conditions, but attached them to a source that was irrelevant to the task. Including this chance-incentive condition allows us to test whether the difference between the performance-incentive and baseline conditions observed in Study 1 was simply caused by the mere ownership effect in which people value objects more highly when they have more of them (Beggan, 1992).

Method

Participants. One hundred ninety-one MBA students from a major business school in the United States ($M_{age} = 27.82$, $SD_{age} = 2.83$; 34% female) were recruited in the school building. The minimum sample size was predetermined to be at least 108 participants to have sufficient power ($1 - \beta > .80$) to detect a medium to large effect ($f = 0.33$).

Procedure. Participants were assigned to four, between-subjects conditions: a performance-incentive, a task-incentive, a chance-incentive, and a baseline condition. In the three incentive conditions, participants engaged in the maze-puzzle task of solving four puzzles, and they either received one dollar for each puzzle they solved (performance-incentive), received four dollars for simply engaging in the task (task-incentive), or received four dollars based on the result of a coin toss (chance-incentive). The number of puzzles solved and the time taken to complete the task were recorded for each participant. Participants in the baseline condition neither engaged in the task nor received any reward. All participants completed the 10-item Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988).

Participants were then given a chance to participate in a raffle for a $100 cash prize, and received an envelope with 70 tickets for the raffle. They were told that the more raffle tickets they filled out, the higher their chance to win the $100. They were also told that they could fill out as many tickets as they wished, but they had to fill out each ticket with their name, email address, and student ID. Our measure of desire for money was participants' persistence on this highly repetitive task (Stellar & Willer, 2014): the more one desires money, the longer one would persist on this task. We recorded the number of tickets filled out by each participant as a measure of their persistence. Finally, all participants reported demographic information.

Results and Discussion

All participants besides one in the three incentive conditions worked on and completed all four puzzles. The one participant who did not complete the maze-puzzle task was excluded. The results were identical in direction and significance when we retained the excluded participant. There was also no significant difference across the three incentive conditions on the average time taken to complete the task ($p = .981$). This suggests that the invested effort did not differ across the three incentive conditions. There was also no significant difference across conditions in terms of positive ($p = .782$) and negative affect ($p = .528$).[2]

To analyze the raffle-ticket measure, we followed the two-step procedure developed by Stellar and Willer (2014). First, as an initial analysis of the response, we made our variable dichotomous, meaning a comparison between participants who filled out no tickets and those who filled out at least one ticket. A chi-square test revealed significant differences across the conditions, $\chi^2(3, N = 190) = 13.92$, $p = .003$, $w = .27$ (see Figure 1). Participants in the performance-incentive condition were more likely to fill out at least one ticket compared to those in the task-incentive condition, $\chi^2(1, N = 98) = 4.33$, $p = .037$, $w = .21$, those in the chance-incentive condition, $\chi^2(1, N = 95) = 8.86$, $p = .003$, $w = .31$, and those in the baseline condition, $\chi^2(1, N = 93) = 11.67$, $p = .001$, $w = .35$.

We then examined the raffle tickets as a continuous variable: the total number of tickets filled out by each participant. Because this measure was positively skewed ($s = 2.70$), we added .50 to each response and applied a natural logarithmic transformation to achieve a normal distribution (Freeman & Tukey, 1950), as in the original study (Stellar & Willer, 2014). A one-way ANOVA showed significant differences across the conditions, $F(3, 186 = 5.96)$, $MSE = 2.51$, $p = .001$, $\eta^2 = 0.09$ (see Figure 1). Specifically, participants in the performance-incentive condition filled out more tickets ($M = 1.37$, $SD = 1.76$) than those in the task-incentive condition ($M = .63$, $SD = 1.64$), $t(96) = 2.13$, $p = .035$, 95% CI [0.03, 0.83], $d = 0.43$. Participants in the performance-incentive condition also filled out more tickets than those in the chance-incentive condition ($M = .44$, $SD = 1.67$), $t(93) = 2.62$, $p = .010$, 95% CI [0.13, 0.95], $d = 0.54$, and those in the baseline condition ($M = .01$, $SD = 1.18$), $t(91) = 4.33$, $p < .001$, 95% CI [0.47, 1.33], $d = 0.90$. Moreover, the difference between the task-incentive and chance-incentive conditions was

[2] To ensure that participants in the chance-incentive condition did not experience significantly more positive affect as a result of winning of $4 by chance, we performed an additional analysis with the specific positive items (excited, enthusiastic). There was no significant difference between the chance-incentive and other conditions in terms of excitement ($p = .950$) and enthusiasm ($p = .628$).

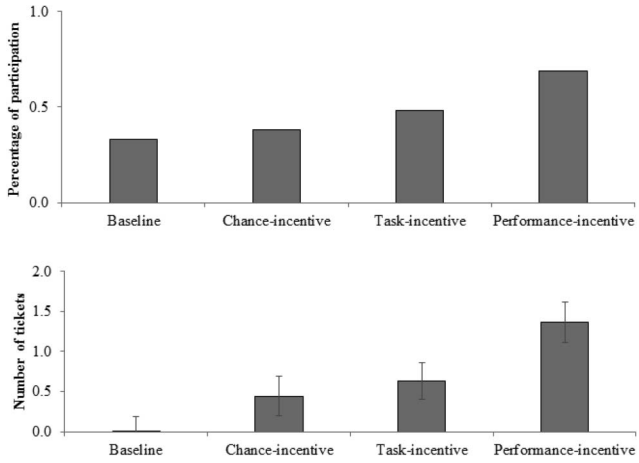

Figure 1. Mean desire for money in Study 2; categorical (top) and continuous (bottom).

not statistically significant, $t(95) = .56$, $p = .577$, 95% CI [−0.28, 0.51], $d = 0.11$, while participants in the task-incentive condition filled out more tickets than those in the baseline condition, $t(90) = 2.10$, $p = .035$, 95% CI [0.02, 0.84], $d = 0.43$.[3]

Overall, the results of Study 2 are consistent with those of Study 1: participants who received monetary rewards according to their performance indicated greater desire for money (Study 1), and were more motivated to obtain additional money in an ensuing task (Study 2) than those who received the same rewards for their participation in a task. Moreover, no significant differences in positive and negative affect suggest it is unlikely that our results are driven by temporary changes in affect.

Study 3

The primary goal of Study 3 was to replicate the findings observed in the previous studies by using a different behavioral measure of desire: the amount of rewards (i.e., money) one is willing to donate to charity. Based on previous research showing that people are less willing to donate a resource when it is desired more strongly (Briers, Pandelaere, Dewitte, & Warlop, 2006; Vohs, Mead, & Goode, 2006), we predicted that participants in the performance-incentive condition would be less likely to donate their money to charity than those in the task-incentive condition.

Method

Participants. Seventy undergraduates ($M_{age} = 21.24$, $SD_{age} = 3.20$; 39% female) were recruited in the campus library. The sample size was predetermined to be 78 participants to provide adequate power ($1 - \beta > .80$) to detect a medium to large effect ($d = 0.65$). However, we stopped the data collection when we reached 70 participants due to the difficulty of recruiting participants in the library. The final sample size fell slightly short of the desired 78 participants, but it still provided sufficient power ($1 - \beta > .74$) to detect the expected effect.

Procedure. Participants were assigned to one of the two between-subjects conditions: a performance-incentive and a task-incentive condition. Specifically, participants engaged in the maze-puzzle task of solving four puzzles, and they either received one dollar for each puzzle they solved (performance-incentive) or received four dollars for simply engaging in the task (task-incentive).

After engaging in the task, participants rated their perceived effort on a 7-point scale: "How hard did you work on the puzzles?" Participants were then told that our lab was donating to a charity (i.e., UNICEF U.S.A.), and they were given a chance to donate some of the rewards they had received. They first made a choice of whether they would donate any of the money that they earned to the charity (1 = "Yes, I will donate from this compensation"; 2 = "No, I will donate next time"). Those who said yes chose how much money they want to donate among four options (1 – 4 dollars). After making the donation decision, they reported demographics and received the rest of money that they chose not to donate.

Results and Discussion

Ninety-six percent of the participants completed all four puzzles. Three participants who did not complete the maze-puzzle task were excluded. The results were identical in direction and significance when we retained the excluded participants. There was no significant difference in the perceived effort invested in the task between the two conditions ($p = .918$).

We first analyzed the dichotomous variable: a comparison between participants who decided to donate money and those who decided not to. Contrary to our prediction, a chi-square test did not reveal a significant difference between the conditions, $\chi^2(1, N = 67) = 1.76$, $p = .185$, $w = .16$. Participants in the performance-incentive and task-incentive conditions did not differ in their willingness to donate. We then examined the continuous variable: the amount of donated by each participant. A simple t test yield a marginally significant effect ($M_{performance} = 2.03$, $SD_{performance} = 1.79$; $M_{task} = 2.83$, $SD_{task} = 1.65$), $t(65) = -1.90$, $p = .062$, 95% CI [−0.95, 0.02], $d = -0.46$. Participants in the performance-incentive condition donated somewhat less money than those in the task-incentive condition.

The results do not provide strong evidence for our prediction. We speculate two possible explanations for the result. First, the null effect on the dichotomous variable might be due to a ceiling effect. That is, 49 out of 67 participants (73%) decided to donate, which may not leave enough variance for the measure to detect the effect of our manipulation. Second, the marginally significant effect observed for the continuous variable might be due to scale constraints. Participants had the option of donating the money they received in the task, which only ranged from 1 to 4 dollars. In the next study, we attempted to address these concerns by using an open-ended item without any limit or range for the donation amount.

Study 4

In the first three studies, participants in the performance-incentive conditions earned the maximum reward in the tasks. This was done to

[3] On average, participants in the performance-incentive condition filled out 13.73 tickets ($SD = 21.52$), and those in the task-incentive condition filled out 8.20 tickets ($SD = 18.95$). Participants in the chance-incentive condition filled out 8.30 tickets ($SD = 20.00$), and those in the baseline condition filled out 2.44 tickets ($SD = 7.09$).

keep the size of the reward constant in the performance- and task-incentive conditions, but one limitation of this design is that all participants in the performance-incentive conditions were "high performers." The primary aim of Study 4 was to examine whether the effect observed in the first two studies would persist when participants performed poorly on the task. Our hypothesis is that performance incentives fixate attention on the reward, which in turn elevates desire for the reward object. Our increased attention account should occur regardless of whether participants perform well on the task or not. Thus, we predicted that exposure to performance incentives should increase desire for the reward object even when participants perform poorly on the task.

Study 4 also sought to examine an alternative explanation for the observed results: that the increased desire in the performance-incentive condition is attributable to the increased effort invested into the task. Prior work on effort justification suggests that the amount of effort invested to earn a reward can affect how much one values the reward (Alessandri, Darcheville, Delevoye-Turrell, & Zentall, 2008; Lydall, Gilmour, & Dwyer, 2010). Even though there was no difference in the objective levels of effort in the first two studies, there is still a possibility that our manipulation affected participants' subjective level of effort: how much effort they believed they invested in the task. Therefore, we measured participants' perceived level of effort to test whether exposure to performance incentives generates higher level of subjective effort, which could further lead to the increase in desire for the reward object.

Method

Participants. Seventy-seven undergraduates (M_{age} = 20.30, SD_{age} = 1.95; 52% female) were recruited via a subject pool at a major university in the United States. The sample size was predetermined to be 78 participants to provide adequate power ($1 - \beta > .80$) to detect a medium to large effect ($d = 0.65$). We opened our study with 162 time slots, 108 undergraduates signed up to participate, and 77 of them actually showed up for the study. The final sample size fell slightly short of the desired 78 participants because of the low show-up rate, but the final sample still provided sufficient power ($1 - \beta > .78$) to detect the expected effect.

Procedure. Participants first worked on a filler task for about 10 min and received five dollars as baseline compensation. They were then told that they had a chance to participate in another study in which they could receive additional compensation. Ninety-four percent of participants agreed to participate, which left 72 participants (M_{age} = 20.26, SD_{age} = 1.78; 54% female) for the main study. They were then assigned to one of the two between-subjects conditions: a performance-incentive and a task-incentive condition. This procedure was necessary to separate the baseline compensation required by the university laboratory from the main task in which we manipulated incentive structures.

In the first part of the study, participants engaged in a maze-puzzle task. Specifically, participants were asked to solve a maze puzzle as quickly as possible, and were told that the time taken to solve the puzzle would be recorded. They were also told that upon completion of the task, they would receive feedback about how well they performed by comparing their recorded time to the average time taken for undergraduates at the same university. Participants in the performance-incentive condition were told that they would receive six dollars for performing faster than the average (i.e., superior performance) or four dollars for performing slower than the average (i.e., inferior performance). Those in the task-incentive condition were told that they would receive four dollars regardless of how fast they solved the puzzle. Participants in both conditions did not know what the average time was.

After engaging in the task, participants rated their perceived effort on a 7-point scale: "How hard did you work on the puzzles?" They then received feedback from a trained experimenter that they performed worse than average. Specifically, participants were told that, on average, other undergraduates completed the task more quickly than they did. Participants in both conditions were then informed that they would receive four dollars in compensation. Thus, participants in both conditions believed that their performance was inferior to the average, and received the same amount of monetary rewards for the task.

The second part of the study was presented as a separate experiment from the university's marketing department, seeking feedback on the students' donation preferences to plan the university's annual donation drive. Specifically, participants read about five existing charity organizations (see Appendix A) and indicated the specific amount of money they would donate to each organization (e.g., "If you decided to donate your money once every year to American Red Cross, how much would you donate each year?") as an index of desire for money (Briers et al., 2006). Participants then reported demographic information, and were fully debriefed.

Results and Discussion

There was no significant difference in the time taken to solve the puzzle between the two conditions (p = .760). Furthermore, the perceived effort invested in the task did not differ between the two conditions ($M_{performance}$ = 5.86, $SD_{performance}$ = 1.03; M_{task} = 6.19, SD_{task} = .84), $t(70) = -1.50$, p = .139, 95% CI [−0.82, 0.11], $d = -0.35$. The perceived level of effort in the performance-incentive condition was slightly lower than that in the task-incentive condition, but the difference did not reach significance. Our results were identical in direction and significance when we controlled the perceived effort.

We first summed the amount of money that participants indicated that they would donate to the five charity organizations (Cronbach's alpha = .88) to create the donation-amount index. Because this measure was positively skewed (s = 4.48), we added 1 to each response and applied a natural logarithmic transformation to achieve a normal distribution. A simple t test on the index yielded a main effect of incentive structures; participants in the performance-incentive condition intended to donate less money (M = 4.39, SD = 1.65) than those in the task-incentive condition (M = 5.11, SD = 1.12), $t(70) = -2.16$, p = .034, 95% CI [−0.98, −0.04], $d = -0.51$.[4]

These results suggest that the effect of performance incentives is not limited to superior performance but occurs even when participants do not meet the standard for optimal performance. The results consequently rule out a superior performance account that would predict that participants desire money more only when it signals their superior performance. Moreover, no significant dif-

[4] On average, participants in the performance-incentive condition intended to donate 179.97 dollars (SD = 242.37) whereas those in the task-incentive condition intended to donate 364.76 dollars (SD = 671.30).

ferences in both objective and subjective levels of effort indicate that it is unlikely that the increase in desire for the reward object was driven by the increase in invested effort in the task.

Study 5

The previous studies used money as rewards for the tasks because it is the most widely used reward in modern society. The question remains whether this effect is limited to monetary rewards. Our theoretical account—that performance incentives create an attentional fixation on the reward object—should apply to any rewards that are sufficiently desirable to capture one's attention. Therefore, Study 5 examined whether exposure to performance incentives would increase desire for a nonmonetary reward.

Study 5 also aimed to address an alternative process account for our findings. It is possible that performance-based incentives, relative to task-based incentives, trigger an increase in participants' approach motivation (Carver & White, 1994; Harmon-Jones & Peterson, 2008), which could increase one's general desire for rewards. To examine this possibility, we added a condition in which participants were incentivized to work on a task but then indicated their desire for an unrelated reward object. If the presence of performance incentives heightens approach motivation, we should observe an increase in desire for the reward object that was not associated with the task. If performance incentives increases attention to the rewards used in the task specifically, they should only increase desire for the incentivized rewards.

Lastly, even though there were no significant differences in perceived effort and affect in the previous studies, there remains a possibility that participants had a different experience of the task due to exposure to different reward structures (Eisenberger et al., 1999). Therefore, we measured not only perceived effort, but also difficulty and enjoyment of the task in Study 5 to examine whether participants in the performance-incentive condition have a less enjoyable and more stressful experience of the task than those in the task-incentive condition, which could lead to higher desire for money (Zhou, Vohs, & Baumeister, 2009).

Method

Participants. Two hundred eight participants (M_{age} = 36.49, SD_{age} = 11.69; 55% female) were recruited via an online subject pool through Amazon's Mechanical Turk. The sample size was predetermined to be at least 156 participants to provide adequate power ($1 - \beta > .80$) to detect a medium to large effect ($d = 0.65$).

Procedure. Participants were randomly assigned to one of four conditions in a 2 (incentive: performance vs. task) × 2 (reward: related vs. unrelated) between-subjects design. Participants first engaged in a proofreading task in which they were asked to find and correct a grammatical error in 10 short passages (Phillips & Freedman, 1985). Participants were also told that we were conducting a raffle to win a chocolate gift box for the current study and they had an opportunity to earn raffle tickets for the gift box for either their performance on or participation in the task. Specifically, participants in the performance-incentive condition were told they would receive one raffle ticket for the chocolate gift box for each error found and corrected, whereas those in the task-incentive condition were told they would receive 10 tickets regardless of their performance.

After engaging in the task, participants in the related-reward condition reported their desire for the chocolate gift box that they had been working for. Participants in the unrelated-reward condition read about an object that was not related to their work (a wireless headphone) and reported their desire for it. The headphone was introduced as a prize for another raffle conducted for this study. Participants first rated their desire for the reward object with five items on a 7-point scale (Cronbach's alpha = .97; e.g., "How much do you want the chocolate gift box/ the wireless headphone?"). They also indicated their willingness to invest effort to earn more raffle tickets to increase their chance of receiving the reward object with three items on a 7-point scale (Cronbach's alpha = .83; e.g., "How willing are you to participate in our future study to earn raffle tickets for the chocolate gift box/the wireless headphone?").

Participants then rated the perceived effort of the task ("How much effort did you invest to work on the task?"), perceived difficulty (r = .85; e.g., "How challenging was the task?"), and enjoyment in the task ("To what extent did you find the task enjoyable?"). Lastly, they reported demographic information.

Results and Discussion

All participants read all 10 passages and found 10 errors in them. There was no significant difference across the conditions on the perceived effort (p = .172), perceived difficulty (p = .704), or enjoyment in the task (p = .117).

First, we analyzed participants' desire for the reward object. A 2 (incentive: performance vs. task) × 2 (reward: related vs. unrelated) ANOVA revealed a significant interaction between the incentive system and the reward type, $F(1, 204) = 12.28$, $MSE = 3.06$, $p = .001$, $\eta^2 = .06$ (see Figure 2). Tests of simple effects showed that participants in the performance-incentive condition reported desiring the related reward object they worked for more ($M = 5.03$, $SD = 1.56$) than those in the task-incentive condition ($M = 3.93$, $SD = 1.90$), $t(98) = 3.17$, $p = .002$, 95% CI [0.23, 1.04], $d = 0.63$. The result replicates the previous findings that performance incentives increased desire for the reward object earned from the task. However, participants in the performance-incentive condition did not report desiring the unrelated reward object more ($M = 4.68$, $SD = 1.74$) than those in the task-incentive condition ($M = 5.28$, $SD = 1.77$), $t(106) = -1.77$, $p = .080$, 95% CI [−0.72, 0.04], $d = -0.34$.

Next, we analyzed participants' wiliness to invest effort to earn the reward as another measure of desire. A 2 × 2 ANOVA

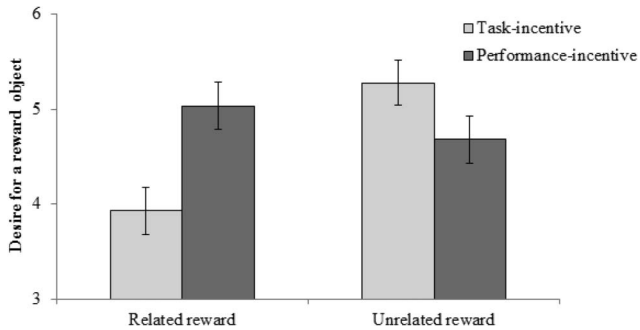

Figure 2. Mean desire for the reward object in Study 5.

revealed a significant interaction between the incentive system and the reward type, $F(1, 204) = 13.39$, $MSE = 2.70$, $p < .001$, $\eta^2 = .06$. Tests of simple effects showed that participants in the performance-incentive condition were more willing to invest effort to receive the related reward object they worked for ($M = 4.91$, $SD = 1.63$) than those in the task-incentive condition ($M = 3.82$, $SD = 1.83$), $t(98) = 3.14$, $p = .002$, 95% CI [0.23, 1.03], $d = 0.63$. However, participants in the performance-incentive condition were not more willing to invest effort to receive the unrelated reward object ($M = 4.80$, $SD = 1.56$) than those in the task-incentive condition ($M = 5.39$, $SD = 1.55$), $t(106) = -1.94$, $p = .055$, 95% CI [−0.76, 0.01], $d = -0.37$.

Overall, the results suggest that the effect of performance incentives is not limited to monetary rewards. Participants in the performance-incentive condition reported desiring the nonmonetary reward more than did those in the task-incentive condition. Moreover, exposure to performance incentives increased participants' desire for the incentivized reward, but did not increase desire for a reward object that was not associated with the task. Lastly, no significant differences in subjective experience of the task (e.g., enjoyment) indicate that it is unlikely that our results are due to differences in how participants perceived and evaluated the target task.

Study 6

The previous studies provide some evidence for the prediction that exposure to performance incentives increases one's desire for the reward object. The main objective of Study 6 was to test our hypothesized mechanism for this effect. We argue that the flexible nature of performance incentives, where each action in the task has implications for how much one will be rewarded, fixates attention on the rewards. Drawing on the well-established finding that preferential attention to reward cues increases desire to attain those rewards (Lovibond & Colagiuri, 2013; Suri & Gross, 2015), we predicted that participants in the performance-incentive condition would report paying more attention to the rewards than those in the task-incentive condition, which would be associated with a heightened desire for those rewards.

Study 6 also sought to examine an alternative account that performance incentives might increase the saliency of money, which could prime self-interest motives and decrease willingness to donate (Vohs et al., 2006). We thus attempted to rule out this account by additionally measuring willingness to donate another type of resource: time. Our increased attention account predicts that performance incentives should only decrease willingness to donate the resource associated with the task (e.g., money) because of the increased attention to it, whereas the self-interest account predicts that performance incentives should decrease willingness to donate any type of resource. Thus, we predicted that exposure to performance incentives would only decrease willingness to donate money, without decreasing willingness to volunteer time.

Method

Participants. Eighty-five participants ($M_{age} = 34.08$, $SD_{age} = 11.14$; 52% female) were recruited via an online subject pool through Amazon's Mechanical Turk. The sample size was predetermined to be at least 78 participants to provide adequate power ($1 - \beta > .80$) to detect a medium to large effect ($d = 0.65$).

Procedure. Participants first worked on a filler task for about five minutes, and received 20 cents as baseline compensation. They were then told that they could participate in another task in which they could receive additional compensation. Ninety-four percent of participants agreed to participate, which left us 80 participants ($M_{age} = 34.53$, $SD_{age} = 11.27$; 53% female) for the main study. They were then randomly assigned to either a performance-incentive or a task-incentive condition. This procedure was necessary to separate the baseline compensation from the main task that we manipulated incentive structures.

In the main study, participants engaged in the same proofreading task used in Study 5, in which they were asked to correct grammatical errors in 10 short passages. Participants in the performance-incentive condition were told they would receive 10 cents for each error found and corrected, whereas those in the task-incentive condition were told they would receive one dollar regardless of their performance. After engaging in the task, participants rated the degree of attention given to monetary rewards during the task on a scale adapted from previous research (Shah & Kruglanski, 2002). Specifically, they responded to two items, $r = .83$, $p < .001$: "During the task, I was frequently reminded of the money that I was earning" and "During the task, I was constantly aware of the compensation that I would receive." Participants also rated perceived effort ("How much effort did you invest to work on the task?"), perceived difficulty ("How challenging was the task?"), interest ("How interesting was the task?"), and enjoyment in the task ("To what extent did you find the task enjoyable?").

Participants then reported willingness to donate their money on two items, $r = .92$, $p < .001$, adapted from previous research (Rudd, Vohs, & Aaker, 2012): "How willing are you to donate your money to support a worthy cause?" and "How likely are you to donate your money to help a charity?" They also reported willingness to volunteer their time, $r = .91$, $p < .001$: "How willing are you to volunteer your time to support a worthy cause?" and "How likely are you to volunteer your time to help a charity?" Lastly, they reported demographic information.

Results and Discussion

All participants read all 10 passages and found 10 errors in them. There was no significant difference between the conditions on the perceived effort ($p = .697$), perceived difficulty ($p = .190$), interest ($p = .814$), or enjoyment in the task ($p = .879$).

First, we analyzed participants' willingness to donate the rewards. A simple t test on the index yielded a main effect of incentive structures; participants in the performance-incentive condition indicated less willingness to donate their money ($M = 4.24$, $SD = 1.60$) than those in the task-incentive condition ($M = 5.07$, $SD = 1.84$), $t(78) = -2.15$, $p = .035$, 95% CI [−0.93, −0.04], $d = -0.48$. This reduced willingness to donate the rewards indicates higher desire for the reward object in the performance-incentive condition. However, the analysis of willingness to volunteer time did not yield any significant effect ($M_{performance} = 4.86$, $SD_{performance} = 1.65$; $M_{task} = 5.04$, $SD_{task} = 1.94$), $t(78) = -.44$, $p = .661$, 95% CI [−0.54, 0.34], $d = -0.10$. This

suggests that performance incentives do not simply orient individuals toward self-interest.[5]

Next, we analyzed participants' attention to the rewards. A simple *t* test yielded a main effect of incentive structures; participants in the performance-incentive condition indicated that they paid more attention to and thought about the rewards more frequently ($M = 4.38$, $SD = 1.64$) than those in the task-incentive condition ($M = 2.87$, $SD = 1.90$), $t(78) = 3.83$, $p < .001$, 95% CI [0.40, 1.31], $d = 0.86$. The result supports our prediction that performance incentives increase one's attention to the rewards during a task.

Lastly, we conducted a mediation analysis utilizing the PROCESS Mediation Model 4 (Hayes, 2013; Preacher & Hayes, 2004). The mediation model employed incentive structures as the independent variable, attention to the rewards as the mediating variable, and willingness to donate the rewards as the dependent variable. The mean indirect effects excluded zero for attention to the rewards ($b = -.16$; 95% CI $= -.4585$ to $-.0095$), and the direct effect of incentive structures on willingness to donate was no longer significant, $t(77) = -1.22$, $p = .228$, suggesting that attention to the rewards served as the mediator, as predicted.

Study 6 provides support for our increased attention account. We observed that performance incentives increased attention to the monetary rewards during the task, and this increase in attention reduced their willingness to donate money. Importantly, our manipulation did not affect their willingness to volunteer time, which suggests the performance incentive condition did not simply prime self-interest motives (Vohs et al., 2006).

Study 7

The goal of Study 7 was to test our hypotheses in a real-world setting: a major automotive company. We approached this company because roughly half of the dealerships pay their sales agents commission (i.e., performance incentives) whereas the other half pay their agents a fixed salary (i.e., task-based incentives). We conducted a survey of the company's sales agents to examine their desire for money, as well as their attention to it. We predicted that sales agents who received commission would report thinking about money more often and indicate greater desire for money than would those who received a fixed salary.

Study 7 also addresses a limitation of the earlier studies. With the exception of Study 4, the tasks in the previous studies were relatively easy. This was done to ensure that participants in the performance-incentive and task-incentive conditions would perform equally well and receive equivalent amounts of rewards. In Study 7, respondents were in the car sales industry that, as a competitive industry, provided us the opportunity to test our predictions under substantial task difficulty in the real-world setting.

Method

The dealerships of a major automotive company in an East Asian country were invited to participate in the study. The company had two types of dealerships—commission-based and salary-based. Commission-based dealerships employed a strict performance-incentive system in that 100% of the compensation came from a commission for each sale that the sales agents made. By contrast, salary-based dealerships employed a primarily task-incentive system in that approximately 90% of the compensation came from a fixed salary. Sales agents in the salary-based dealerships received a small commission for each sale they made, which constituted approximately 10% of their compensation amount.

Participants. The automotive company had 834 dealerships: 397 commission-based and 437 salary-based dealerships. We randomly sampled 43 commission-based dealerships (501 sales agents) and 43 salary-based dealerships (616 sales agents) that were in the same geographical locations. All sales agents of the sampled dealerships received the survey. One hundred ninety-one agents from the commission-based dealerships and 269 agents from the salary-based dealerships returned the survey, resulting in response rates of 38% and 44% respectively. The sample thus consisted of 460 respondents who were on average 44 years of age ($SD = 6.98$) and were mostly male (95%). They had worked in the current dealership for an average of about 12 years ($SD = 7.57$), and their positions varied from sales staffs to sales managers, but all of them engaged in car sales as their primary work activity.

Procedure. In the cover page instructions, it was clearly stated that participation was voluntary, and respondents could exclude any items that they wished. They were also assured that the data would remain confidential, and would not influence their status in the organization in any way.

The survey itself consisted of three parts. The first part was introduced as a measure of different thoughts and emotions at work, which included the measure of attention to money: how often they thought about money and how salient money was in their mind when they were at work. The second part was introduced as a measure of their work values, which included the measure of desire for money. The third part consisted of demographic questions. The main dependent variables—attention to money and desire for money—were embedded in the list of filler items and control variables to mask the purpose of the study and reduce demand characteristics. The exact items for all variables are described in the Appendix B.

Measures

Incentive system. The respondents who were recruited from commission-based dealerships were paid by means of performance incentives, whereas those recruited from salary-based dealerships were paid primarily by means of task-based incentives. Thus, we dummy-coded the incentive system based on the dealership type (1 = performance-incentive; 0 = task-incentive) as our main independent variable.

Desire for money. We measured desire for money with an eight-item scale, using the four items used in Study 1 and four adapted items from the desire for money scale (e.g., "Earning money should be a top priority"; Furnham, 1984). Respondents read each statement and rated the extent to which they agreed with the statement on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*). We averaged the eight items (Cronbach's alpha = .83) to create a desire-for-money index.

[5] A 2 (incentive: performance vs. task) × 2 (type: money vs. time) ANOVA, while treating willingness to donate as a repeated measure, revealed a marginally significant interaction between the manipulation and the reward type, $F(1, 78) = 2.90$, $MSE = 1.46$, $p = .093$, $\eta^2 = .03$.

Attention to money. We measured the degree of attention to money with a four-item scale, including the two items used in Study 6. Each statement started with "While I am working . . .," and described how often they thought about money during work (e.g., "I often think about money"; "I am frequently reminded of the money that I am earning"). The four items created an attention-to-money index (Cronbach's alpha = .88).

Control variables. We measured respondents' perceived effort at work, intrinsic motivation, job satisfaction, and job security. We also acquired the mean and standard deviation of monthly incomes of each sampled dealership to estimate the sales agents' individual income, because the company did not allow us to gather individual income information through the survey. For the commission-based dealerships, we estimated individual income by their self-reported performance ("How well do you perform at work?") because their income was determined by their performance. Previous research suggests that individuals are accurate at evaluating their own level of performance when the performance outcome is visible and easily traceable, as in sales jobs (Levy & Sharma, 1993; Spiro & Weitz, 1990). For the salary-based dealerships, we estimated individual income by their position, as their income was mostly determined by position. Thus, we standardized the performance and position measures, and estimated individual income based on the overall income distribution. In addition, we measured financial security in the survey as a proxy for the subjective income level (Singh-Manoux, Adler, & Marmot, 2003). Lastly, demographic information was collected at the end of the survey, including respondents' gender, age, education, position, years worked in the current store, and years worked for this automotive company as sales agents.

Results and Discussion

Table 1 presents descriptive statistics and correlations for all the variables used in the analysis. It should be noted that the two types of dealerships differ in few aspects. First, there were significant differences in the subjective and objective income levels between the two types of dealerships. That is, respondents in the commission-based dealerships reported less financial security ($M = 2.87$, $SD = 1.23$) than did those in the salary-based dealerships ($M = 3.44$, $SD = 1.15$). Moreover, the estimated monthly income was on average lower in the commission-based dealerships ($M = 4610$, $SD = 979$ in US dollars) than in the salary-based dealerships ($M = 5811$, $SD = 1214$).

The lower income in the commission-based stores might be partially attributable to the shorter work experience of the respondents. Compared with those in the salary-based dealerships, respondents in the commission-based dealerships were younger ($M_{commission} = 42.41$, $SD_{commission} = 7.21$; $M_{salary} = 46.55$, $SD_{salary} = 5.88$), had spent fewer years working in their current store ($M_{commission} = 7.62$, $SD_{commission} = 5.25$; $M_{salary} = 17.84$, $SD_{salary} = 6.14$), and in the company overall ($M_{commission} = 12.80$, $SD_{commission} = 9.77$; $M_{salary} = 21.65$, $SD_{salary} = 8.63$). Moreover, those in the commission-based dealerships had lower positions in the organization on average, ($M_{commission} = 2.94$, $SD_{commission} = 1.56$; $M_{salary} = 4.28$, $SD_{salary} = 1.08$) and reported lower job security than those in the salary-based dealerships ($M_{commission} = 3.73$, $SD_{commission} = 1.97$; $M_{salary} = 4.05$, $SD_{salary} = 1.54$).

There was no significant difference between the two types of dealerships on any other variable, including intrinsic motivation and job satisfaction ($ps > .11$). All those variables were controlled in the following analyses, with the exception of the self-reported performance and position variables that were used to create the estimated individual income variable.[6] The results were identical in direction and significance when we included the two variables.

Desire for money. We first examined the difference in desire for money between the sales agents in the two incentive systems. We conducted an ordinary least squares (OLS) regression analysis with the incentive systems as an independent variable and desire for money as a dependent variable (see Table 2). As shown in Model 1 of Table 2, the incentive systems significantly predicted desire for money, $b = .49$, $p < .001$. That is, respondents in the performance-incentive system desired money more ($M = 4.93$, $SD = 1.05$) than did those in the task-incentive system ($M = 4.32$, $SD = 1.04$).

Attention to money. We then conducted the same OLS regression analysis with attention to money as the dependent variable. As predicted, the incentive systems significantly predicted the degree of attention to money, $b = .47$, $p = .004$. The respondents in the performance-incentive system reported paying more attention to money and thinking about it more often while working ($M = 5.13$, $SD = 1.41$) than did those in the task-incentive system ($M = 4.33$, $SD = 1.25$).

Mediation. As shown in Model 2 of Table 2, we added attention to money as a predictor of desire for money in the regression analysis. We found that the relationship between incentive systems and desire for money was reduced when attention to money was added to the regression equation, $b = .36$, $p = .006$. We then tested the mediating effect of attention to money, utilizing the PROCESS Mediation Model 4 (Hayes, 2013; Preacher & Hayes, 2004). The analysis showed that the mean indirect effects excluded zero for attention, $b = .13$, 95% CI = .0415 to .2535, suggesting that the increased attention to monetary rewards partially mediated the relationship between incentive systems and desire for money.

Study 7 provides support for our findings in the field. Consistent with the results of our laboratory experiments, respondents who received performance incentives thought about money more often and reported a greater desire for money compared to those who received task-based incentives. The higher attention to the rewards partially mediated the relationship between the incentive system and desire for money.

Even though we attempted to control for a number of potential confounding variables, Study 7 still has a few methodological limitations because of the nature of field work. One limitation is that the study lacks random assignment and the sale agents self-selected into the dealership. Thus, an alternate explanation for our results is that those who desired money more were attracted to

[6] The self-reported performance and position variables were both used to estimate the individual income variable, which was included in the regression equations. Therefore, the correlation between individual income and self-reported performance ($r = .57$, $p < .001$) and the correlation between individual income and position ($r = .57$, $p < .001$) were both high. These high correlations indicate that the three variables account for overlapping variance, and including all three variables can bias results from the regression analyses.

Table 1
Descriptives and Correlations in Study 7

Variable	*M*	*SD*	IS	DM	AM	FS	JS	PE	IM	ST	Gen	Age	Edu	YS	YO	IE
IS	.58	.49	—													
DM	4.68	1.09	.28*	—												
AM	4.80	1.40	.29*	.55*	—											
FS	3.11	1.23	−.23*	−.50*	−.55*	—										
JS	3.86	1.81	−.09	−.21*	−.25*	.31*	—									
PE	4.81	1.36	.06	.27*	.18*	.36*	−.14*	—								
IM	4.19	1.42	.03	.16*	.07	−.19*	.01	.39*	—							
ST	4.59	1.51	.03	.07	.04	−.08	.09	.38*	.67*	—						
Gen	.96	.20	.06	.11*	.12*	−.05	−.04	.01	−.02	.03	—					
Age	44.15	6.98	−.29*	−.12*	−.20*	.09*	−.01	.03	−.13*	−.18*	−.06	—				
Edu	2.31	.62	.08	.10*	.02	−.09*	−.02	.03	.10*	.09	−.06	−.24*	—			
YS	11.95	7.57	−.67*	−.13*	−.21*	.13*	−.02	−.00	−.07	.09	.05	.63*	−.11*	—		
YO	16.53	10.28	−.43*	−.10*	.17*	.11*	−.05	.02	−.06	.12*	.01	.64*	−.11*	.68*	—	
IE	5078.28	1224.69	−.48*	−.05	−.08	.01	.07	.27*	.12*	.22*	.05	.40*	−.11*	.52*	.42*	—

Note. IS = incentive system; DM = desire for money; AM = attention to money; FS = financial security; JS = job security; PE = perceived effort; IM = intrinsic motivation; ST = job satisfaction; Gen = gender; Age = age; Edu = education; YS = years at the store; YO = years overall; IE = income estimate in U.S. dollars.
* $p < .05$.

dealerships with the performance incentive system. Although it is difficult to rule out this concern entirely, it is important to note that average income was lower in the commission-based dealerships, which is incompatible with a self-selection argument.

Another alternate explanation is that sales agents in the salary-based dealerships placed less value on money because they received more of it. We attempted to address this concern by controlling for estimated individual income and financial security in our analyses. It is also worth noting that this alternate explanation is inconsistent with research on the relationship between income and desire for money, which has repeatedly found that increases in earnings do not decrease desire for money because people quickly adjust their reference point according to their current income (Tang, Furnham, & Mei-Tzu Wu Davis, 2002).

General Discussion

Results from five laboratory experiments and one field study provide evidence for an unintended consequence of performance incentives. Our findings suggest that performance incentives alter peoples' valuation of the reward object. In Study 1, people reported being more desirous of money when they received it through performance incentives as opposed to participation. Study 2 replicated this effect with a behavioral measure of desire, and showed that people who were paid for their performance were subsequently more motivated to obtain additional rewards than were those who were paid for their participation. Study 3 attempted but did not replicate the effect of performance incentives with a measure of willingness to donate.

Study 4 attempted to improve the donation measure and test an important boundary condition—task performance. We found that even when participants performed relatively poorly on the task, those in the performance-incentive condition showed greater desire for the reward object. Study 5 replicated the effect using nonmonetary rewards. Study 6 investigated the underlying mechanism, and found that performance incentives led to an increase in attention to the rewards during the task,

Table 2
Regression Results in Study 7

	Desire for money Model 1				Desire for money Model 2			
Variable	*B*	*SE*	*t*	*p*	*B*	*SE*	*t*	*p*
Incentive system	.49	.14 (.13)	3.58 (3.67)	<.001 (<.001)	.36	.13 (.13)	2.76 (2.85)	.006 (.005)
Financial security	−.35	.04 (.05)	−8.25 (−7.70)	<.001 (<.001)	−.19	.05 (.05)	−4.11 (−3.75)	<.001 (<.001)
Job security	−.05	.03 (.03)	−1.86 (−1.75)	.064 (.081)	−.04	.03 (.03)	−1.38 (−1.28)	.167 (.202)
Perceived effort	.05	.04 (.04)	1.08 (1.16)	.281 (.247)	.05	.04 (.04)	1.21 (1.29)	.227 (.197)
Intrinsic motivation	.07	.04 (.04)	1.64 (1.74)	.101 (.082)	.08	.04 (.04)	1.92 (1.93)	.056 (.055)
Job satisfaction	−.05	.04 (.04)	−1.03 (−1.01)	.304 (.312)	−.04	.04 (.04)	−1.00 (−.97)	.317 (.332)
Gender	.54	.26 (.28)	2.08 (1.94)	.038 (.053)	.34	.24 (.20)	1.40 (1.74)	.162 (.082)
Age	−.02	.01 (.01)	−2.07 (−2.00)	.039 (.046)	−.01	.01 (.01)	−1.00 (−1.02)	.316 (.307)
Education	.02	.08 (.08)	.20 (.21)	.844 (.832)	.06	.08 (.08)	.73 (.74)	.467 (.457)
Years at the store	.01	.01 (.01)	1.25 (1.34)	.211 (.182)	.01	.01 (.01)	1.31 (1.40)	.191 (.161)
Years overall	.01	.01 (.01)	1.01 (.99)	.313 (.324)	.00	.01 (.01)	.57 (.56)	.572 (.574)
Income estimate	.00	.00 (.00)	.40 (.38)	.693 (.707)	.00	.00 (.00)	.35 (.33)	.727 (.739)
Attention to money	—	—	—	—	.28	.04 (.04)	7.02 (6.55)	<.001 (<.001)
Constant	5.33	.59 (.61)	9.11 (8.74)	<.001 (<.001)	3.16	.63 (.64)	5.00 (4.95)	<.001 (<.001)

Note. All regression coefficients are unstandardized. Robust standard error estimates are reported in parentheses.

which was associated with an increased desire for the reward object. Lastly, Study 7 tested our predictions in the field, and demonstrated that sales agents who were paid by performance incentives desired money more than did those who were paid by task-based incentives. The increased desire for money was partially driven by an increase in attention to monetary rewards.

The fundamental implication of this research is that being exposed to performance incentives changes how we value money and other incentivized rewards. This may have significant consequences in our daily life, because how much one values a reward affects how one uses those rewards. In the case of money, the strength of desire for money tends to influence financial decision-making including donating, gambling, and saving decisions (Brandstätter & Brandstätter, 1996; Gourville & Soman, 1998). For example, if employees in a performance-incentive system value money more, they may make greater demands in subsequent salary negotiations. Beyond financial decision-making, these findings may also have value-based implications, such as materialism and prosociality. For example, people in performance-incentive systems may become more materialistic and less charitable over time.

The present findings also complement previous research on the source-dependence of income and financial decision-making. The current research shares the assumption that desire for rewards is flexible (Muehlbacher et al., 2008; Devoe et al., 2013), but it introduces performance incentives as a novel factor that can shape one's desire for reward objects. That is, even when individuals receive money from the same source (i.e., wages), differences in how that money is earned can shape their desire for money.

Our results also contribute to recent work investigating how one's desire for rewards is developed and strengthened (Hofmann & Van Dillen, 2012; Kavanagh et al., 2005; Lasaleta, Sedikides, & Vohs, 2014). Specifically, an increasing body of research has examined both personality traits and situational characteristics that affect how strongly one desires certain reward objects (Hofmann, Baumeister, Förster, & Vohs, 2012; Pronk, Karremans, & Wigboldus, 2011; Tidwell & Eastwick, 2013). The current finding suggests that the reward structure to which an individual is exposed acts as an environmental factor that intensifies desire for the reward object. Future research should examine potential individual differences that interact with the effect of performance incentives. For example, individuals with higher working memory capacity (Hofmann, Gschwendner, Friese, Wiers, & Schmitt, 2008) might show less increase in desire for the reward object when exposed to performance incentives, as they are more capable of focusing their attention on the task at hand without getting distracted by thoughts about the rewards.

Future studies should also investigate potential boundary conditions including the effect of task difficulty. For a cognitively demanding task, for instance, the task itself might leave less cognitive capacity to think about the rewards during the task, preventing the increase in desire for the reward object. However, it is also plausible that exposure to performance incentives would still distract people from performing well on the challenging task (DeCaro et al., 2011), which not only increases their desire for the reward object but also impairs their performance on the task. The question awaits future research.

Moreover, Studies 6 and 7 showed that participants in the performance-incentive condition devoted more attention to the reward object than those in the task-incentive condition. This finding is interesting in light of recent research showing that increased financial concerns attributable to poverty can harm individuals' cognitive function, because those concerns consume a great deal of cognitive resources (Mani, Mullainathan, Shafir, & Zhao, 2013). Similarly, increased thoughts about monetary rewards, brought on by performance incentives, might consume mental resources and decrease cognitive function.

Lastly, our findings also hint at the possibility that performance incentives might increase unethical behavior by activating the concept of money more often during a task. Previous research on the symbolic power of money has shown that activating the concept of money can decrease ethical (Kouchaki, Smith-Crowe, Brief, & Sousa, 2013) and pro-social behavior (Vohs et al., 2006). Moreover, research on goal-shielding suggests that priming goal-related constructs might activate the goal itself, while shielding the pursuit of other goals (Shah, Friedman, & Kruglanski, 2002). Thus, increased attention to monetary rewards in a performance-incentive system might activate a money-making goal, while deterring pursuit of another goal of being an ethical person. These questions on the potential consequences of performance incentives await future research.

References

Alessandri, J., Darcheville, J.-C., Delevoye-Turrell, Y., & Zentall, T. R. (2008). Preference for rewards that follow greater effort and greater delay. *Learning & Behavior, 36,* 352–358. http://dx.doi.org/10.3758/LB.36.4.352

Angrist, J., Lang, D., & Oreopoulos, P. (2009). Incentives and services for college achievement: Evidence from a randomized trial. *American Economic Journal: Applied Economics, 1,* 136–163. http://dx.doi.org/10.1257/app.1.1.136

Baumert, J., & Demmrich, A. (2001). Test motivation in the assessment of student skills: The effects of incentives on motivation and performance. *European Journal of Psychology of Education, 16,* 441–462. http://dx.doi.org/10.1007/BF03173192

Beggan, J. K. (1992). On the social nature of nonsocial perception: The mere ownership effect. *Journal of Personality and Social Psychology, 62,* 229–237. http://dx.doi.org/10.1037/0022-3514.62.2.229

Beilock, S. L., & Carr, T. H. (2005). When high-powered people fail: Working memory and "choking under pressure" in math. *Psychological Science, 16,* 101–105. http://dx.doi.org/10.1111/j.0956-7976.2005.00789.x

Berridge, K. C. (2009). 'Liking' and 'wanting' food rewards: Brain substrates and roles in eating disorders. *Physiology & Behavior, 97,* 537–550. http://dx.doi.org/10.1016/j.physbeh.2009.02.044

Brandstätter, E., & Brandstätter, H. (1996). What's money worth? Determinants of the subjective value of money. *Journal of Economic Psychology, 17,* 443–464. http://dx.doi.org/10.1016/0167-4870(96)00019-0

Briers, B., Pandelaere, M., Dewitte, S., & Warlop, L. (2006). Hungry for money: The desire for caloric resources increases the desire for financial resources and vice versa. *Psychological Science, 17,* 939–943. http://dx.doi.org/10.1111/j.1467-9280.2006.01808.x

Cadsby, C. B., Song, F., & Tapon, F. (2007). Sorting and incentive effects of pay for performance: An experimental investigation. *Academy of Management Journal, 50,* 387–405. http://dx.doi.org/10.5465/AMJ.2007.24634448

Cameron, J., Banko, K. M., & Pierce, W. D. (2001). Pervasive negative effects of rewards on intrinsic motivation: The myth continues. *The Behavior Analyst, 24*(1), 1–44.

Cameron, J., Pierce, W. D., Banko, K. M., & Gear, A. (2005). Achievement-based rewards and intrinsic motivation: A test of cognitive mediators. *Journal of Educational Psychology, 97,* 641–655. http://dx.doi.org/10.1037/0022-0663.97.4.641

Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology, 67,* 319–333. http://dx.doi.org/10.1037/0022-3514.67.2.319

Castellanos, E. H., Charboneau, E., Dietrich, M. S., Park, S., Bradley, B. P., Mogg, K., & Cowan, R. L. (2009). Obese adults have visual attention bias for food cue images: Evidence for altered reward system function. *International Journal of Obesity, 33,* 1063–1073. http://dx.doi.org/10.1038/ijo.2009.138

Claassen, D., Fakhoury, W. K., Ford, R., & Priebe, S. (2007). Money for medication: Financial incentives to improve medication adherence in assertive outreach. *Psychiatric Bulletin, 31,* 4–7. http://dx.doi.org/10.1192/pb.31.1.4

DeCaro, M. S., Thomas, R. D., Albert, N. B., & Beilock, S. L. (2011). Choking under pressure: Multiple routes to skill failure. *Journal of Experimental Psychology: General, 140,* 390–406. http://dx.doi.org/10.1037/a0023466

DeVoe, S. E., & Pfeffer, J. (2009). When is happiness about how much you earn? The effect of hourly payment on the money—Happiness connection. *Personality and Social Psychology Bulletin, 35,* 1602–1618. http://dx.doi.org/10.1177/0146167209346304

Devoe, S. E., Pfeffer, J., & Lee, B. Y. (2013). When does money make money more important? Survey and experimental evidence. *Industrial & Labor Relations Review, 66,* 1078–1096. http://dx.doi.org/10.1177/001979391306600503

Eisenberger, R., Rhoades, L., & Cameron, J. (1999). Does pay for performance increase or decrease perceived self-determination and intrinsic motivation? *Journal of Personality and Social Psychology, 77,* 1026–1040. http://dx.doi.org/10.1037/0022-3514.77.5.1026

Enzle, M. E., & Ross, J. M. (1978). Increasing and decreasing intrinsic interest with contingent rewards: A test of cognitive evaluation theory. *Journal of Experimental Social Psychology, 14,* 588–597. http://dx.doi.org/10.1016/0022-1031(78)90052-5

Epstein, J. L., & Sheldon, S. B. (2002). Present and accounted for: Improving student attendance through family and community involvement. *The Journal of Educational Research, 95,* 308–318. http://dx.doi.org/10.1080/00220670209596604

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39,* 175–191. http://dx.doi.org/10.3758/BF03193146

Fawson, P. C., & Moore, S. A. (1999). Reading incentive programs: Beliefs and practices. *Reading Psychology, 20,* 325–340. http://dx.doi.org/10.1080/027027199278385

Field, M., Munafò, M. R., & Franken, I. H. (2009). A meta-analytic investigation of the relationship between attentional bias and subjective craving in substance abuse. *Psychological Bulletin, 135,* 589–607. http://dx.doi.org/10.1037/a0015843

Freeman, M. F., & Tukey, J. W. (1950). Transformations related to the angular and the square root. *Annals of Mathematical Statistics, 21,* 607–611. http://dx.doi.org/10.1214/aoms/1177729756

Furnham, A. (1984). Many sides of the coin: The psychology of money usage. *Personality and Individual Differences, 5,* 501–509. http://dx.doi.org/10.1016/0191-8869(84)90025-4

Gourville, J. T., & Soman, D. (1998). Payment depreciation: The behavioral effects of temporally separating payments from consumption. *Journal of Consumer Research, 25,* 160–174. http://dx.doi.org/10.1086/209533

Harackiewicz, J. M. (1979). The effects of reward contingency and performance feedback on intrinsic motivation. *Journal of Personality and Social Psychology, 37,* 1352–1363. http://dx.doi.org/10.1037/0022-3514.37.8.1352

Harackiewicz, J. M., & Manderlink, G. (1984). A process analysis of the effects of performance-contingent rewards on intrinsic motivation. *Journal of Experimental Social Psychology, 20,* 531–551. http://dx.doi.org/10.1016/0022-1031(84)90042-8

Harmon-Jones, E., & Peterson, C. K. (2008). Effect of trait and state approach motivation on aggressive inclinations. *Journal of Research in Personality, 42,* 1381–1385. http://dx.doi.org/10.1016/j.jrp.2008.05.001

Harrison, D. A., Virick, M., & William, S. (1996). Working without a net: Time, performance, and turnover under maximally contingent rewards. *Journal of Applied Psychology, 81,* 331–345. http://dx.doi.org/10.1037/0021-9010.81.4.331

Harvey, K., Kemps, E., & Tiggemann, M. (2005). The nature of imagery processes underlying food cravings. *British Journal of Health Psychology, 10,* 49–56. http://dx.doi.org/10.1348/135910704X14249

Hayes, N. (2013). *Doing qualitative analysis in psychology*. Hove, UK: Psychology Press.

Hofmann, W., Baumeister, R. F., Förster, G., & Vohs, K. D. (2012). Everyday temptations: An experience sampling study of desire, conflict, and self-control. *Journal of Personality and Social Psychology, 102,* 1318–1335. http://dx.doi.org/10.1037/a0026545

Hofmann, W., Friese, M., & Roefs, A. (2009). Three ways to resist temptation: The independent contributions of executive attention, inhibitory control, and affect regulation to the impulse control of eating behavior. *Journal of Experimental Social Psychology, 45,* 431–435. http://dx.doi.org/10.1016/j.jesp.2008.09.013

Hofmann, W., Gschwendner, T., Friese, M., Wiers, R. W., & Schmitt, M. (2008). Working memory capacity and self-regulatory behavior: Toward an individual differences perspective on behavior determination by automatic versus controlled processes. *Journal of Personality and Social Psychology, 95,* 962–977. http://dx.doi.org/10.1037/a0012705

Hofmann, W., Schmeichel, B. J., & Baddeley, A. D. (2012). Executive functions and self-regulation. *Trends in Cognitive Sciences, 16,* 174–180. http://dx.doi.org/10.1016/j.tics.2012.01.006

Hofmann, W., & Van Dillen, L. (2012). Desire: The new hot spot in self-control research. *Current Directions in Psychological Science, 21,* 317–322. http://dx.doi.org/10.1177/0963721412453587

Jeffery, R. W., Wing, R. R., Thorson, C., Burton, L. R., Raether, C., Harvey, J., & Mullen, M. (1993). Strengthening behavioral interventions for weight loss: A randomized trial of food provision and monetary incentives. *Journal of Consulting and Clinical Psychology, 61,* 1038–1045. http://dx.doi.org/10.1037/0022-006X.61.6.1038

Jenkins, G. D., Jr., Mitra, A., Gupta, N., & Shaw, J. D. (1998). Are financial incentives related to performance? A meta-analytic review of empirical research. *Journal of Applied Psychology, 83,* 777–787. http://dx.doi.org/10.1037/0021-9010.83.5.777

Juliano, L. M., Donny, E. C., Houtsmuller, E. J., & Stitzer, M. L. (2006). Experimental evidence for a causal relationship between smoking lapse and relapse. *Journal of Abnormal Psychology, 115,* 166–173. http://dx.doi.org/10.1037/0021-843X.115.1.166

Karniol, R., & Ross, M. (1977). The effect of performance-relevant and performance-irrelevant rewards on children's intrinsic motivation. *Child Development, 48,* 482–487. http://dx.doi.org/10.2307/1128643

Kavanagh, D. J., Andrade, J., & May, J. (2005). Imaginary relish and exquisite torture: The elaborated intrusion theory of desire. *Psychological Review, 112,* 446–467. http://dx.doi.org/10.1037/0033-295X.112.2.446

Kemps, E., Tiggemann, M., & Christianson, R. (2008). Concurrent visuospatial processing reduces food cravings in prescribed weight-loss diet-

ers. *Journal of Behavior Therapy and Experimental Psychiatry, 39,* 177–186. http://dx.doi.org/10.1016/j.jbtep.2007.03.001

Kouchaki, M., Smith-Crowe, K., Brief, A. P., & Sousa, C. (2013). Seeing green: Mere exposure to money triggers a business decision frame and unethical outcomes. *Organizational Behavior and Human Decision Processes, 121,* 53–61. http://dx.doi.org/10.1016/j.obhdp.2012.12.002

Lasaleta, J. D., Sedikides, C., & Vohs, K. D. (2014). Nostalgia weakens the desire for money. *Journal of Consumer Research, 41,* 713–729. http://dx.doi.org/10.1086/677227

Lazear, E. P. (2000). The power of incentives. *The American Economic Review, 90,* 410–414. http://dx.doi.org/10.1257/aer.90.2.410

Levy, M., & Sharma, A. (1993). Relationships among measures of retail salesperson performance. *Journal of the Academy of Marketing Science, 21,* 231–238. http://dx.doi.org/10.1177/0092070393213006

Lovibond, P. F., & Colagiuri, B. (2013). Facilitation of voluntary goal-directed action by reward cues. *Psychological Science, 24,* 2030–2037. http://dx.doi.org/10.1177/0956797613484043

Lydall, E. S., Gilmour, G., & Dwyer, D. M. (2010). Rats place greater value on rewards produced by high effort: An animal analogue of the "effort justification" effect. *Journal of Experimental Social Psychology, 46,* 1134–1137. http://dx.doi.org/10.1016/j.jesp.2010.05.011

Mani, A., Mullainathan, S., Shafir, E., & Zhao, J. (2013). Poverty impedes cognitive function. *Science, 341,* 976–980. http://dx.doi.org/10.1126/science.1238041

Mann, T., & Ward, A. (2007). Attention, self-control, and health behaviors. *Current Directions in Psychological Science, 16,* 280–283. http://dx.doi.org/10.1111/j.1467-8721.2007.00520.x

Markman, A. B., Maddox, W. T., & Worthy, D. A. (2006). Choking and excelling under pressure. *Psychological Science, 17,* 944–948. http://dx.doi.org/10.1111/j.1467-9280.2006.01809.x

Mayer, R. C., & Davis, J. H. (1999). The effect of the performance appraisal system on trust for management: A field quasi-experiment. *Journal of Applied Psychology, 84,* 123–136. http://dx.doi.org/10.1037/0021-9010.84.1.123

Miceli, M. P., Jung, I., Near, J. P., & Greenberger, D. B. (1991). Predictors and outcomes of reactions to pay-for-performance plans. *Journal of Applied Psychology, 76,* 508–521. http://dx.doi.org/10.1037/0021-9010.76.4.508

Muehlbacher, S., Kirchler, E., Hoelzl, E., Ashby, J., Berti, C., Job, J., . . . Waldherr, K. (2008). Hard-earned income and tax compliance: A survey in eight nations. *European Psychologist, 13,* 298–304. http://dx.doi.org/10.1027/1016-9040.13.4.298

Murayama, K., Matsumoto, M., Izuma, K., & Matsumoto, K. (2010). Neural basis of the undermining effect of monetary reward on intrinsic motivation. *Proceedings of the National Academy of Sciences of the United States of America, 107,* 20911–20916. http://dx.doi.org/10.1073/pnas.1013305107

Niaura, R. S., Rohsenow, D. J., Binkoff, J. A., Monti, P. M., Pedraza, M., & Abrams, D. B. (1988). Relevance of cue reactivity to understanding alcohol and smoking relapse. *Journal of Abnormal Psychology, 97,* 133–152. http://dx.doi.org/10.1037/0021-843X.97.2.133

Papies, E. K., Stroebe, W., & Aarts, H. (2008). Healthy cognition: Processes of self-regulatory success in restrained eating. *Personality and Social Psychology Bulletin, 34,* 1290–1300. http://dx.doi.org/10.1177/0146167208320063

Phillips, J. S., & Freedman, S. M. (1985). Contingent pay and intrinsic task interest: Moderating effects of work values. *Journal of Applied Psychology, 70,* 306–313. http://dx.doi.org/10.1037/0021-9010.70.2.306

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments & Computers, 36,* 717–731. http://dx.doi.org/10.3758/BF03206553

Pronk, T. M., Karremans, J. C., & Wigboldus, D. H. (2011). How can you resist? Executive control helps romantically involved individuals to stay faithful. *Journal of Personality and Social Psychology, 100,* 827–837. http://dx.doi.org/10.1037/a0021993

Ronay, R., & von Hippel, W. (2010). The presence of an attractive woman elevates testosterone and physical risk taking in young men. *Social Psychological and Personality Science, 1,* 57–64. http://dx.doi.org/10.1177/1948550609352807

Rudd, M., Vohs, K. D., & Aaker, J. (2012). Awe expands people's perception of time, alters decision making, and enhances well-being. *Psychological Science, 23,* 1130–1136. http://dx.doi.org/10.1177/0956797612438731

Rusbult, C. E., Campbell, M. A., & Price, M. E. (1990). Rational selective exploitation and distress: Employee reactions to performance-based and mobility-based reward allocations. *Journal of Personality and Social Psychology, 59,* 487–500. http://dx.doi.org/10.1037/0022-3514.59.3.487

Ryan, R. M., & Deci, E. L. (2000). When rewards compete with nature: The undermining of intrinsic motivation and self regulation. In C. Sansone & J. M. Harackiewicz (Eds.), *Intrinsic and extrinsic motivation: The search for optimal motivation and performance* (pp. 14–48). San Diego, CA: Academic Press.

Ryan, R. M., Mims, V., & Koestner, R. (1983). Relation of reward contingency and interpersonal context to intrinsic motivation: A review and test using cognitive evaluation theory. *Journal of Personality and Social Psychology, 45,* 736–750. http://dx.doi.org/10.1037/0022-3514.45.4.736

Shah, J. Y., Friedman, R., & Kruglanski, A. W. (2002). Forgetting all else: On the antecedents and consequences of goal shielding. *Journal of Personality and Social Psychology, 83,* 1261–1280. http://dx.doi.org/10.1037/0022-3514.83.6.1261

Shah, J. Y., & Kruglanski, A. W. (2002). Priming against your will: How accessible alternatives affect goal pursuit. *Journal of Experimental Social Psychology, 38,* 368–383. http://dx.doi.org/10.1016/S0022-1031(02)00005-7

Shefrin, H. M., & Thaler, R. H. (1988). The behavioral life-cycle hypothesis. *Economic Inquiry, 26,* 609–643. http://dx.doi.org/10.1111/j.1465-7295.1988.tb01520.x

Singh-Manoux, A., Adler, N. E., & Marmot, M. G. (2003). Subjective social status: Its determinants and its association with measures of ill-health in the Whitehall II study. *Social Science & Medicine, 56,* 1321–1333. http://dx.doi.org/10.1016/S0277-9536(02)00131-4

Sobik, L., Hutchison, K., & Craighead, L. (2005). Cue-elicited craving for food: A fresh approach to the study of binge eating. *Appetite, 44,* 253–261. http://dx.doi.org/10.1016/j.appet.2004.12.001

Spiro, R. L., & Weitz, B. A. (1990). Adaptive selling: Conceptualization, measurement, and nomological validity. *Journal of Marketing Research, 27,* 61–69. http://dx.doi.org/10.2307/3172551

Stellar, J. E., & Willer, R. (2014). The corruption of value negative moral associations diminish the value of money. *Social Psychological and Personality Science, 5,* 60–66. http://dx.doi.org/10.1177/1948550613484770

Suri, G., & Gross, J. J. (2015). The role of attention in motivated behavior. *Journal of Experimental Psychology: General, 144,* 864–872. http://dx.doi.org/10.1037/xge0000088

Tang, T. L. P. (1995). The development of a short money ethic scale: Attitudes toward money and pay satisfaction revisited. *Personality and Individual Differences, 19,* 809–816. http://dx.doi.org/10.1016/S0191-8869(95)00133-6

Tang, T., Furnham, A., & Mei-Tzu Wu Davis, G. (2002). The meaning of money: The money ethic endorsement and work-related attitudes in Taiwan, the USA and the UK. *Journal of Managerial Psychology, 17,* 542–563. http://dx.doi.org/10.1108/02683940210444021

Thaler, R. H., & Shefrin, H. M. (1981). An economic theory of self-control. *Journal of Political Economy, 89,* 392–406. http://dx.doi.org/10.1086/260971

Tidwell, N. D., & Eastwick, P. W. (2013). Sex differences in succumbing to sexual temptations: A function of impulse or control? *Personality and Social Psychology Bulletin, 39,* 1620–1633. http://dx.doi.org/10.1177/0146167213499614

Van Dillen, L. F., Heslenfeld, D. J., & Koole, S. L. (2009). Tuning down the emotional brain: An fMRI study of the effects of cognitive load on the processing of affective images. *NeuroImage, 45,* 1212–1219. http://dx.doi.org/10.1016/j.neuroimage.2009.01.016

Van Dillen, L. F., & Papies, E. K. (2015). From distraction to mindfulness: Psychological and neural mechanisms of attention strategies in self-regulation. In G. H. E. Gendolla, M. Topps, & S. L. Koole (Eds.), *Handbook of biobehavioral approaches to self-regulation* (pp. 141–154). New York, NY: Springer.

Van Dillen, L. F., Papies, E. K., & Hofmann, W. (2013). Turning a blind eye to temptation: How cognitive load can facilitate self-regulation. *Journal of Personality and Social Psychology, 104,* 427–443. http://dx.doi.org/10.1037/a0031262

Vohs, K. D., Mead, N. L., & Goode, M. R. (2006). The psychological consequences of money. *Science, 314,* 1154–1156. http://dx.doi.org/10.1126/science.1132491

Wageman, R., & Baker, G. (1997). Incentives and cooperation: The joint effects of task and reward interdependence on group performance. *Journal of Organizational Behavior, 18,* 139–158. http://dx.doi.org/10.1002/(SICI)1099-1379(199703)18:2<139::AID-JOB791>3.0.CO;2-R

Waters, A. J., Shiffman, S., Bradley, B. P., & Mogg, K. (2003). Attentional shifts to smoking cues in smokers. *Addiction, 98,* 1409–1417. http://dx.doi.org/10.1046/j.1360-0443.2003.00465.x

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54,* 1063–1070. http://dx.doi.org/10.1037/0022-3514.54.6.1063

Wilson, M., & Daly, M. (2004). Do pretty women inspire men to discount the future? *Proceedings of the Royal Society of London, Series B: Biological Sciences, 271,* S177–S179. http://dx.doi.org/10.1098/rsbl.2003.0134

Zeelenberg, M., & Van Dijk, E. (1997). A reverse sunk cost effect in risky decision making: Sometimes we have too much invested to gamble. *Journal of Economic Psychology, 18,* 677–691. http://dx.doi.org/10.1016/S0167-4870(97)00029-9

Zhou, X., Vohs, K. D., & Baumeister, R. F. (2009). The symbolic power of money: Reminders of money alter social distress and physical pain. *Psychological Science, 20,* 700–706. http://dx.doi.org/10.1111/j.1467-9280.2009.02353.x

Appendix A

Charity Descriptions in Study 4

Organization	Description
American Red Cross	The American Red Cross exists to provide compassionate care to those in need. Our network of generous donors, volunteers and employees share a mission of preventing and relieving suffering, here at home and around the world.
UNICEF USA	The United Nations Children's Fund USA (UNICEF USA) works in more than 190 countries to save and improve children's lives, providing health care and immunizations, clean water and nutrition, and more. It works toward the day when zero children die from preventable causes and every child has a safe and healthy childhood.
Doctors without borders	Doctors without borders is an humanitarian-aid non-governmental organization. More than 26,000 medical doctors and nurses are providing medical aid in more than 60 countries. Those doctors and nurses decided to volunteer their time to solve issues of world health.
Access Living	Access Living is a change agent committed to fostering an inclusive society that enables Chicagoans with disabilities to live fully-engaged and self-directed lives. Staff and volunteers combine knowledge and personal experience to deliver programs and services that equip people with disabilities to advocate for themselves.
PAWS	PAWS (Pets Are Worth Saving) Chicago is the largest No Kill humane organization in the Midwest. Through innovative Angels with Tails dog and cat adoption events held on weekends at shopping centers and retail stores, PAWS Chicago is saving lives and educating the public.

(*Appendices continue*)

Appendix B

Survey Items in Study 7

Variable	Survey item
Desire for money	I value money very highly. (2)
	Money is important. (2)
	I believe the more money you have, the happier you are. (2)
	It is okay to do anything legal for money, as long as the payment is enough. (2)
	On occasion, earning money should be prioritized over spending time with others. (2)
	Earning money should be a top priority. (2)
	I firmly believe money can solve all my problems. (2)
	It is okay to put money ahead of pleasure. (2)
Attention to money	I often think about money. (1)
	I am frequently reminded of the money that I am earning. (1)
	I am constantly aware of the monetary compensation that I will receive. (1)
	I often think about my monthly income. (1)
Perceived effort	I put a great deal of effort into my work. (2)
Intrinsic motivation	I enjoy trying to solve complex problems at work. (2)
	My work provides opportunities to enjoy tackling problems that are completely new to me. (2)
	I enjoy trying to solve difficult problems at work. (2)
Job satisfaction	I am very satisfied with my job. (2)
	I enjoy my current job. (2)
Job security	I am greatly concerned about losing my job. (2)
Financial security	I worry about my finances much of the time. (2)
	I prefer to save money because I am never sure when things will collapse and I will need the cash. (2)
Self-rated performance	I think I am very good at my work. (2)
Filler items	I feel a sense of accomplishment. (1)
	Time passes very slowly. (1)
	I feel that the culture at work fits me well. (1)
	I feel that a sales job is my calling. (1)
	I often think about what I will do after work. (1)
	I feel that a sales job matches my aptitudes. (1)

Note. The number next to each item indicates whether the item was included in the first (1) or second (2) part of the survey. All items in the first part were prefaced by "When I am at work. . . ."

Received December 25, 2015
Revision received April 30, 2016
Accepted June 3, 2016 ■