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**The Effects of Contract Framing on Misconduct
and Entitlement**

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The Effects of Contract Framing on Misconduct and Entitlement

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The Effects of Contract Framing on Misconduct and Entitlement

ABSTRACT:

This study examines the effects of incentive contract framing on misreporting and entitlement. I conduct a 2x2 between subjects experiment, manipulating incentive contract framing (*Bonus / Penalty*) and the awareness of the opportunity to misreport (*Before Effort / After Effort*). I predict and find that (1) penalty contracts cause a higher rate and degree of misreporting and (2) this greater misreporting occurs due to a greater sense of entitlement to the incentive funds. Collectively, this study's theory and results indicate that while penalty contracts can sometimes increase effort relative to bonus contracts, they also encourage greater dishonesty in reporting when that effort is not successful.

Keywords: bonus, rewards, penalties, contract framing, incentives, misreporting, entitlement

Data Availability: Contact the author

I. INTRODUCTION

Incentive contracts represent an important tool in the design of management control systems to induce desirable behaviors and reduce undesirable behaviors. Incentive contracts can be framed as bonus contracts, where the employee is promised a wealth increase for meeting some target level of performance, or as penalty contracts, where the employee is threatened with a wealth reduction for failing to meet the target level of performance. Prior accounting research has focused primarily on the effects of contract framing on effort (Christ, Sedatole, and Towry 2012; Hossain and List 2012; Hannan, Hoffman, and Moser 2005). However, previous studies have not allowed for the opportunity to replace effort with misreporting. In reality, employees often can distort their actual performance, making it appear as if they have worked harder or produced more than they actually have (Maas and van Rinsum 2013).¹ It is unclear from prior research which contract frame will be more likely to induce such misconduct or how the contract frame will affect effort when employees can misreport their performance instead of exerting effort. This study examines the effect of incentive contract framing on misreporting and entitlement. Specifically, this study examines (1) whether a penalty framed incentive contract causes greater employee misreporting than a bonus framed incentive contract and (2) whether the increase occurs due to an increased sense of entitlement to the incentive funds.

Penalty framing for incentive contracts occurs less frequently in practice than bonus framing but is not unheard of. For example, service level agreements in outsourcing contracts

¹ For example, accountants and lawyers are often paid based on self-reported billable hours, service technicians are paid on their own diagnoses of problems, and managers at various levels in an organization are paid based on financial performance over which they often have the ability to manipulate either through subtle manipulation or outright falsification (Cadsby, Song, and Tapon 2010; Hobson, Mayew, and Venkatachalam 2012). Such distortions can sometimes go undetected for years, and preventative controls—such as incentive contracts—represent one of the best ways to reduce the likelihood of such distortions taking place (KPMG 2006).

commonly invoke penalties (i.e., “credits”) that reduce the provider’s compensation if the provider fails to achieve target performance levels. Similarly, contracts in the construction industry regularly rely on penalties (i.e., “disincentives”) for a failure to achieve target performance levels. Christ et al. (2012) note that while incentive contracts usually are framed as bonus contracts, interest in the use of penalty framed contracts has been growing. Bonus contracts have come under a great deal of criticism in the past few years for creating incentives that encourage managers to manipulate accounting information in order to maximize their pay (Dehaan, Hodge, and Shevlin 2013). Such manipulation can range from subtle earnings manipulation to outright fraud. Penalty framed contracts represent a potentially appealing alternative as prior literature has found penalty framing can induce greater effort than bonus framing (Hossain and List 2012; Hannan et al. 2005). However, penalty framing is also perceived as less fair than bonus framing (Hannan et al. 2005), and any productivity gains may disappear when misreporting is an option.

Kahneman and Tversky's (1984) theory of loss aversion states that the disutility of giving up an object is greater than the utility of acquiring it. A penalty contract frames pre-penalized funds as something that belongs to the employee, which is likely to create a sense of entitlement to those funds even if the employee fails to meet the incentive contract requirements. If so, employees are likely to believe they are more justified in taking alternative action to retain those funds when they have failed to meet the requirements of the incentive contract. Accordingly, I predict that (1) misreporting will be greater in response to a penalty contract and (2) the greater misreporting will occur due to a sense of entitlement to the incentive funds.

I use a 2x2 between subjects experiment to investigate the effects of contract framing (*Bonus/Penalty*) and misreporting opportunity awareness (*Before Effort/After Effort*) on misreporting and perceptions of entitlement to the incentive amount. I manipulate misreporting

opportunity awareness in order to control for the possibility that the ability to misreport will interact with contract framing's effects on effort. If penalty framing increases misreporting as predicted, and people know they will be able to misreport rather than exerting effort on the task, it could cause them to choose misreporting *instead* of effort (i.e., use misreporting as a substitute for effort). Such substitution could eliminate or even reverse prior literature's findings that penalty framing causes greater effort than bonus framing (Hossain and List 2012; Hannan et al. 2005). Consistent with theory, I find that (1) penalty contracts cause a higher rate and degree of misreporting and (2) this higher misreporting occurs due to a greater sense of entitlement to the incentive amount. I do not find evidence that knowledge of the opportunity to misreport causes people to substitute misreporting for effort.

This research contributes to the management accounting literature on contract framing (Christ et al. 2012; Hossain and List 2012; Hannan et al. 2005; Luft 1994). It provides insight into potential advantages of bonus contracts over penalty contracts by revealing some costs of penalty contracts that would be more difficult to detect in practice. Specifically, it identifies that while penalty contracts may sometimes encourage greater effort than bonus contracts as prior literature has shown, penalty contracts can also lead to greater dishonesty when effort is not successful. Thus penalty contracts may be counterproductive when increased effort does not satisfy incentive contract requirements.

This research also contributes to the accounting literature on misreporting (e.g., Maas and van Rinsum 2013; Hannan, Rankin, and Towry 2006; Evans, Hannan, Krishnan, and Moser 2001) by identifying the perception of entitlement as a mechanism for misreporting. Although the perception of entitlement arises from penalty framing in this study, it may arise from other factors in practice, and thus the results may have further implications for employee behavior beyond what

is shown in this research.

Finally, this research offers important practical implications for regulators and managers as it addresses an all too common workplace scenario where an employee is called upon to report his or her performance and has both the opportunity and incentive to make that performance appear better than what actually occurred. For example, employees at all levels may overstate hours worked or claims for travel or subsistence expenses, while employees in management positions often have discretion when reporting their unit's results and can alter depreciation methods, estimates of asset value, or provisions for future expenses (e.g., Bowen, Rajgopal, and Venkatachalam 2008; Burgstahler and Dichev 1997). Such misreporting can vary in egregiousness, from the subtle manipulation of various line items in the financial statements (e.g., earnings management) to outright falsification and fraud (Hobson, Mayew, and Venkatachalam 2012). When actual performance is too low to meet the threshold for gaining a desired incentive or avoiding an undesirable outcome, this research suggests penalty framing will lead to a greater tendency to fall on the dishonest side of the spectrum when reporting than would bonus framing. However, this research does not find that penalty framing causes people to substitute effort with misreporting but suggests they will invest at least as much effort as they would under a bonus contract before resorting to dishonesty. This highlights the importance of setting targets that can be achieved through the greater exertion of effort when using penalty framing.

The remainder of this study is organized as follows: Section II develops the hypotheses. Section III describes the experimental design and procedures, and Section IV presents the results. Section V provides conclusions.

II. HYPOTHESIS DEVELOPMENT

Given the financial scandals and crises in recent years, bonus contracts have come under a

great deal of criticism, and penalty clauses have become increasingly prevalent (Dehaan et al. 2013). The number of Fortune 100 companies disclosing some form of a penalty clause in their executive compensation contracts went from three to 82 percent between 2005 and 2010 (Dehaan et al. 2013). Section 954 of Dodd-Frank directs the SEC to craft new rules for additional penalties, requiring public companies to implement and disclose a policy that takes back erroneously awarded incentive-based compensation paid to executive officers following accounting restatements, whether or not the executive officers engaged in misconduct.

In addition to the newer Dodd Frank policies, in some industries penalty contracts are nothing new. For instance, the construction industry routinely utilizes penalty based contract provisions via "Incentive/Disincentive" contracting. In addition, outsourcing contracts (the contracting out of a business process to another party) commonly invoke penalty clauses known as "credits" that reduce the service provider's compensation if the provider fails to achieve a specified level of service (Maurer, Matlus, and Parikh 2003).

Even when not explicit, penalty based incentive contracts exist for employees at all levels as they can lose their jobs for failing to meet performance requirements. For example, top management's tenures, compensation packages, and reputations are often determined by the extent to which their companies perform relative to analysts' forecasts (Zahra, Priem, and Rasheed 2007). Moreover, a survey of 1,087 board members from 286 organizations who had removed their CEOs from office revealed that 27 percent had fired their organization's CEO for *tolerating low performers* (Murphy 2005). This result not only highlights the penalty-based pressure on CEOs to meet performance targets but also the expectation that the CEO will apply such pressure on other employees in the organization. Overall, penalties are used in a variety of ways throughout organizations and across industries to provide an incentive for employees to do what they can to

avoid being penalized.

The theory of loss aversion suggests penalties would more effectively motivate employee effort (Kahneman and Tversky 1979). Hannan et al. (2005) and Hossain and List (2012) use the theory of loss aversion to predict that employees facing penalty contracts will expend greater effort to avoid the loss associated with the potential penalty than they will expend to gain a bonus; they find that lower levels of effort or productivity are a cost of bonus contracts. Fryer, Levitt, List, and Sadoff (2012) show in a field study of nine K-8 Chicago Heights schools that teachers under penalty contracts achieved a higher performance than those under a bonus contract.² However, prior studies did not investigate possible alternative means of avoiding a penalty or acquiring a bonus outside of increased effort. In reality, there are often options available to employees beyond increasing effort, options that may include undesirable behaviors such as misreporting.

Misreporting represents a way to avoid the negative consequences of failing to achieve the target level of performance. As noted in Dehaan et al. (2013), performance-based compensation may increase effort but it also encourages managers to manipulate accounting information in order to maximize their pay. When effort is perceived as too costly or has failed to produce results that would avoid a penalty or obtain a bonus, employees may resort to unethical means such as earnings management or outright fraud to avoid the negative consequences if they believe they can get away with it. I theorize that just as loss aversion predicts that employees will expend more effort under penalty contracts, it also implies employees will be more motivated to resort to misreporting in order to avoid a penalty than to gain a bonus when effort has failed to achieve the level of

² Their research prompted Inc. magazine, a monthly publication focused on growing companies, to recommend that businesses consider using penalties to boost productivity.

performance necessary to avoid the loss or gain the bonus.

An entitlement reflects a psychological property right that exists independent of legal property rights and carries a motivational disposition to defend that perceived property right (Gächter and Riedl 2005; Schlicht 1998). Entitlement can be thought of as an expectation with normative force, i.e., an expectation that one has a *right* to something and *should* receive it (Major 1994; Singer 1981). Entitlement reflects a cognitive judgment that has both affective and motivational implications (Major 1994; Lerner 1987). For example, prior research suggests that entitlement is associated with lower pay satisfaction (Graham and Welbourne 1999), supervisor conflict (Harvey and Martinko 2009), reduced job satisfaction (King and Miles 1994), and heightened levels of turnover intentions (King and Miles 1994; King, Miles, and Day 1993).

In contract framing, the psychological role of entitlement is important because a penalty frame has a fundamentally different conceptual base (initial ownership of incentive funds) from a bonus frame. Contract framing is therefore likely to cause employees to differ in the degree to which they feel they have a right to the incentive funds. For example, prior research has found that employees often view stealing from their employer as a morally justified source of income to which they are *entitled* (Greenberg 1993, 1990; Mars 1974, 1973). A greater sense of entitlement to the incentive funds is therefore likely to increase employees' comfort with using unethical means to increase their income when those incentive funds are withheld. I theorize that penalty framing is more likely than bonus framing to engender a sense of entitlement due to the sense of ownership conveyed by a penalty. As a consequence, employees are likely to believe they are more justified in lying to protect what they perceive themselves to own than in lying to obtain something they do not believe they own.

In summary, a penalty contract frames pre-penalized funds as belonging to the employee,

suggesting an employee will feel more entitled to pre-penalized funds than potential bonus funds even if the employee fails to meet the incentive contract requirements. The threat of a penalty is a threat to take back what psychologically had been previously added to a person's general endowment. Inasmuch as people mentally lay claim to those funds and perceive them as part of their endowment, a penalty contract is likely to invoke a sense of entitlement to the funds being threatened by a penalty, thus allowing employees to believe they are more justified in engaging in misreporting. Thus, entitlement should at least partially mediate the effect of contract framing on misreporting. This leads to the following hypotheses:

H1: *Misreporting will be greater in response to a penalty contract than to a bonus contract.*

H2: *The greater misreporting from a penalty contract will occur through a greater sense of entitlement to the incentive funds.*

III. METHOD

Participants

I recruited 99 undergraduate business students from upper-level business classes of a large state university to participate in one of nine 30-minute experimental sessions. The number of participants in each session varied in size from 3 to 27 students; as the treatments were randomly assigned per participant rather than per session, any session effects should be randomly distributed across conditions and thus not bias results. Of the 99 participants, 52 (52.5%) were male and 47 (47.5%) were female. Participation in the experiment took about 30 minutes on average and earnings ranged from \$10 to \$15.

Research Design

The experiment uses a 2x2 between subjects experiment to investigate the effects of

contract framing (*Bonus/Penalty*) and misreporting opportunity awareness (*Aware Before Effort / Aware After Effort*) on misreporting likelihood, dishonesty, and perceptions of entitlement to the incentive amount. The experiment was conducted in a computer laboratory using Qualtrics software, which randomly assigned each participant to one of the four treatments. All experimental materials were administered via computer, and between each computer was a divider for privacy.

Participants read instructions, went through a short practice task, viewed their compensation contract, received information about effort options, performed the official task (Official Round), viewed and reported their scores, and answered a post-experimental questionnaire. The Official Round involved answering a total of 30 difficult multiple-choice questions from each of the following categories: critical reasoning, sentence completion, and sentence correction. Participants had up to 15 minutes to complete the task, after which they were informed of how many questions they had answered correctly. They were then asked to report the number of correct answers. Their payoff was determined by the number they reported, not by the actual number of correct answers. Prior to the task, participants completed a short practice test with 3 sample questions of comparable difficulty to the official task; the practice test results were shown to them but they were not asked to report their practice score and their practice score did not affect their pay. No deception of any kind was used and participants were debriefed at the end of the experiment to ensure the experiment would not inadvertently lead them to believe misreporting is ethical.

Contract Framing

Consistent with Christ et al. (2012) and Hannan et al. (2005), I manipulated contract framing as either (1) a positively framed contract that rewards agents for meeting performance targets with a bonus payment (Bonus), or (2) a negatively framed contract that penalizes agents

for missing the target (Penalty). Specifically, participants in the two conditions were told the following:

Bonus: "You will be paid a salary of \$10 for your work in this experiment. In addition, you will receive a \$5 BONUS if your score shows you answered at least 25 of the 30 questions correctly in the Official Round."

Penalty: "You will be paid a salary of \$15 for your work in this experiment. However, you will be charged a \$5 PENALTY if your score does not show you answered at least 25 of the 30 questions correctly in the Official Round."

The contracts are monetarily equivalent, as under both contracts the employees will receive \$15 if they reach the target score of 25 and \$10 if not. In order to prevent differences in misreporting between treatments from being driven by differing levels of effort having differentially affected the opportunity to misreport, I chose a target score that was too challenging for most to achieve in the time allotted as determined during pilot testing. I analyze data only for participants who failed to achieve the target score.

Misreporting Opportunity Awareness

I manipulated misreporting opportunity awareness in order to observe whether penalties cause people to use misreporting as a substitute for or a complement to effort. By preventing misreporting from being used as a substitute for effort in one condition, I am able to observe any changes in how contract framing affects effort when misreporting can be used as an alternative to effort. In so doing, I maintain an environment similar to prior research into the effects of contract framing on effort, which allows for greater comparison between the effects found in this study and the effects found in prior literature.

All participants had the option to misreport. After they completed the Official Round,

participants were shown how many questions they answered correctly and all treatments viewed the following: "The previous number represents your actual score for this period. However, your pay will be calculated based only on the score you report. If you choose to lie about your score, you will not be caught. However, you will have to live with the knowledge that you chose to lie." Similar to Maas and van Rinsum (2013), which also examined misreporting, it was important to have an experimental setup where participants were aware that overstating their performance was possible but not completely appropriate within "the rules of the game."³ This was important in order to have confidence that misreporting decisions follow the same underlying mechanisms that would be in effect outside the experimental setting. Making the moral cost of lying salient helps preserve an important feature of the real world when people are trying to decide whether or not to be honest. This was held constant across all conditions.⁴

I manipulated misreporting opportunity awareness by informing half the participants *prior* to the task that they will be able to lie. Specifically, participants in the two conditions were told the following just before the Official Round:

Aware Before Effort: "At the end of the official round, the computer will tell you how many questions you answered correctly. You will then be asked to report your score. Your pay will be calculated based only on the score you report. If you lie about your score, you will not be caught."

Aware After Effort: "At the end of the official round, the computer will tell you how many

³ Participants were informed at the beginning of the experiment that their decisions in the experiment would be viewed by researchers but only as anonymous data that could not be tied to their actual identity.

⁴ Free responses in the post experimental questionnaire indicate participants saw the decision to lie or be honest about their score as a moral dilemma. Of the 98 participants who failed to achieve the target score in the experiment, 71 were honest.

questions you answered correctly."

Note that participants in *both* conditions were told their "pay will be calculated based only on the score you report. If you choose to lie about your score, you will not be caught." However, those in the *Aware After Effort* condition did not see this until after the Official Round.

Dependent Variable: Misreporting

The dependent variable of misreporting is measured both in likelihood and degree. Misreporting likelihood is coded as 1 if the reported score differed from the actual score and 0 if the reported score matched the actual score. Dishonesty measures the extent to which participants overstated their performance, taking into account their actual scores. It is calculated as $(\text{Reported Score} - \text{Actual Score}) / (30 - \text{Actual Score})$ and represents the percentage of the available room for overstatement that is actually used. This dependent variable is consistent with prior research in this area (e.g., Evans et al. 2001; Maas and van Rinsum 2013).

Dependent Variable: Entitlement

The dependent variable of entitlement is measured as the average of responses to two questions adapted from the Psychological Entitlement Scale (PES) (Campbell, Bonacci, Shelton, Exline, and Bushman 2004). The PES is meant to capture overall psychological entitlement related to one's personality rather than to external circumstances and as such is not perfectly suited for measuring entitlement to specific benefits. However, the scale is built primarily on two concepts, "deservingness" and "entitlement," both of which are relevant for benefit specific entitlement. Campbell et al. suggest that psychological entitlement is fundamentally a sense that one both *deserves* and is *entitled* to more. Accordingly, benefit specific entitlement should reflect a sense that one deserves and is entitled to a specific benefit. To this end, I modified the PES questions to capture the relevant aspects of entitlement for benefit specific entitlement by asking the degree to

which participants agreed with the following two statements:

1. I deserved to receive the full \$15 in this experiment.
2. I feel entitled to the full \$15 in this experiment.

Participants' responses to these two statements were elicited on a 6-point Likert scale with "1" labeled "strongly disagree" and "6" labeled "strongly agree."

IV. RESULTS

Preliminary Analyses

A total of 99 students participated in the experiment. After eliminating the one and only participant whose actual score was high enough to not need to misreport, I had 98 usable observations.⁵ All analyses are based on these 98 observations. Data acquired through the post-experimental questionnaire indicate that, on average, participants participated seriously, found the task interesting and challenging, found the target goal fair, and were motivated to perform well.

Manipulation checks (not tabulated) confirm that both manipulations were successful. The manipulation of the impact of contract framing was checked by asking participants whether they would be penalized (rewarded) if they reported scoring less than the target score of 25. The mean score option (a) is higher in the *Penalty* conditions (.82, SD = 0.39) than in the *Bonus* conditions (.14, SD = 0.35), indicating that those in the *Penalty* conditions were more likely to perceive their compensation as involving a penalty and those in the *Bonus* conditions were more likely to perceive their compensation as involving a bonus.

The manipulation of misreporting opportunity awareness was checked by asking

⁵ The participant who met the target score was in the Penalty / Aware Before treatment.

participants to choose whether they knew about the option to overstate their score before (after) they answered the official round questions. The mean score option (a) is higher in the *Before* conditions (.43, SD = 0.5) than in the *After* conditions (.14, SD = 0.35), indicating that those in the *Before* conditions were more likely to remember that they had known about the option to misreport prior to answering the Official Round questions.⁶ In both manipulation checks the difference is significant ($p < 0.001$), confirming the manipulations were successful. Overall, 83% of participants passed the contract framing manipulation check while 64% passed the awareness timing manipulation check. The lower pass rate for the awareness timing manipulation is likely due to the subtlety with which the information was presented. Information about the opportunity to misreport was not highlighted or otherwise made unusually salient in order to avoid demand effects.⁷

The distribution of male and female participants across conditions is fairly even (not tabulated). The percentage of female participants ranges from 40% (in the *Bonus/Before* condition) to 56% (in the *Penalty/After* condition). A chi-square test indicates that the proportion of female participants does not vary significantly between conditions ($\chi^2 = 1.37$, $df = 3$, $p = 0.71$).

Descriptive statistics regarding performance are measured by *Actual Score*, *Reported Score*, and *Task Time* (see Table 1). On average, participants answered 28.59 of the 30 questions (SD = 2.67) and skipped 1.41 (SD = 2.67). The value of *Actual Score* varies between 5 and 23 with a mean of 14.82 (SD = 4.35) and does not differ significantly between conditions ($F_{3,94} = .0784$, $p = .9716$).

⁶ While this manipulation was not very strong and biases against finding results, it was important to err on the side of subtlety to avoid the more concerning risk of creating demand effects.

⁷ Results remain significant after controlling for whether the manipulation checks were passed, whether the control is added as a single covariate or in a full 2x2x2 factorial. Results are directionally consistent but not significant if I eliminate those who failed both manipulation checks.

The value of *Reported Score* varies from 5 to the maximum of 30 with a mean of 17.79 (SD = 6.50); the effect of *Incentive Framing* is marginally significant ($F_{1,94} = 2.6298$, two-tailed $p = .1082$) in the expected direction, where penalties lead to a higher reported score. The magnitude of misreporting (*Reported Score* - *Actual Score*, untabulated) is greater in response to a penalty than a bonus ($F_{1,94} = 4.2607$, two tailed $p = .0418$).⁸

Task Time is measured as the amount of time a participant spent on the official task, where time is measured as the number of seconds from the participants' first moment on the task page until they either clicked submit or their time ran out. Values range from 253.4 to 904.9 seconds (of a possible 0 to 904.9 seconds) with a mean of 847.41 (SD = 113.57).⁹ *Task Time* does not differ significantly between conditions ($F_{3,94} = .3895$, $p = .7608$). This will be discussed more in the supplemental analyses section.

Tables 2 and 3 tabulate misreporting tendencies. The variable *Misreporting Likelihood* measures whether participants overstated their score or not. It is coded as a 1 if they misreported and a 0 otherwise and captures the proportion of participants who misreported their score. The mean value of *Misreporting Likelihood* is 27.6%. The lowest mean is found in the *Bonus/Before* condition (Mean = .12, SD = .33) and the highest in the *Penalty/After* condition (Mean = .40, SD = .50). The variable *Dishonesty* measures the extent to which participants overstated their performance, taking into account their actual scores (see Table 3). It is calculated as (*Reported Score* - *Actual Score*) / (30 - *Actual Score*) and represents the percentage of the available room for

⁸ Of the 27 who misreported, only 3 lied without financial benefit. 17 reported a score *above* the target of 25 (3 Bonus/After, 1 Bonus/Before, 7 Penalty/After, 6 Penalty/Before); 7 reported the target score *exactly* (2 Bonus/After, 2 Bonus/Before, 2 Penalty/After, 1 Penalty/Before); and 3 reported a score *less* than 25 (1 Bonus/After, 1 Penalty/After, 1 Penalty/Before).

⁹ The maximum time for the task was set at 900 seconds, but the programming picked up a slight delay in loading the next screen.

overstatement that is actually used. This dependent variable improves comparability with prior research in this area (e.g., Evans et al. 2001; Maas and van Rinsum 2013). The mean value of *Dishonesty* is 19.5%. The lowest mean is found in the *Bonus/Before* condition (Mean = .095, SD = .27) and the highest in the *Penalty/After* condition (Mean = .284, SD = .38). There is considerable variation across conditions in the mean value of each of the above misreporting variables.

Tests of Hypotheses: H1

H1 predicts that misreporting will be greater in response to a penalty contract than to a bonus contract. To test H1, I run a full factorial model with the two manipulations as fixed factors and *Misreporting Likelihood* and *Dishonesty* as the dependent variables (each tested separately).¹⁰ The results are displayed in Tables 2 and 3 and indicate a main effect of contract framing for both variables and no significant effect of either misreporting opportunity awareness or the interaction.¹¹ The main effect of contract framing is significant in the predicted direction, with a one-tailed p-value of <.03 for both dependent variables, providing support for H1.

As further support, I also test the simple effects (untabulated). Tests indicate that penalties lead to significantly greater dishonesty than do bonuses in the *Aware Before* treatments ($t = 1.6761$, $df = 94$, one tailed p-value = .0485) and marginally greater in the *Aware After* treatments ($t = 1.4653$, $df = 94$, one tailed p-value = .0731). Similarly, tests indicate that penalties lead to a significantly higher misreporting likelihood than do bonuses in the *Aware Before* treatments ($t =$

¹⁰ Results remain significant when actual score is included as a covariate; actual score is not a significant predictor of either of the misreporting variables nor is actual score affected by the model.

¹¹ I present *Misreporting Likelihood* results in an ANOVA for ease of presentation. When logistic regression is used to test the binary dependent variable, the effect of *Contract Framing* remains significant (p-value = .0354). All inferences remain identical when the logistic regression is used; however, the Monte Carlo simulation used to test mediation in the tests of H2 cannot be used for logistic regression as the coefficients are not comparable across equations when logistic regression is used for one path of the mediation (Winship & Mare, 1983).

1.6839, $df = 94$, one tailed p -value = .0478) and directionally higher in the *Aware After* treatments ($t = 1.1840$, $df = 94$, one tailed p -value = .1197). Collectively, these results lend further support to the conclusion that penalties lead to greater misreporting than do bonuses.

In addition, because prior research has often found a gender effect with misreporting (e.g., Maas and van Rinsum 2013; Croson and Gneezy 2009), I regressed each misreporting variable on gender as well. I do *not* find evidence that women misreport less than men (p -value > .67 for each misreporting variable). I also test for possible interaction effects of gender and the independent variables, running a full factorial ANOVA with gender as a third factor for both misreporting dependent variables. The results (not tabulated) indicate that neither the three-way interactions, nor any of the two-way interactions, are significant, while the main effect of contract framing remains significant for each misreporting variable. This finding indicates that both women and men are similarly affected by contract framing when deciding whether to misreport their performance.

Tests of Hypotheses: H2

H2 predicts that the greater misreporting from a penalty contract will be accompanied by a greater sense of entitlement to the incentive funds. The theoretical reasoning underpinning H2 maintains that a penalty frames pre-penalized funds as belonging to the employee, thus creating a sense of entitlement to those funds regardless of whether the employee meets the target goal. This greater level of entitlement, in turn, leads to a greater level of misreporting.

To test H2, I conduct additional analyses to verify the mediating mechanism underlying the contract framing effect documented above. I use the following two statements in the post-experimental questionnaire to capture perceptions of entitlement:

1. I deserved to receive the full \$15 in this experiment.

2. I feel entitled to the full \$15 in this experiment.

Participants' responses to these two statements were elicited on a 6-point Likert scale with "1" labeled "strongly disagree" and "6" labeled "strongly agree." As shown in Table 6, Panel B, these two items (item 5 and item 6 on the post-experimental questionnaire) load on the same factor in the factor analysis. Table 4 summarizes the participants' average responses to these statements by condition. The Cronbach's Alpha for the two statements is .8385, indicating good internal consistency of the two statements. Accordingly, I base the analyses in this section on the average of the two items.

To formally test the mediating effect of entitlement, the following four conditions must be established: (1) misreporting is significantly greater in response to a penalty contract than to a bonus contract, (2) entitlement is significantly greater in response to a penalty contract than to a bonus contract, (3) entitlement significantly increases misreporting when controlling for the effects of the manipulated variables, and (4) the effect of contract framing on misreporting is reduced to zero for full mediation or partially reduced for partial mediation (MacKinnon, Lockwood, Hoffman, West, and Sheets 2002; Baron and Kenny 1986).¹²

The first condition establishes that there is an effect that may be mediated. This effect is established in the test of H1, which shows that misreporting will be greater in response to a penalty contract than to a bonus contract (see Tables 2 and 3). The second condition establishes that the manipulation of interest significantly affects entitlement in the predicted direction. To test this, I run a full factorial model with the two manipulations as fixed factors and entitlement as the

¹² See also David A. Kenny's mediation website for a helpful discussion (<http://davidakenny.net/cm/mediate.htm>).

dependent variable. The results are displayed in Table 5, Panel A and indicate a main effect of contract framing on entitlement in the predicted direction, with a one-tailed p-value of .0218. This satisfies the second condition.

The third and fourth conditions are tested in a single model. I run a full factorial model with the two manipulations as fixed factors, *Entitlement* as a covariate, and *Misreporting Likelihood* and *Dishonesty* as the dependent variables (with each DV again tested separately). The results are displayed in Table 5, Panels B and C and show that entitlement significantly increases misreporting when controlling for the effects of the manipulated variables. This establishes condition 3. The coefficient estimates for contract framing show a negative relationship between the Bonus condition and misreporting; the coefficients decreased in absolute value from -.0901 to -.0694 for *Misreporting Likelihood* and from -.0746 to -.0549 for *Dishonesty* after the mediator was added to the model. Notably, contract framing loses significance once *Entitlement* is added to the models.

To further test whether entitlement mediates the effect of contract framing on misreporting, I run a Monte Carlo simulation as suggested for smaller sample sizes (Preacher and Selig 2012; Selig and Preacher 2008; MacKinnon, Lockwood, and Williams 2004).¹³ Using the parameters validated in Preacher and Selig (2012) of a 95 percent confidence level and 1000 bootstrap resamples, I find a 95 percent confidence interval of (-.0553, -6.16e-05) for the indirect effect of *Contract Framing* on *Likelihood* through *Entitlement* and a 95 percent confidence interval of (-.0477, -.0004) for the indirect effect of *Contract Framing* on *Dishonesty* through *Entitlement*. In

¹³ David A. Kenny's mediation website discusses Monte Carlo simulations as well (<http://davidakenny.net/cm/mediate.htm>).

both cases, the effect of mediation is nonzero at a 5 percent level of significance. Collectively, these results provide support for the theoretical argument that entitlement mediates the effect of contract framing on misreporting. H2 is therefore supported.

To provide additional support for the theory that penalty framing is likely to create a sense of ownership to the incentive funds, I asked participants who did not receive the incentive if they believed their money had been stolen and participants who *had* received the incentive if they believed their money *would* have been stolen if they had not misreported (Table 6, Panel A, Item 7). Participants agreed more often in response to penalty framing than bonus framing ($p = .0910$ two tailed). This indicates that penalty framing creates a greater sense of ownership to the funds being threatened by a penalty than bonus framing creates to the funds offered as a bonus. It also indicates penalty framing creates a greater sense that the principal is violating the employee's rights when denying the employee the incentive funds. Untabulated analyses reveal that *Entitlement* mediates the effect of contract framing on the degree to which participants feel their money was stolen or would have been stolen. Contract framing loses significance once *Entitlement* is added to the model (contract framing p-value goes from .0927 to .3927, two-tailed; *Entitlement* p-value $< .0001$, two-tailed). Moreover, *Money Stolen* also mediates the effect of contract framing on *Misreporting Likelihood* and *Dishonesty* (*Money Stolen* p-values $< .0002$, two tailed; contract framing two-tailed p-values = .15 and .11 respectively). This suggests penalty framing increases entitlement to the incentive funds, which in turn increases the degree to which people perceive the withholding of those incentive funds as a violation of their rights, which in turn increases their tendency to use dishonest means of obtaining the incentive funds. This provides support for the theoretical reasoning underpinning H2.

Supplemental Analyses

As mentioned previously, manipulating when people became aware that misreporting would be an option was an important design choice to reveal how contract framing affects effort when misreporting can be used as a substitute for effort. Regressing *Actual Score* and *Task Time* on the 2x2 model with *Contract Framing* and *Awareness* as IVs shows no evidence of either bonuses or penalties leading to reduced effort when participants knew prior to their effort choice that they would be able to misreport.¹⁴ In particular, penalties did not lead to a lower amount of effort than did bonuses as measured by either *Actual Score* or *Task Time*. In fact, when participants knew ahead of time that they would be able to misreport, directional results show a greater amount of time spent on the task in response to a penalty. While this effect is not significant (simple effect two-tailed $p = .4055$), when combined with the findings of prior research showing penalty contracts can motivate greater effort than do bonus contracts, it suggests that penalty contracts can be useful when targets are achievable through exerting greater effort--even in an environment where people know they can just misreport.

In addition to finding no evidence that penalties cause people to use misreporting as a substitute for effort, the effort levels chosen did not affect misreporting or feelings of entitlement. Neither *Task Time* nor *Actual Score* predict *Misreporting Likelihood*, *Dishonesty*, or *Entitlement* when as covariates to the 2x2 models for those regressions. This indicates that the feelings of entitlement created by a penalty contract are not caused by differential levels of effort. It is worthwhile to point out that participants' self-reported effort (Table 6, panel A, Q13) also does not

¹⁴ While participant scores reflect more than mere effort, low effort is likely to result in a lower score as the questions required careful reading and cognitive effort to have a chance to determine the correct answer.

significantly affect misreporting when added to the models nor does self-reported effort significantly differ across conditions.

Finally, to shed light on the process underlying individuals' misreporting decisions, I conduct additional analyses of the post-experimental questions collected. Table 6, panel A presents the descriptive statistics of participants' responses to the post-experimental questionnaire items by condition. Table 6, panel B presents the results of the factor analysis of the post-experimental questionnaire items. The factor analysis extracts five factors, accounting for 72.43 percent of the total variance in the data. I eliminate questions with factor loadings below 0.7 (Comrey and Lee 1992). The supplemental analyses show that, among the factors extracted from the factor analysis, the only construct that is influenced by the treatments and also influences misreporting is the entitlement construct. These results provide further evidence that misreporting is driven by entitlement rather than by other mechanisms.

V. CONCLUSION

Many organizations' control systems contain performance measures that can be manipulated (Maas and van Rinsum 2013). Misreporting represents an ongoing area of concern for organizations and an important topic in management accounting research. The results of this study suggest that the framing of the incentive contract influences misconduct in different ways depending on the type of misconduct considered. First, misreporting is higher both in frequency and degree in response to a penalty than to a bonus. Next, the higher misreporting in response to a penalty occurs due to a greater sense of entitlement to the incentive amount. Finally, there is no evidence that the awareness of the opportunity to misreport reduces effort under either a bonus or a penalty contract. This research contributes to the literature on honesty in performance reporting (e.g., Maas and van Rinsum 2013; Rankin, Schwartz, and Young 2008; Hannan et al. 2006; Evans

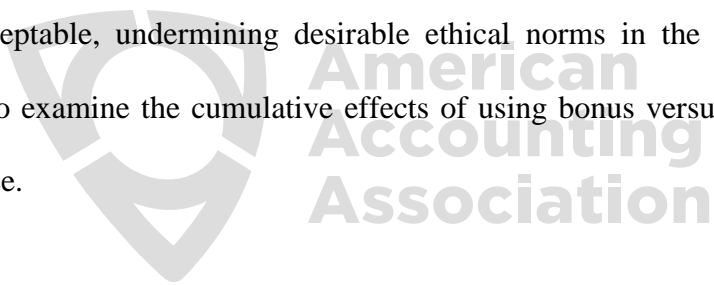
et al. 2001) by examining the effects of contract framing on honesty. It also contributes to the literature on the effects of contract framing (Christ et al. 2012; Hossain and List 2012; Hannan et al. 2005; Luft 1994) by exploring the link between effort and misreporting and identifying underlying mechanisms through which contract framing influences misconduct.

Collectively the results indicate that while penalty contracts may sometimes increase effort relative to bonus contracts (Hannan et al. 2005), penalty contracts also promote greater dishonesty when effort has failed to achieve the target level of performance. Thus penalty contracts may be counterproductive when effort is not a strong predictor of performance or when the performance target is set at a very challenging level. My results suggest that companies should be aware of the potential undesirable consequences of using bonus or penalty framing and should design complementary control elements accordingly. For example, when companies use bonuses, their controls should focus on increasing effort. When companies use penalties, their controls should focus on reducing dishonesty. Insights from this study can help managers and auditors identify and manage the risks created by incentive contracts by providing a better roadmap to use when looking for potential weaknesses. Ultimately, misreporting is not simply a product of increased yet unfruitful effort but comes from a sense of entitlement created by the contract frame itself. To the extent that a sense of entitlement can be created by other factors as well, the results of this study may have implications for employee behavior beyond what is shown in this research.

One important limitation to keep in mind when interpreting this paper's lack of findings on effort is that the highly challenging multiple choice questions used in the experimental task are likely to have created a ceiling effect on effort, as the effort required to have any chance of achieving the target score was very high. As mentioned in the method section, this was an important design choice to prevent differing levels of effort creating differences across treatments

in the opportunity to misreport. While this helped ensure a strong test for misreporting, other tasks are more appropriate for testing differences in effort.

Another limitation of this study is that it consists of a single shot experiment. In a repeated trial experiment, the effects of contract framing could change, depending on whether the target level of performance is repeatedly missed. Over time, the increased effort from a penalty may evaporate in an environment where the target level of performance is repeatedly missed and a penalty (or not receiving a bonus) is the rule and not the exception. Moreover, lying may become more and more acceptable, undermining desirable ethical norms in the organization. Future research is needed to examine the cumulative effects of using bonus versus penalty framing to motivate performance.



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APPENDIX A: TABLES

TABLE 1
Descriptive Statistics of Performance

Mean (Standard Deviation) Actual Score ^a		
	<i>Aware Before Effort</i>	<i>Aware After Effort</i>
Bonus for Achieving Target	14.84 (4.51) n=25	14.92 (4.77) n=24
Penalty for <i>not</i> Achieving Target	14.46 (3.73) n=24	15.04 (4.57) n=25
Mean (Standard Deviation) Reported Score ^b		
	<i>Aware Before Effort</i>	<i>Aware After Effort</i>
Bonus for Achieving Target	16.52 (5.87) n=25	16.92 (6.44) n=24
Penalty for <i>not</i> Achieving Target	18.33 (6.84) n=24	19.36 (6.79) n=25
Mean (Standard Deviation) Task Time ^c		
	<i>Aware Before Effort</i>	<i>Aware After Effort</i>
Bonus for Achieving Target	826 (178.32) n=25	856 (76.09) n=24
Penalty for <i>not</i> Achieving Target	853 (81.36) n=24	855 (88.32) n=25

^a *Actual score* is the score earned in the official task; scores ranged from 5 to 23 out of a possible 0 to 30.

^b *Reported score* is the score reported in the official task; scores ranged from 5 to 30 out of a possible 0 to 30.

^c *Task Time* is the number of seconds a participant spent on the official task; time ranged from 253.4 to 904.9 seconds out of a possible 0 to 904.9 seconds.

TABLE 2
The Effects of Contract Framing and Misreporting Opportunity Awareness on Misreporting Likelihood

Panel A: Frequency (Percentage) of Misreporting Likelihood ^a

	<i>Aware Before Effort</i>	<i>Aware After Effort</i>
Bonus for Achieving Target	3 (12%) (n = 25)	6 (25%) (n = 24)
Penalty for <i>not</i> Achieving Target	8 (33%) (n = 24)	10 (40%) (n = 25)

Panel B: Analysis of Variance ^{††}

<i>Factor</i>	<i>Df</i>	<i>Sum of Squares</i>	<i>F</i>	<i>p-value ^b</i>
CONTRACT FRAMING ^c	1	.8082	4.11	0.0454
MOA ^d	1	.2368	1.21	0.2751
CONTRACT FRAMING x MOA	1	.0246	0.13	0.7245
Error	94			

^a *Misreporting Likelihood* is the participant's decision to misreport his/her score, which is coded as 1 if a participant reports a score higher than the score they actually achieved, and 0 otherwise. *Percentage of Misreporting Likelihood* is the number of participants who misreported divided by the total number of participants in each treatment.

^b All p-values in this Table are two-tailed.

^c *Contract Framing* was manipulated between subjects at two levels. Participants were either promised a bonus for scoring greater than or equal to 25 or threatened with a penalty for scoring less than 25.

^d *Misreporting Opportunity Awareness (MOA)* was manipulated between subjects at two levels. All participants were told, "At the end of the official round, the computer will tell you how many questions you answered correctly." The *Aware Before Effort* participants were further told, "You will then be asked to report your score. Your pay will be calculated based only on the score you report. If you lie about your score, you will not be caught." The *Aware After Effort* participants were told this as well but only after they had completed the official round task.

^{††} An ANOVA is used here for ease of interpretation. When the more appropriate logistic regression is used to test the binary dependent variable, the significance of *Contract Framing* results in an Effect Likelihood Ratio two-tailed p-value of .0354. All other inferences drawn in this paper hold if the logistic regression is used instead of the ANOVA; however, the Monte Carlo simulation cannot be used to formally test the effects of mediation as the coefficients are not comparable across equations when a logistic regression is used for one path of the mediation (Winship & Mare, 1983).

TABLE 3
The Effects of Contract Framing and Misreporting Opportunity Awareness on Dishonesty

Panel A: Mean (Standard Deviation) Dishonesty ^a

	<i>Aware Before Effort</i>	<i>Aware After Effort</i>
Bonus for Achieving Target	.095 (.27) (n = 25)	.145 (.28) (n = 24)
Penalty for <i>not</i> Achieving Target	.254 (.39) (n = 24)	.284 (.38) (n = 25)

Panel B: Analysis of Variance

<i>Factor</i>	<i>Df</i>	<i>Sum of Squares</i>	<i>F</i>	<i>p-value ^b</i>
CONTRACT FRAMING ^c	1	.5450	4.93	0.0287
MOA ^d	1	.0397	0.36	0.5503
CONTRACT FRAMING x MOA	1	.0025	0.02	0.8818
Error	94			

^a *Dishonesty* is $(\text{Reported Score} - \text{Actual Score}) / (30 - \text{Actual Score})$.

^b All p-values in this Table are two-tailed.

^c *Contract Framing* was manipulated between subjects at two levels. Participants were either promised a bonus for scoring greater than or equal to 25 or threatened with a penalty for scoring less than 25.

^d *Misreporting Opportunity Awareness (MOA)* was manipulated between subjects at two levels. All participants were told, "At the end of the official round, the computer will tell you how many questions you answered correctly." The *Aware Before Effort* participants were further told, "You will then be asked to report your score. Your pay will be calculated based only on the score you report. If you lie about your score, you will not be caught." The *Aware After Effort* participants were told this as well but only after they had completed the official round task.

TABLE 4
Descriptive Statistics of Questionnaire Items Capturing the Entitlement Measure

(1) I deserved to receive the full \$15 in this experiment.		
	<i>Aware Before Effort</i>	<i>Aware After Effort</i>
Bonus for Achieving Target	3.16	2.88
	(1.62)	(1.60)
	n=25	n=24
Penalty for <i>not</i> Achieving Target	3.96	3.56
	(1.60)	(1.73)
	n=24	n=25
(2) I feel entitled to the full \$15 in this experiment.		
	<i>Aware Before Effort</i>	<i>Aware After Effort</i>
Bonus for Achieving Target	2.72	2.92
	(1.62)	(1.56)
	n=25	n=24
Penalty for <i>not</i> Achieving Target	3.42	3.2
	(1.64)	(1.47)
	n=24	n=25
(3) Entitlement (mean of above measures: [measure 1 + measure 2] / 2)		
	<i>Aware Before Effort</i>	<i>Aware After Effort</i>
Bonus for Achieving Target	2.94	2.9
	(1.53)	(1.51)
	n=25	n=24
Penalty for <i>not</i> Achieving Target	3.67	3.38
	(1.51)	(1.40)
	n=24	n=25

This Table summarizes the two statements used to capture perceptions of entitlement to the incentive amount and the descriptive statistics of participant responses to the two statements by condition. Each statement was elicited using a 6-point Likert scale with “1” labeled “Strongly Disagree” and “6” labeled “Strongly Agree.”

TABLE 5
Entitlement as a Mediator of Misreporting

Panel A: Analysis of Variance for Effects of Contract Framing and Misreporting Opportunity Awareness on Entitlement^a

<i>Factor</i>	<i>Df</i>	<i>Sum of Squares</i>	<i>F</i>	<i>p-value^b</i>
CONTRACT FRAMING ^c	1	9.2878	4.18	.0436
MOA ^d	1	.7572	.34	.5606
FRAMING x MOA	1	.4246	.19	.6629
Error	94			

Panel B: Mediation Analysis of Variance for Effects of Contract Framing, Misreporting Opportunity Awareness, & Entitlement on Misreporting Likelihood

<i>Factor</i>	<i>Df</i>	<i>Sum of Squares</i>	<i>F</i>	<i>p-value^b</i>
ENTITLEMENT ^a	1	1.0081	5.37	.0227
CONTRACT FRAMING ^c	1	.4521	2.41	.1242
MOA ^d	1	.2982	1.59	.2108
FRAMING x MOA	1	.0124	.07	.7979
Error	94			

Panel C: Mediation Analysis of Variance for Effects of Contract Framing, Misreporting Opportunity Awareness, & Entitlement on Dishonesty

<i>Factor</i>	<i>Df</i>	<i>Sum of Squares</i>	<i>F</i>	<i>p-value^b</i>
ENTITLEMENT ^a	1	.8542	8.34	.0048
CONTRACT FRAMING ^c	1	.2825	2.76	.1001
MOA ^d	1	.0647	.63	.4287
FRAMING x MOA	1	.0001	.00	.9805
Error	94			

^a *Entitlement* is the mean of the two entitlement measures, as shown in Table 4. The mediation analysis follows the steps laid out in Baron and Kenny (1986). The coefficient estimates for *Contract Framing* (showing a negative relationship between the Bonus condition and the dependent variables) decreased in absolute value from -.0901 to -.0694 for *Misreporting Likelihood* and from -.0746 to -.0549 for *Dishonesty* after the mediator was added to the model. A Monte Carlo simulation reveals the mediation is significant.

Table 5 (Cont.)

^b All p-values in this Table are two-tailed.

^c *Contract Framing* was manipulated between subjects at two levels. Participants were either promised a bonus for scoring greater than or equal to 25 or threatened with a penalty for scoring less than 25.

^d *Misreporting Opportunity Awareness (MOA)* was manipulated between subjects at two levels. All participants were told, "At the end of the official round, the computer will tell you how many questions you answered correctly." The *Aware Before Effort* participants were further told, "You will then be asked to report your score. Your pay will be calculated based only on the score you report. If you lie about your score, you will not be caught." The *Aware After Effort* participants were told this as well but only after they had completed the official round task.



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TABLE 6
Descriptive Statistics and Factor Analysis of Post-Experimental Questionnaire Responses

Panel A: Means of Post-Experimental Questionnaire Responses

Questionnaire Items		Bonus			Penalty	
		Aware Before Effort	Aware After Effort		Aware Before Effort	Aware After Effort
1.	Overstating one's performance is wrong.	4.80	4.75		4.88	4.88
2.	Not working as hard as you can is wrong.	4.44	4.54		5.00	4.56
3.	My choices in this experiment were ethical.**	5.08	5.08	>	4.58	4.25
4.	I was honest in this experiment.*	5.08	5.25	>	4.71	4.32
5.	I deserved to receive the full \$15 in this experiment.**	3.16	2.88	<	3.96	3.56
6.	I feel entitled to the full \$15 in this experiment.	2.72	2.92		3.42	3.20
7.	My money was stolen or would have been stolen if I hadn't misreported my score.** †	1.92	1.29	<	2.29	1.68
8.	Prior to answering the questions in the Official Round, I believed I could achieve the target score of 25.	3.20	3.33		3.21	3.36
9.	The target score for the Official Round was fair.	3.80	3.54		3.21	3.52
10.	The way I expect to be paid is fair.	4.44	4.54		4.46	4.32
11.	I was treated fairly in this experiment.*	4.88	4.75	>	4.42	4.28
12.	I was treated well in this experiment.*	4.88	4.96	>	4.38	4.48
13.	I tried my hardest in this experiment.	4.52	4.54		5.00	4.56

** two-tailed p-value < .05 for full factorial ANOVA of *Contract Framing* x *Misreporting Opportunity Awareness*

* two-tailed p-value < .10 for full factorial ANOVA of *Contract Framing* x *Misreporting Opportunity Awareness*

† This question was asked in two parts to get at the extent to which participants believed they had a right to the incentive funds; responses to "My money was stolen" were taken from those who did *not* misreport (and therefore did not get the incentive funds) while responses to "My money would have been stolen if I

hadn't misreported my score" were taken from those who *did* misreport. The extent to which they agreed with each statement was aggregated into one question for consistency in analysis.

Panel B: Factor Analysis

<i>Factor Labels</i>	<i>Fairness</i>	<i>Entitlement</i>	<i>Ethics of Own Behavior</i>	<i>Work Ethic</i>	<i>Goal Achievability</i>
Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
1	0.0425000331	-0.20823178	0.391529121	0.6038942209	-0.027947565
2	0.1021902808	-0.163809471	0.0056801224	0.8028132103	0.0961292284
3	0.0890760403	-0.162358075	0.9134436261	0.0423449861	-0.032718088
4	0.1377081799	-0.099359167	0.9250843843	-0.000927308	0.0451482492
5	-0.051576014	0.9000546786	0.0503730063	-0.036090483	0.0864766095
6	-0.000030338	0.8852444958	-0.15935552	-0.102487263	-0.034287928
7	-0.117858641	0.6096866068	-0.332311332	-0.016266839	-0.082856281
8	-0.060036115	0.1186437298	-0.139467003	0.1404821542	0.7438490911
9	0.2576654434	-0.149856204	0.2056682073	-0.055975895	0.7196663002
10	0.6336895495	-0.055126221	-0.013965489	0.2940365276	0.4484848269
11	0.8910585708	-0.106557341	0.1465164805	0.2112970507	0.0988008412
12	0.9448416901	-0.024062798	0.1313569639	0.039135231	-0.040863927
13	0.202239709	0.1485357862	-0.113261333	0.6517708685	0.0657886382
Variance Explained	17.35%	16.50%	16.12%	12.33%	10.13%
Cumulative Percent	17.35%	33.85%	49.97%	62.30%	72.43%

Panel A of this Table presents the descriptive statistics of participants' responses to the post-experimental questionnaire by condition. Each statement was elicited using a 6-point Likert scale with "1" labeled "Strongly Disagree" and "6" labeled "Strongly Agree."

Panel B of this Table presents a factor analysis on participants' responses to these statements from a principal component analysis using Varimax rotation.

Refer to Panel A of this Table for the items.

APPENDIX B: FIGURES

Figure 1

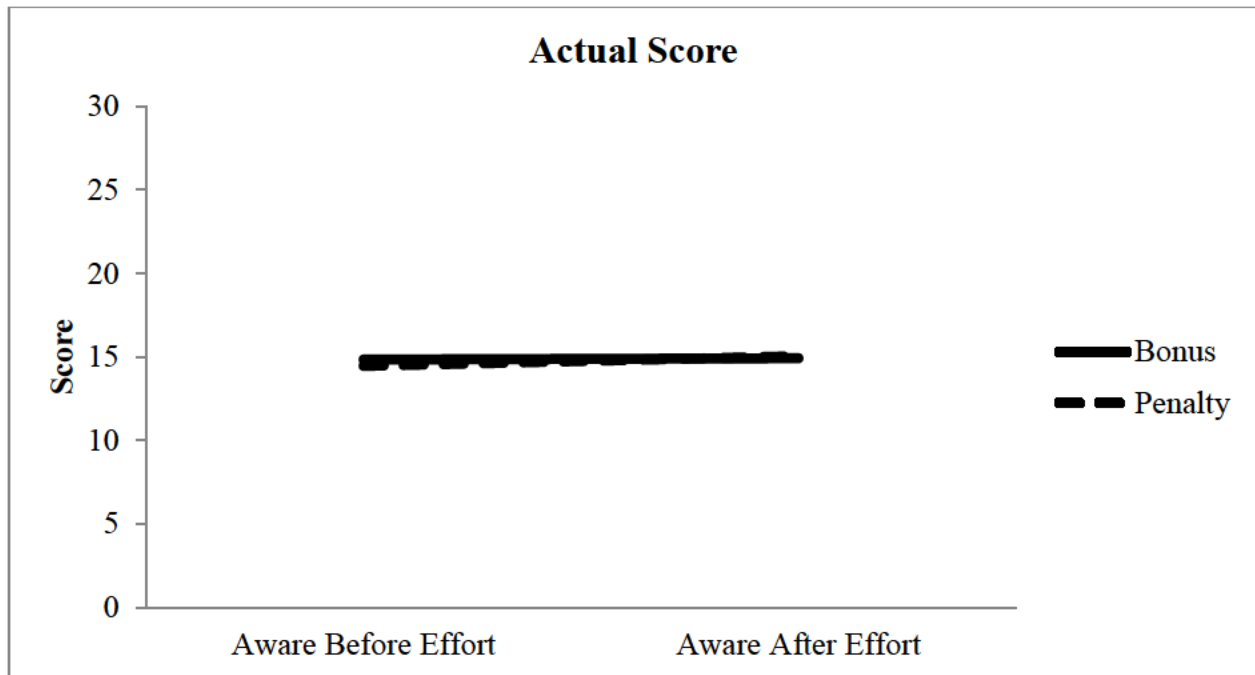


Figure 2

