Cascading Controls: The Effects of Manager Incentive Frame on Subordinate Behavior

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Abstract
In a typical organization hierarchy, whether a manager achieves her goals is a function of her subordinates’ effort. With this study we examine whether and when the incentives placed on the manager in turn affect the subordinates’ effort toward the manager’s goals. We consider two factors theory suggests will affect this choice: 1) the subordinate’s perception of the relationship quality with the manager; 2) the framing of the manager’s incentive as either a bonus or a penalty. We predict and find that subordinates who perceive a higher quality relationship expend greater effort when the manager faces a penalty contract relative to an economically-equivalent bonus contract. Conversely, when subordinates perceive a lower quality relationship they are instead motivated to exert effort to actively harm their manager’s performance, making the penalty more likely to be inflicted. In a typical one-to-many hierarchy, our results reveal that an incentive placed on a single manager has significantly greater organizational implications than has been previously documented, impacting the behavior of potentially numerous lower level subordinates as well. Further, we show that the frame of the manager’s incentive interacts with the manager-subordinate relationship such that this cascading effect is either a greater benefit, or a cost. Our results provide valuable insights to the designers of control systems in practice. We also advance the literatures investigating incentive contract framing and the interaction of controls in an organizational setting.
I. Introduction

Given the importance of management control system design to organizational performance, it is critical that senior management understands the full organizational effects of incentives and controls implemented to elicit performance from specific managers. To advance this understanding, we investigate whether and how incentives implemented on a manager cascade down the organizational hierarchy to also influence the behavior of subordinate employees that are in a position to affect the manager’s probability of success. To the extent that subordinates’ effort is influenced by the incentives and controls that their managers face, the choices made by the organization can have a much greater, and perhaps opposite, effect on organizational performance than originally anticipated. We examine two important characteristics of the work environment that vary in organizations and that theory suggests will interact to impact subordinates’ response to the manager’s incentives: (1) the nature of the relationship between the subordinate and the manager, and (2) the frame of the manager’s incentive contract as either a bonus or a penalty.

We draw on leader-member exchange (LMX) theory to develop our predictions based on the nature of the subordinate-manager relationship. LMX theory places each manager-subordinate dyad on a relative “quality” scale based on the subordinate’s perceptions of social connection, professional respect and trust (Graen and Uhl-Bien 1995). LMX research has consistently documented that relationships can vary widely under a given manager and that those subordinates who perceive their relationship with their manager to be high quality (i.e. greater levels of connection, respect and/or trust) exhibit many organizationally positive behaviors, including decreased turnover, greater performance (e.g., Scandura and Graen 1984) and increased effort to achieve a task set by the manager (Vance 2010). Consistent with this existing literature, we
anticipate that subordinates in higher quality relationships will provide greater effort to help their manager than those in lower quality relationships.

We also draw from prior accounting literature examining the effects of bonus versus penalty incentive contracts on employee performance in a complete contract setting (e.g., Hannan, Hoffman and Moser 2005). This literature finds that employees prefer bonus contracts (Luft 1997) but exert more effort under penalty contracts (Hannan et al. 2005, Hosein and List 2012) because, consistent with prospect theory, employees are more motivated to avoid the painful loss of financial wealth via the penalty than to enjoy the pleasure of an equivalent financial gain as a bonus (Kahneman and Tversky 1979).

Based on these literatures, we predict a disordinal interaction of relationship quality and manager incentive frame on subordinate effort. Subordinates who perceive a higher quality relationship with their manager are expected to internalize their manager’s goals and objectives to a greater degree (Graen and Uhl-Bien 1995). Therefore, based on prospect theory we expect that when relationship quality is high, subordinates will be more motivated to protect their manager when senior management threatens the manager with a penalty than when the manager is offered a bonus. This is because, all else equal, protecting the well-liked or trusted manager from experiencing the pain of a loss in compensation provides greater benefit to the subordinate than does helping the manager gain additional pay. Therefore, we predict that subordinate effort toward helping the manager achieve her objectives will be greater under a penalty contract than a bonus contract.

Conversely, when relationship quality is low, subordinates are less likely to care about their supervisors’ well-being and therefore may exert little to no effort to help their manager achieve her goals (i.e. work hard enough to avoid sanctions but no more). Yet, prior literature finds that
individuals are governed by social norms that are likely to compel subordinates to put forth some effort, which allows them to maintain a positive self-image (Mazar et al. 2008). Therefore, we have reason to expect nonzero effort, even when relationship quality is low; however, we predict that subordinates whose managers face a penalty will contribute less effort than those whose managers face a bonus, because the penalty is more likely to send a negative signal to the supervisor and be associated with failure than are lost bonuses (Luft 1995). The incremental pain delivered with the penalty provides an opportunity for the subordinate to punish the manager via lower effort.

Thus far, our predictions have focused on subordinates’ effort to help the manager achieve her objectives. However, another possibility is that subordinates will seek opportunities to actively punish a manager, thereby diminishing her ability to achieve her objectives. In practice, subordinates can exert effort to punish a manager through actions such as insubordination, theft, absence, etc. Based on the logic described previously, we expect it is more likely that subordinates will exert effort to harm a manager if they perceive low relationship quality with their manager (relative to high relationship quality). Further, we expect this to occur disproportionately when that manager faces a penalty versus a bonus. If a subordinate bears the manager ill will, the penalty incentive offers subordinates the ability to have a bigger impact on and send a stronger signal to a disliked manager at any given cost.

To test our predictions we conduct a 2 X 2 between participants experiment using workers from Amazon’s Mechanical Turk labor market. Participants serve in the role of subordinate employees who initially have the opportunity to positively affect the likelihood that their real but anonymous manager receives a positive performance evaluation. The result of the performance evaluation impacts the manager’s compensation via either bonus or penalty. Participants must
sacrifice some amount of their personal compensation, a proxy for costly effort (e.g. longer hours, shorter breaks, greater focus, etc.) to make a positive performance evaluation of the manager more likely. Subsequently, those participants who choose to contribute zero effort to help also have the opportunity to contribute some amount of their personal compensation to make a positive performance evaluation of the manager less likely. In effect, these participants are paying to punish their manager, which proxies for various deliberate workplace deviances such as insubordination, theft or sabotage.

We manipulate between participants: (1) the perceived quality of the relationship between the manager and the subordinate (i.e., high LMX vs. low LMX) (Jollineau, Vance and Webb 2012), and (2) the framing of the manager’s incentive contract as either the receipt of a bonus or the avoidance of a penalty. Our key dependent variable is the amount of money the participant gives up to either increase or decrease the manager’s probability of a positive evaluation.

Consistent with our expectations, those subordinates who perceive a higher quality relationship with their managers on average contribute more to make the positive performance evaluation of the manager more likely (p < 0.01) and our two factors significantly interact to affect subordinate contribution (p = 0.01). Within the high relationship quality condition, contributions are higher when the manager faces a penalty than a bonus (p = 0.04). In the low relationship quality condition, we do not observe a significant difference in contributions (p >0.10). However, when we consider whether subordinates will pay to harm their supervisor, we find that the only condition in which subordinates on average contribute their own pay to hurt their managers’ chance for a positive performance evaluation is when there is a low quality relationship and the manager faces a penalty (p < 0.01). In particular, none of the subordinates choosing zero contribution in the bonus condition were willing to then pay to harm the manager. Further, of the
seven subordinates who do pay to harm the manager, six are in the low quality /penalty condition. Taken together, results are consistent with our expectations that, relative to a bonus contract, a penalty contract on a manager will not only motivate subordinates to withhold effort so as not to help the manager achieve her goals, but can motivate subordinates to actively undermine the manager.

We make several key contributions to accounting research and practice with this study. First, ours is one of the first studies to examine whether controls imposed on one employee (or class of employees) can cascade down to affect the behavior of subordinates, absent any direct action by the controlled employee (e.g., the manager). While organizations carefully consider the implications of control choices on the particular employees upon which the control is imposed, we show there can be significant behavioral consequences for subordinate employees as well. The implication of this finding is that a given control choice has greater consequences on total organizational performance than previously documented. Given higher quality relationships, a given level of performance may be achieved with less incentive costs or greater performance may be achieved with equivalent incentive costs, relative to lower quality relationships. In effect, in a traditional one-to-many hierarchy, the choice to control a manager is also a choice to control her subordinates.

Second, we document that manager-subordinate relationship quality is an important determinant of whether the cascading effect takes the form of incremental benefits or costs to the organization. Our results show that imposing a penalty on a manager who has a higher quality manager-subordinate relationship amplifies the effects of the manager’s incentive in the form of additional effort from subordinates toward that manager’s goals. Importantly, this occurs without overt action by the manager to direct subordinates’ performance in response to the manager’s
incentives. In lower quality relationships, the opposite effect is observed. The equivalent penalty control choice by senior management creates additional performance challenges for that manager to overcome, in the form of an increased active resistance from subordinates. Given that prior research has documented that penalty contracts motivate employees to exert greater effort than monetarily equivalent bonus contracts (e.g. Hannan et al. 2005), our results provide evidence of an important potential negative consequence of penalties. The implication of this finding is that designers of control systems cannot simply consider the effects on the controlled individual, but also the larger system in which that control choice is made, including the nature of the manager’s relationships with her subordinates.

Finally, to the extent control system designers understand these effects, our findings contribute to research explaining the underrepresentation of penalty contracts in practice (Christ, Sedatole and Towry 2012). While penalty contracts may be especially advantageous when relationships are of high quality, in environments with predominantly low quality manager-subordinate relationships, relying on penalties could be especially disadvantageous. Given that managers generally do not have an accurate understanding of their own subordinates’ perceptions of the relationship (e.g. Schriesheim, Neider and Scandura 1998; Sin, Nahrgang and Morgeson 2009), senior managers are even less likely know when to consider leveraging a penalty contract. As a result, bonus contracts represent the less risky (i.e. more predictable) option.

The remainder of the paper proceeds as follows. Section II discusses the relevant theory and develops our hypotheses. Section III describes the experimental design. Section IV presents our results and Section V concludes.

II. Hypothesis Development
A growing stream of literature focuses on how control systems impact various psychological factors to influence employees’ performance. For example, Taylor and Bloomfield (2011) find that formal controls influence the social norm that individuals use to guide their behavior in a social dilemma, as well as their tendency to conform to the behaviors of others. Towry (2003) reports that the extent to which employees within a work group feel a cohesive group identity interacts with the type of incentive system employed, such that teams with a strong social identity are better controlled by a horizontal incentive system than a vertical system. Christ, Sedatole, Towry and Thomas (2008) and Christ, Sedatole and Towry (2012) find that the type of control that is imposed (e.g., an incentive with either a bonus or a penalty) can influence employees’ perceptions of trust, which in turn affects employee effort. Christ, Emett, Summers, and Wood (2012) find that while preventive controls and detective controls with immediate feedback both elicit similar performance improvements from employees, preventive controls do so to the detriment of employees’ intrinsic motivation, which can have consequences for other employee behaviors.

Importantly, the focus of prior literature is on the effects of the specific control mechanisms imposed on an individual employee. However, organizations are made up of many different types of employees, many of whom are subjected to different types of controls. Thus, it is important to explore whether and how the controls imposed on certain employees may affect other employees.

Organizations vary in the extent to which employees know the incentives and pay structure of other employees (Day 2007; Fisher et al. 2014). Proponents of greater pay transparency suggest that it can enhance trust within the organization (Collela et al. 2007), which can lead to enhanced performance. On the other hand, opponents of pay transparency suggest that it may cause conflict
within the organization if employees feel that they are not fairly compensated relative to their peers (Lawler 2012).

Card, Mas, Moretti, and Saez (2012) report that approximately two-thirds of US companies allow or encourage employees to discuss their salaries amongst themselves. Relatedly, pay transparency is becoming an increasingly important issue as evidenced by a recent proposal by the US Department of Labor that all government contractors permit pay transparency (see: http://www.dol.gov/opa/media/press/ofccp/OFCCP20141696.htm) and Executive Order 13665 signed by President Obama in April 2014 prohibiting retaliation for disclosure of compensation information (see http://www.gpo.gov/fdsys/pkg/FR-2014-04-11/pdf/2014-08426.pdf). Also, a variety of third-party websites, such as Glassdoor.com, report the salaries and compensation structures of employees and millions of companies, proving that employees (and job-seekers) want this information (Lytle 2014). Further, Bewley (1999) contends that even when organizations have corporate policies requiring pay secrecy, individual employees generally reveal compensation information themselves.

Although there is limited academic research on pay transparency, employees’ pay satisfaction has been studied extensively by management scholars. Pay satisfaction is generally measured using a validated pay satisfaction scale that includes variables related to “company pay structure” and “administration” suggesting that employees understand how compensation is determined throughout the organization (e.g., Heneman and Schwab 1985).

To the extent an employee is aware of the incentives and control mechanisms in place for other employees (e.g., his/her manager), those incentives and controls have the potential to influence the behavior of that employee as well. Although research examining whether controls imposed on certain employees can affect other employees’ performance is limited, literature
examining how employees’ notions of fairness influence their behavior when they are paid
differently from their co-workers can inform our study (e.g., Colella, Paetzold, Zardkoohi, and
Wessøn 2007, Card, et al. 2012). This evidence shows that employees are cognizant of the control
systems (e.g., the incentives) to which other employees are subjected. Further, it suggests that
employees have other preferences (e.g., for fairness) that can influence them and cause them to
respond differently than management anticipated when designing the incentives (e.g., Bartling and
Von Siemens 2010). Therefore, management should consider the potential consequences that
control systems may have on other employees within the organization who are not subjected to
those controls.

One context in which employees are likely to be influenced by control systems that are not
directly related to their own responsibilities, is within the manager–subordinate relationship. In
most organizations, managers are subject to a different set of controls and performance measures
than their subordinates – in part because of the different nature of their work. For example,
managers may be evaluated and compensated based on whether the department, as a whole, meets
various performance targets, as well as whether the manager can effectively execute his
supervisory role.

There is very little existing literature that considers whether control mechanisms used to
direct manager behavior also influence the subordinate employees’ behavior. One exception is a
contemporaneous paper by Fisher et al. (2014) in which the authors consider whether knowing the
managers’ incentive structures affects subordinate employees’ honesty when preparing budgets.
Using an experiment, the authors find that when subordinates are aware of their managers’
incentives (but cannot benefit from them), they provide less honest budgets than subordinates who
do not know their managers’ incentives, presumably because subordinates are motivated by
fairness concerns. These results suggest that the controls imposed on the manager can influence subordinate employee behavior.

Taken together, the research described above motivates the importance of understanding whether and how a control choice, even one as coarse as a bonus versus penalty, designed to affect a manager will cascade to also affect those employees who are subordinate to the manager. To that end, we investigate a setting in which the subordinate knows only the type of the incentive to which the manager is subjected and can choose the amount of effort to exert toward that manager’s objective. Further, we consider the role of two factors that theory suggests should be key to the subordinate’s effort choice: the quality of the manager-subordinate relationship and the framing of the manager’s incentive.

*Leader-Member Exchange Theory*

A considerable body of literature has developed to investigate the effects of the relationship between managers and their subordinates on various aspects of subordinate performance. The leader-member exchange (LMX) theory describes the quality of the relationship between the manager and his/her subordinates as an important driver in subordinates’ performance (Wayne, Shore and Liden 1997). According to LMX theory, managers develop different relationships with each subordinate. More importantly, each subordinate will have their own perception about the quality of that relationship. Some subordinates perceive their relationship with the manager as simply the manager fulfilling his/her contractual obligation, without any other social interaction or connection (Liden and Graen 1980). In the literature, this is described as a low-quality LMX relationship. Alternatively, some subordinates perceive the relationship with the managers to include more meaningful connections. These may include mentoring (Scandura and Schriesheim 1994) or subordinate empowerment (Chen et al. 2007) as well as greater trust, loyalty, liking and
mutual respect (Liden and Maslyn 1998). In the literature, this is described as a high-quality LMX relationship.

According to LMX theory, a subordinate who perceives a high-quality relationship with his manager will care about that manager’s well-being and is likely to make decisions that will benefit the well-liked manager, even if there is no direct benefit to the subordinate. In general, subordinates exhibit positive reciprocity in return for being treated well by their manager. For example, a subordinate may work late (without overtime pay) to help a manager meet a deadline, or may provide a very positive evaluation about the manager as part of 360-degree feedback. Much of the LMX research focuses on subordinates’ performance of organizational citizenship behaviors (OCBs). OCBs are actions not directly or explicitly rewarded but that improve the functioning of the organization (Organ 1988, Podsakoff and Mackenzie 1997). Existing LMX research has documented that OCB is more likely when the subordinate has a high-quality relationship with his/her manager (Ilies, Nahrgang and Morgeson 2007).

Recently, LMX theory has also been studied in an accounting context. Vance (2010) shows that higher quality relationships are associated with greater effort by the subordinate to generate an accurate accounting estimate when the manager asks for one. In turn, Jollineau et. al. (2012) show that when the manager instead asks for bias, subordinates in higher quality relationships respond by providing more biased estimates, even though it is costly to the subordinate. These results are consistent with the argument that subordinates expend greater resources to actively pursue objectives benefiting a well-liked and trusted manager (Linden and Graen 1980).

When subordinates are aware of their managers’ incentive structure and, in particular, how their own behavior and performance can affect their managers’ ability to earn their incentives,
LMX theory suggests the subordinates’ perception of his relationship with his manager will influence his/her behavior. Specifically, subordinates in a high quality LMX relationship will want to reciprocate the positive benefits he/she has received from the manager and will exert greater effort if it benefits their manager than will subordinates with a low quality LMX relationship. This suggests an overall positive effect of LMX relationship quality on the level of employees’ effort contribution.

**Effects of Control Frame on Subordinate Effort**

Prior literature describes an array of control types that companies can use to motivate employees to perform (e.g., Merchant and Van der Stede 2007, Simons 1995). Different control types can elicit different behavior, different levels of effort and different levels of performance from employees. For example, Christ et al. (2013) find that employee performance improves more when employees are subjected to preventive controls or detective controls with immediate feedback relative to detective controls with delayed feedback. Further, in contrast to preventive controls, detective controls with immediate feedback do not crowd out employees’ intrinsic motivation for performing their tasks which benefits the organization as a whole.

Additionally, even when considering the same type of control, prior research finds that the way that control is framed can influence employees’ effort level. In particular, several studies have investigated differences in employee effort under incentive contracts with bonuses awarded for the achievement of performance targets (i.e., positively framed controls) to equivalent contracts that instead include penalties for failure to meet performance targets (i.e., negatively framed controls) (e.g., Christ et al. 2012, Hannan et al. 2005, Hossain and List 2012). Despite research documenting a preference for bonus contracts (Luft 1994), Hannan et al. (2005) and Hossain and List (2012) find that employees exert greater effort under penalty contracts than equivalent bonus
contracts. In both papers, the authors examine behavior in a complete contract setting and conclude that loss aversion explains the observed differences in employee effort under the two contracts. That is, consistent with prospect theory (Kahneman and Tversky 1979), individuals are more concerned with losing money as a result of a penalty, than gaining money from a bonus, such that they work harder to avoid the penalty.

In this study, we are interested in differences in subordinate employee effort when their managers are governed by bonus versus penalty contracts. Given that (in our setting) the frame of the managers’ contract has no impact on the subordinates’ compensation, traditional economic theory, which assumes that individuals are self-interested and seek only to maximize their own wealth, suggests that the managers’ contract frame should not affect subordinate employee effort. That is, subordinates should be indifferent to the form of their managers’ compensation and exert the same level of effort regardless of whether the manager is subjected to a bonus or a penalty contract.

However, we expect that the frame of the control imposed on the manager will interact with the subordinates’ perception of his relationship with his manager to influence the subordinate’s behavior. In particular, consistent with LMX theory, we expect that when subordinates perceive that they have a high-quality LMX relationship with their manager they will have a greater sense of loyalty to their manager and will internalize their manager’s goals (i.e. make them their own) to a greater extent than will individuals in low-quality LMX relationships (Golden and Viega 2008, Graen and Uhl-Bien 1995). As a result, the manager’s loss or gain feels more like the subordinate’s loss or gain as well. If this is the case, prospect theory (Kahneman and

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1 In contrast, Christ et al. (2012) explore employee effort in an incomplete contract setting in which not all tasks are governed by the incentive contract. Such a setting requires that employees trust their supervisors, and the authors find that employees exert greater effort on the tasks not explicitly governed by the contract when the incentive contract includes a bonus rather than a penalty because the penalty damages employee trust in the supervisor.
Tversky 1979) suggests that the subordinate will be more motivated to exert effort to help the manager avoid a loss from a penalty than to help the same manager receive a gain from a bonus. Stated another way, threatening a liked and trusted manager with a penalty will cause that manager’s subordinates to work harder to protect that manager.\(^2\)

In contrast to subordinates in high LMX relationships, low LMX subordinates are less likely to internalize or commit to their supervisors goals. However, this does not mean that low LMX subordinates do not understand their manager’s goals and incentives, and more importantly, how their own effort will impact their manager’s achievement of those goals. Rather, it suggests that these subordinates will simply be unresponsive to the manager’s specific incentives, exerting lower effort regardless of whether the manager is facing a bonus or a penalty contract.

In fact, the standard economic prediction would be that all (low LMX) subordinates would maximize their own wealth by contributing zero effort. However, a growing body of psychology and economics literature finds that people are willing to engage in some “bad” behavior (i.e., behavior that conflicts with accepted social norms), such as lying, cheating and stealing. However, most people’s bad behavior, including bad behavior that yields external rewards, is limited by their ability to maintain a positive self-image despite the bad behavior (Mazar, Amir and Ariely 2008). This literature suggests that even though low LMX subordinates may feel justified in withholding effort, they will still be governed to some degree by societal norms (Heinrich et al. 2001) and therefore be compelled to put forth some effort; withholding all effort would force these employees to go against these deeply embedded norms and see themselves negatively (Benabou and Tirole 2006, Mazar et al. 2008). That said, we could still expect to see a low level of effort

\(^2\) We are interested in examining these effects on the employee without any overt actions from the manager to direct the employee’s effort based on the manager’s incentives. Thus, we do not consider differences that may occur if the manager stated a clear and credible preference for one type of contract over another or provided some additional incentive to the employee to behave a certain way.
exerted by low LMX subordinates, without differences between effort contributions in the bonus and penalty conditions.

Counter to this expectation of no difference between incentive frame conditions, prior literature provides some evidence to suggest the framing of the managers’ control will also matter in settings where there are low quality LMX relationships such that effort will be lower when the manager faces a penalty rather than a bonus. In particular, Townsend, Phillips and Elkins (2000) find that employee retaliation is more likely by subordinates with low LMX than high LMX. Organizational retaliation behaviors include a wide array of actions that can hurt the organization as a whole, such as: spending time on personal matters at work, talking bad about the organization, arriving late, wasting materials, refusing to work late, etc. (Skarlicki and Folger 1997). Such defiant behavior has been attributed to a desire to restore a sense of control when working beneath a manager with whom they do not have a strong relationship (Aryce et al. 2007, Harris et al. 2007, Zellers et al. 2002).

Taken together, the above describes low quality LMX relationship subordinates as motivated to find opportunities to retaliate or punish the disliked or disrespected manager while also managing his or her self-image. Prospect theory suggests that the frame of the manager’s control as a penalty creates one such opportunity. Specifically, prospect theory indicates that manager losses resulting from a penalty will be perceived by the subordinate to be more painful to the manager than not receiving a bonus (Liberman, Idson and Higgins 2005). As a result, the benefit to the subordinate of withholding effort at a given level is greater when it causes the manager a loss than when it prevents the manager a gain. Subjecting the manager to a penalty effectively allows the subordinate to punish a disliked and disrespected manager to a greater extent.
Luft (1994) provides additional theory for why employees may be more inclined to punish a low LMS manager when s/he is faced with a penalty (i.e., a loss) rather than a bonus (i.e., a non-gain). In particular, she describes a penalty as a meaningful event, which is more memorable than simply not receiving a separate bonus. Further, receiving a penalty is associated with a sense of failure. Therefore, if subordinates are interested in punishing a manager, withholding a bonus will not be as impactful and is not as likely to send a strong signal to the manager that his behavior and managerial style are not appreciated. Based on this logic, we expect that subordinates in a low-quality LMX relationship will exert less effort when their manager is subjected to a penalty contract than a bonus contract.

Taken together, we predict a disordinal interaction whereby subordinates with a high-quality LMX relationship will exert greater effort when their well-liked manager faces a penalty to protect him from the loss, while subordinates with a low-quality LMX relationship will exert less effort when their manager faces a penalty. Formally stated:

H1: Subordinates with high (low) LMX relationships will exert more (less) effort when their manager is facing a penalty contract than when the manager faces an equivalent bonus contract.

H1 is illustrated in Figure 1.

H1 focuses on the extent to which subordinates’ effort will differ under different incentive and relationship quality conditions. Thus, it relates to how subordinates’ helping behavior will vary. A separate, but related question is whether subordinates with a low-quality LMX relationship would actively engage in hurting behavior. Research in organizational behavior identifies a spectrum of “workplace deviance” behaviors that can be directed toward the
organization as a whole, or a particular individual (e.g., one’s supervisor) (Bennett and Robinson 2000). Such behaviors have been defined as voluntary behaviors that violate organizational norms and threaten the well-being of the organization or specific members (Robinson and Bennett 1995) and include actions such as theft, sabotage, and insubordination (Tepper et al. 2009).

Workplace deviance (sometimes described as anti-citizenship behaviors (Giacalone and Greenberg 1997)) is purposeful and requires effort by the subordinate. Thus, in contrast to withholding effort or other helping behaviors, employees who engage in workplace deviance incur a cost. Prior literature finds that individuals will pay to punish (e.g., Fehr, Fischbacher and Gachter 2002). Fehr et al. (2002), use the term “strong reciprocator” to describe someone willing to sacrifice resources to punish someone who is being unfair (or to reward someone who is fair). Much of this research uses public goods games and finds that individuals will often choose costly punishment to retaliate against others’ unfair actions without any future personal benefits (cites). Relatively consistent results are found across cultures (Heinrich et al. 2001) and this phenomena is credited as an effective norm enforcement device. Fehr and Fischbacher (2001) also examine the prevalence of third party punishment and find that outside observers are willing to engage in costly punishment when they believe someone is behaving unfairly.

In our setting, we investigate whether subordinates are willing to engage in costly punishment to retaliate against a supervisor with whom they have a poor quality relationship. We predict that subordinates will be more likely to punish low LMX supervisors when the supervisor faces a penalty rather than a bonus. As previously described, a penalty feels like more of a punishment than does the loss of a bonus. Receiving a penalty is more likely to feel personally meaningful to the supervisor and to feel like a failure (Luft 1995). Thus, subordinates with managers facing a penalty are more likely to believe that their supervisor will actually feel and
internalize the punishment. Therefore punishing supervisors who face a penalty is more worthwhile than punishing those who face a bonus. We formally predict:

H2: Subordinates with low LMX relationships will be more likely to sacrifice wealth to punish when their manager faces a penalty contract relative to when the manager faces an equivalent bonus contract.

III. METHODOLOGY

Overview

To test our predictions we conduct a 2 x 2 between-subjects experiment, manipulating subordinate perception of the quality of his/her relationship with the manager (low and high) and manager incentive frame (bonus and penalty). Each participant acts as a subordinate to one of four real but anonymous managers (i.e. one manager for each condition with many subordinates). Every subordinate learns they are being assigned to one of two special project teams lead by one of two managers. After reading a brief description of each manager, the participant is randomly assigned to one.

All subordinates are then told that their manager has some probability of receiving a favorable performance evaluation and, depending on condition, a bonus or penalty. At this point, the subordinate has the option to increase the manager’s probability of a favorable outcome. Increasing the probability of a favorable outcome is costly and reduces the subordinate’s compensation, proxying for exerting incremental effort toward the manager’s goal (e.g. working longer hours, greater focus, creativity, etc.). We subsequently offer those participants who choose to not increase the probability of a favorable outcome for the manager an opportunity to instead incur cost to decrease the probability. This captures participant desire to explicitly hurt a disliked manager and proxies for subordinate actions that might sabotage the manager (e.g., theft,
insubordination). The experiment concludes with a brief series of demographic questions. The instrument is presented in the Appendix.

Participants

We report data collected from 150 U.S.-located participants using Amazon’s Mechanical Turk. Mechanical Turk is an online labor market comprised of individuals willing to complete various tasks, including selecting keywords or tags for product photos, providing translations and completing surveys. Mechanical Turk is frequently used in economic experiments and is increasingly used for experimental research in accounting (e.g., Rennekamp 2012; Koonce, Miller and Winchel 2012; Dworkis 2013). One of the key benefits of Mechanical Turk with respect to this study is that it offers a pool of workers that is older, more experienced and often otherwise employed (Buhrmester, Kwang and Gosling 2011, Paolacci, Chandler and Ipeirotis 2010). Mechanical Turk has repeatedly been found to be at least as representative of the U.S. population as other potential participant pools (Berinsky, Huber and Lenz 2012; Horton, Rand and Zeckhauser 2011; Paolacci, Chandler and Ipeirotis 2010). Recent research by Farrell, Grenier and Leiby (2014) replicates three existing accounting studies using participants from Mechanical Turk, further supporting the suitability of the population. Given our desire to examine subordinate behavior, this participant pool increases the generalizability of the experimental findings relative to use of undergraduate or graduate accounting students.

Independent Variables

We manipulate both independent variables between participants. For our first variable, perceived relationship quality, we follow the approach developed by Jollineau et al. (2012) to affect the subordinate’s perception of his/her relationship with the manager. Using a pre-task survey of management style, we identify four individuals to serve as the anonymous managers to
whom the participants are randomly assigned. To identify managers, we surveyed a group of undergraduate accounting students about their management style. The responses allow us to place individuals on a spectrum from relatively trust-oriented to relatively control-oriented. We invited two individuals whose responses were on each end of the spectrum to serve as anonymous managers in one of the four conditions. Each manager participant was compensated based on the decisions made by the subordinate participants in the experiment.

We manipulate participants’ perceptions of their relationship with their manager in two steps. First, we show all participants side-by-side summary statements of the style of a trust-oriented and a control-oriented manager (see Appendix for complete statements). We describe the trust-oriented manager as believing subordinates can be self-directed and that collaboration and employee involvement is important. We describe control-oriented manager as believing subordinates’ behavior needs to be controlled and that subordinates would not work without management intervention. In the second step, we assign the participant to one of the two managers. In the low-quality relationship condition the participant is assigned to the control-oriented manager. In the high-quality relationship condition, the participant is assigned to the trust-oriented manager.

Immediately following this description, we administer the 12-item LMX-MDM questionnaire listed in the Appendix (Liden and Maslyn 1998). The instrument is composed of four dimensions: Affect, which deals with personal liking; Contribution, which deals with the inclination to contribute beyond the express requirements of the job; Loyalty, which deals with the subordinate’s belief that the manager will protect the subordinate; Professional Respect, which deals with admiration for the manager in the role of a manager. All questions are measured on the same -3 to +3 scale, anchored by “Strongly Disagree” and “Strongly Agree” and, consistent with
existing LMX theory and research (Liden and Maslyn 1998), all dimensions are equally weighted. As such, a higher sum across all twelve questions indicates a higher quality relationship with the manager, regardless of distribution of responses. For instance, a total LMX score composed of high scores for the questions on a single dimension or high scores on individual questions on different dimensions are interpreted as equivalent.

For our second variable – manager’s incentive frame – we manipulate the type of incentive contract to which the manager is subjected: a 50% bonus for receiving a positive performance evaluation, versus a 50% penalty for not receiving a positive performance evaluation. The managers start with base compensation of $10. Depending on condition, there was the potential for them to receive either a $5.00 bonus (total pay of $15.00) or lose $5.00 as a penalty (total pay of $5.00). Therefore, we maintain monetary equivalence across conditions, and only manipulate the manager’s incentive frame. Whether a manager qualified for the respective bonus or faced the penalty depended on the collective level of effort contributed by that manager’s subordinates. We label the variable indicating whether the incentive was a bonus or penalty IncentiveFrame.

At no point do we inform subordinate participants of the amount of the manager’s base compensation. Similarly, at no point do we define the precise relation between subordinates’ contribution level and probability of a favorable performance evaluation for the manager. These choices preclude participants from inferring the magnitude of their manager’s potential bonus (e.g. the dollar value of a bonus) or penalty as well as the marginal return to the manager for marginal subordinate effort, which mitigates the risk of the influence of fairness and equity concerns in subordinates’ effort decisions. As such, the instrument is consistent with a setting in which the subordinate has a broad understanding of the manager’s incentives and how his effort affects the
manager’s compensation, but has an uncertain sense of both the relative strength of the manager’s incentives and his precise ability to help or hinder the achievement of the manager’s objectives.

Dependent Variables

After a series of questions to ensure participant understanding of the experiment, we offer the participants the opportunity to sacrifice some of their pay to affect the probability that their manager receives a positive performance evaluation and the associated benefit (i.e. incremental bonus or avoided penalty, depending on incentive frame condition). This can be thought of as choosing to exert effort toward the manager’s objectives, such as working extra uncompensated time. If the participant does nothing, leaving the unspecified probability of a positive performance evaluation where it is, the participant receives $1.00 in compensation for the experiment.

Starting from this $1.00, the participant may decrease his own pay by up to $0.50 in an effort to increase the manager’s probability of receiving a positive performance evaluation. The participant chooses the amount of their desired effect on a sliding scale from $0.00 to $0.50, anchored by “Slightly More Likely” and “Much More Likely”. As a result, the amount of contribution chosen by a subordinate ranges between $0.00 and $0.50, which serves as our dependent variable, labeled Contribution.3

After capturing Contribution, those who choose to contribute $0.00 (i.e., no effort) and thus have no positive effect on the likelihood of a favorable performance evaluation for their manager are offered the opportunity to instead pay to decrease the likelihood of a positive performance evaluation. This captures the participants inclination to ‘pay to punish’ the manager rather than ‘pay to help’. This can be thought of as a subordinate actively seeking to harm a manager through

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3 Experimental research in economics has documented the equivalence of operationalizing “effort” as real effort toward a specific task and operationalizing as a choice of increasingly costly effort levels (Bruggen and Strobel 2007).
actions such as insubordination, sabotage, theft, etc. We label this variable *Withholding* as it captures the subordinate’s incremental effort to deny contribution.

Participants are finally asked a series of demographic questions and the experiment concludes. Participants received total compensation between $0.50 and $1.00 and averaged approximately $0.86 across all participants. Given that our participants were able to complete the task in an average of 9.95 minutes, total compensation averaged $5.18 per hour. This hourly rate is well above the Mechanical Turk median wage of $1.38 per hour (Horton and Chilton 2010). Participants received their payments anonymously and electronically via the Mechanical Turk website compensation system.

**IV. RESULTS**

On average, our participants have 12.5 years of work experience and are 35 years of age. Sixty-six percent of participants are male. As discussed earlier, we measure relationship quality using the 12-question LMX-MDM instrument listed in the Appendix. All means follow the anticipated pattern, with the high quality condition participants consistently reporting values greater than those in the low quality condition. We find that the differences in means for each LMX item are significant in every case (all p < 0.01, not tabulated). Based on these results, we conclude that our manipulation of relationship quality was successful.

Our predictions are based on differences in relationship quality, regardless of why those differences exist. In our manipulation of the manager, we assume that an authoritarian (trust-based) manager is more likely to develop low (high) quality relationships with subordinates; however, there are likely some individuals for whom this is not correct (Jollineau, et al. 2012). As such, consistent with prior literature (e.g., Jollineau et al. 2012) for hypothesis testing we create two conditions by partitioning at the median LMX-MDM score; those below (above) the median
are treated as low (high) relationship quality. We label this categorical variable \textit{RelQual} and report descriptive data in Table 1. As with our manipulated relationship quality variable, we find significant differences in each score for the individual LMX – MDM scores across \textit{RelQual} in the anticipated direction (p < 0.01).

Table 2 presents descriptive data for the dependent variable, \textit{Contribution}, which is our proxy for employee effort toward helping the manager achieve her goal (i.e., earn the bonus or avoid the penalty). Recall that participants may choose any value between $0.00 (no contribution) and $0.50 (maximum contribution). Our maintained hypothesis is a significant main effect of relationship quality on subordinate contribution toward the manager’s objective, regardless of the manager’s incentive condition. Consistent with this expectation, average \textit{Contribution} when \textit{RelQual} is low is $0.07, while it is $0.19 when \textit{RelQual} is high (Table 2). This difference is significant (p < 0.01, not tabulated). To further examine this relation, we regress \textit{Contribution} on the sum of all 12 LMX-MDM items, which we label \textit{LMXSum}. We find a significant positive coefficient on \textit{LMXSum} (p < 0.01), indicating higher relationship quality is associated with greater \textit{Contribution}, regardless of experiment condition. These results are consistent with our expectation that relationship quality will be positively associated with contribution.

Our primary hypothesis posits an interactive effect of relationship quality condition and the framing of the incentive faced by the manager. When \textit{RelQual} is high, we predict that \textit{Contribution} will be greater when \textit{IncentiveFrame} is a penalty versus a bonus. When \textit{RelQual} is low, we expect \textit{Contribution} will be lower when \textit{IncentiveFrame} is a penalty versus a bonus. The pattern of the descriptive data in Table 2 is consistent with these predictions. Participant contributions are greatest when the high \textit{RelQual} manager is threatened with a penalty ($0.25) and lowest when a low \textit{RelQual} manager is threatened with the same penalty ($0.06). We present the
results of an ANOVA test in Table 3, Panel A. Consistent with the earlier examination of the
effect of RelQual, we observe a significant main effect (p < 0.01). We also observe a significant
interaction of RelQual and IncentiveFrame (p < 0.01).

We next turn to contrast tests to compare employee effort between specific conditions and
present our results in Table 3, Panel B. Consistent with our expectation, when RelQual is high we
find that the difference in average Contribution is in the anticipated direction (Bonus: $0.14;
Penalty: $0.25) and the difference is significant (p < 0.01). This result is consistent with the
conclusions of Prospect Theory. Losses loom larger than gains and therefore subordinates exert
greater costly effort to help a favored manager avoid a penalty than to help that manager earn a
bonus. Inconsistent with our prediction, when RelQual is low, the difference across
IncentiveFrame conditions is not significant at conventional levels (Bonus: $0.09 v. Penalty:
$0.06; p = 0.20, one tailed). We conclude that the primary driver of the interaction is greater
Contributions when RelQual is high and IncentiveFrame is penalty..

Extending the logic of H1, in H2 we consider employees’ propensity to incur cost to make
the manager worse off (i.e., exert effort to punish a manager). We focus on employees who
perceive that they have a low quality relationship with their manager. Specifically, continuing to
draw on prospect theory and Luft (1995), we expect that subjecting a disliked or distrusted
manager to a penalty provides subordinates greater utility than denying the same manager a bonus.
As such, when RelQual is low, we expect Withholding, our measure of employees’ payment to
prevent the manager from receiving a positive performance evaluation, to be greater when the
manager faces a penalty than a bonus. We present descriptive data consistent with our prediction
in Table 4, Panel A. Overall, 71 of the 150 participants (47.3% of total) chose zero Contribution.
Of those 71, 26 (36.6%) are in the low RelQual/penalty IncentiveFrame condition. Withholding is
significantly different from zero only in the low RelQual and penalty IncentiveFrame condition (p < 0.01). While all subordinates in the low RelQual conditions were equally inclined to not exert effort to help their manager, none of the 19 individuals in the bonus condition were subsequently willing to incur cost to harm that manager. Of the seven individuals who chose to pay to make the manager worse off, six were in the penalty IncentiveFrame condition, representing 23.1% of 26 individuals in that cell. We conclude that the presence of a penalty contract on the manager had a significant effect on subordinate employee motivation to pay to punish a disliked manager.

Supplemental analysis

While we treat ‘pay to help’ and ‘pay to punish’ as distinct dependent variables for clarity of our experimental design and conservatism, our theory suggests it is reasonable to conceive of Withholding as negative Contribution. If this is the case, by truncating Contribution at zero, we may have prevented detection of the hypothesized penalty contract effect in the low relationship quality condition (i.e., lower contributions in the penalty condition relative to the bonus condition). To explore this, we combine our two dependent variables. For those observations with a positive Withholding value, we replace the $0.00 Contribution with the negative value of Withholding. As a result, the average Contribution in the low RelQual/penalty IncentiveFrame drops from $0.06 to $0.03. When we repeat our H1 analysis we now find full support for our prediction. The interaction and simple effect within high RelQual remain significant (p < 0.01 for both) while we add evidence consistent with the hypothesized effect of the penalty in low RelQual ($0.09 v. $0.03; p = 0.05).

V. CONCLUSION

While a significant body of research has investigated the effects of incentives and controls on the target employee, the possible cascading effects of these systems down to subordinate
employees is important and understudied. If the effects of specific incentives ripple down the hierarchy within the organization, they can magnify or undermine the effects of the control. In this study, we use an experiment to advance our understanding of this possibility by considering whether and how a subordinate employees’ behavior is affected by two factors: (1) the quality of the manager-subordinate relationship and (2) the framing of the incentives imposed on the manager. We investigate a setting in which a manager faces either a bonus or a penalty as a function of her performance evaluation. Participants in the role of subordinate employees are able to affect the probability the manager receives the favorable performance evaluation by contributing some amount of their own compensation, our proxy for costly effort, to help the manager achieve her goals. Subsequently, employee participants who provide no effort to help their manager are given the opportunity to exert effort to hurt their manager’s likelihood of a positive performance evaluation.

We find that the two contract frames have opposite effects on subordinate employee performance depending on the perceived quality of the relationship between the subordinate and his/her manager. Relative to a bonus contract, managers’ penalty contract imposed on the manager induces greater effort from subordinate employees who perceive a high-quality relationship with the manager. Conversely, when relationship quality is low, the same penalty contract fails to elicit greater effort toward the manager’s goals and we instead observe subordinates exerting effort specifically to hurt that manager.

Our findings have important implications for designers of control and incentive systems. While the effects on a target individual are routinely considered, we document that there are likely to be farther reaching organizational effects of control design choices. In addition, we identify a key determinant of this organizational effect – the perceived quality of the relationship between the
subordinate and their supervisor. We document instances in which a given incentive choice amplifies the benefits of the managers’ incentive, as well as instances in which its’ purpose is undermined. Our findings suggest that if the organization does not consider, or incorrectly assesses, the manager’s relationship quality with his/her subordinates when designing the control system the control may not yield the intended result.

In addition to informing practice, our study provides opportunities for future research. First, we do not allow the manager to take any action (e.g. instruct employees or change their management style) nor do we allow the manager to make any control decisions in response to the incentive frame. It may be that manager choices to implement controls or incentives on subordinates would differ under bonus and penalty framing. For instance, consistent with Hannan et al (2005), facing a penalty may prompt the manager to impose tighter controls on subordinates who are able to affect the likelihood of the manager experiencing that penalty. If the manager has a full understanding of how her own incentives are affecting subordinate behavior, there are clear situations in which action is not required or possibly detrimental. However, existing research suggests that this is often not the case as manager and subordinate perceptions of relationship routinely differ (e.g. Campbell, White and Johnson, 2003), which suggests opportunity for better or worse control decisions. Future research should explore the manager’s role in this setting.

We explore the effects of individual subordinates’ LMX relationships without allowing them to consider the managers’ relationship with other employees. Recent LMX studies have focused on such LMX differentiation across dyads and have shown that within work groups high and low LMX employees can develop cliques (Henderson, Wayne, Shore, Bommer and Tetrick 2008). There is some evidence that low LMX employees may dislike the higher LMX employees due to fairness concerns which can impair group performance (Henderson et al. 2008). We expect
that if employees believe that their relationship with their manager is better or worse than other employees it may exacerbate our results. That is, employees with high quality LMX relationships would exert even greater effort to help their manager avoid a penalty and employees with lower quality LMX relationships could withhold greater effort or commit other types of workplace deviance to penalize the manager for unfair treatment. However, future research is needed to explore these conjectures and the underlying mechanisms that may drive them.
REFERENCES


APPENDIX: Experiment Materials

Relationship quality manipulation (RelQual)
All participants read descriptions of two potential managers, A and B, and are subsequently assigned to Manager B. We reverse the manager descriptions and statements between participants such that B is either relatively authoritarian (low RelQual) or trust-oriented (high RelQual). The example below is the high RelQual condition.

You are an employee of Smith Inc. and you have been selected to be part of a special projects team.

There are two teams, one lead by Manager A and one lead by Manager B.

Both Manager A and Manager B completed a survey on managerial style. Their respective responses can be summarized by the two statements below:

**Manager A**
1) The role of a manager is to direct, motivate, control and modify subordinate behavior to fit the needs of the organization.

2) In general, people do not like responsibility and do not like to work. Without management intervention, people will be passive or resistant to organization needs. Managers therefore must reward or punish subordinates to achieve organizational goals.

**Manager B**
1) People will be self-directed to meet their work objectives if they are committed to them. People will be committed to their objectives if rewards are in place that address higher needs such as self-fulfillment.

2) People in general like to work. Therefore, close supervision and the threat of punishment are not the only, or best, means for motivating employees to work to achieve organization goals. Rather, collaboration and employee involvement is often more effective.

You have been assigned to Manager B.

Recall, Manager B's managerial style can be summarized with the following 2 statements:

(1) People will be self-directed to meet their work objectives if they are committed to them. People will be committed to their objectives if rewards are in place that address higher needs such as self-fulfillment.

(2) People, in general, like to work. Therefore, close supervision and the threat of punishment are not the only, or best, means for motivating employees to work to achieve organization goals. Rather, collaboration and employee involvement is often more effective.
Manager incentive manipulation (*IncentiveFrame*)

We employ two types of incentives on the manager, bonus and penalty. The following paragraphs detail the verbiage used to accomplish the manipulation. Differences are in bold, with the text in the penalty condition appearing in parentheses.

You receive compensation for participating in this study.

Manager B also receives some amount of compensation; however, Manager B’s total pay will depend on a performance evaluation.

If Manager B’s performance evaluation is positive, Manager B will receive a bonus (face a penalty) equal to 50% of his/her pay.

Manager B’s chance of a positive performance evaluation (which earns the 50% bonus) (which avoids the 50% penalty) increases as you, and the other members of your special project team, contribute effort (i.e., work harder) toward Manager B’s goals. We explain how you can contribute effort to increase the likelihood of a positive performance evaluation for Manager B below.

While the HIT listed $0.50 as your compensation, your total pay will start at $1.00. You can contribute up to $0.50 of your compensation to increase the probability that Manager B receives a positive performance evaluation and, as a result, earns the 50% bonus (avoids the 50% penalty). Greater contribution amounts have a greater positive effect on Manager B’s evaluation.

If you choose to contribute $0.00, your pay will be $1.00 and you will not increase the probability that Manager B receives a positive performance evaluation. If you choose to contribute the maximum of $0.50, your pay will be the $0.50 listed in the HIT. In other words, your pay will be $1.00 less whatever amount you choose to contribute.

NOTE: You can choose any amount between $0.00 and $0.50. Your choice is completely anonymous and Manager B will never know your chosen level of contribution.

Dependent variables

*Contribution.* The participants’ chosen level of contribution is captured via a horizontal slider scale that ranged from $0.00 to $0.50, anchored by “None” and “Much more likely”.

Please move the slider to indicate your desired effect on the likelihood that Manager B receives a positive performance evaluation.

The more you move the slider to the right on the scale, the greater the increase in likelihood of a positive performance evaluation for Manager B (i.e. $0.05 has a smaller effect than $0.10, which is smaller than $0.15, and so on).
Recall, your total pay will be $1.00 minus the amount you choose on the slider below.

**Withholding.** Those who choose Contribution of zero were next offered the opportunity to pay to make the manager worse off on a horizontal slider scale that ranged from $0.00 to $0.50, anchored by “None” and “Much less likely”.

You have chosen to not increase the likelihood of a positive performance evaluation for Manager B.

Given this, you now have the opportunity to instead contribute up to $0.50 to decrease the likelihood of a positive performance evaluation for Manager B.

The more you move the slider on the scale, the greater the decrease in likelihood of a positive performance evaluation for Manager B (i.e. $0.05 has a smaller effect than $0.10, which is smaller than $0.15, and so on).

As before, your total pay will be $1.00 minus the amount you choose on the slider below.

**LMX-MDM**
Each of the following questions is answered on a -3 to +3 Likert-type scale, anchored by “Strongly Disagree” and “Strongly Agree”. Each question is equally weighted. As such, I take the average of each dimension and the average across all dimensions to assess relationship quality.

**Loyalty**
1. My manager would defend my work actions to a superior, even without complete knowledge of the issue in question.
2. My manager would come to my defense if I had any problems with co-workers.
3. My manager would defend me to others in the organization if I made an honest mistake.

**Contribution**
1. I would be willing to do work for my manager that goes beyond what is specified as my task.
2. I would be willing to apply extra efforts, beyond those normally required, to meet my manager’s work goals.
3. I would not mind working my hardest for my manager.

**Affect**
1. I would like my manager as a person.
2. My manager is the kind of person I would like to have as a friend.
3. My manager would be a lot of fun to work with.

**Professional Respect**
1. I would be impressed with my manager’s knowledge of his/her job.
2. I respect my manager’s knowledge of and competence on the job.
3. I would admire my manager’s professional skills.
FIGURE 1: Predicted Contribution

- Low RelQual
- High RelQual

Contribution vs. Bonus vs. Penalty
### TABLE 1: Relationship Quality

<table>
<thead>
<tr>
<th></th>
<th>RelQual&lt;sup&gt;a&lt;/sup&gt;</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td><em>Affect</em></td>
<td>-3.55 (4.02)</td>
<td>6.08 (2.09)</td>
</tr>
<tr>
<td><em>Contribution</em></td>
<td>-1.95 (4.47)</td>
<td>7.00 (1.78)</td>
</tr>
<tr>
<td><em>Loyalty</em></td>
<td>-2.51 (4.10)</td>
<td>4.99 (2.52)</td>
</tr>
<tr>
<td><em>Professional Respect</em></td>
<td>-0.87 (3.92)</td>
<td>6.29 (1.99)</td>
</tr>
<tr>
<td><em>Total</em>&lt;sup&gt;c&lt;/sup&gt;</td>
<td>-8.87 (14.72)</td>
<td>24.36 (6.56)</td>
</tr>
<tr>
<td><em>n</em></td>
<td>75</td>
<td>75</td>
</tr>
</tbody>
</table>

<sup>a</sup> *RelQual*: We sum the 12 questions listed in the LMX-MDM in the Appendix and partition based on the median LMX-MDM total to create low and high categories.

<sup>b</sup> *Affect, Contribution, Loyalty* and *Professional Respect* are the totals of participant response to three questions listed for each dimension of the LMX-MDM in the Appendix. Values for each dimension may range from -9 (Strongly Disagree) to +9 (Strongly Agree) with zero representing neutral. Higher values indicate a higher quality relationship perception.

<sup>c</sup> *Total* equals the sum of all questions listed in the Appendix for all participants in the condition and can range from -36 to +36.
TABLE 2: Contribution\(^a\) (S)

<table>
<thead>
<tr>
<th>RelQual(^c)</th>
<th>IncentiveFrame(^b)</th>
<th>Bonus</th>
<th>Penalty</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>0.09</td>
<td>0.06</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Std Dev</td>
<td>0.12</td>
<td>0.11</td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>35</td>
<td>40</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>0.14</td>
<td>0.25</td>
<td>0.19</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>0.05</td>
<td>0.25</td>
<td>0.20</td>
<td></td>
</tr>
<tr>
<td>Std Dev</td>
<td>0.16</td>
<td>0.19</td>
<td>0.19</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>37</td>
<td>38</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>0.11</td>
<td>0.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>0.01</td>
<td>0.05</td>
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</tr>
<tr>
<td>Std Dev</td>
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<td>0.18</td>
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</tr>
<tr>
<td>n</td>
<td>72</td>
<td>78</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Contribution: the amount of money contributed by the participant to affect the likelihood that the manager receives a positive performance evaluation and either receives a bonus or avoids a penalty. The possible range is $0.00 to $0.50. Larger numbers represent greater positive effect on the manager’s likelihood.

\(^b\) IncentiveFrame refers to the managers incentive condition and indicates either a bonus or penalty equal to 50% of an unspecified manager salary.

\(^c\) RelQual: We sum the 12 questions listed in the LMX-MDM in the Appendix and partition based on the median LMX-MDM total to create low and high categories.
### TABLE 3: Tests of H1

**Panel A: ANOVA model of Contribution**<sup>a</sup> (n = 150)

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p-value&lt;sup&gt;d&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>RelQual&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1</td>
<td>0.53</td>
<td>23.58</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>IncentiveFrame&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1</td>
<td>0.07</td>
<td>3.20</td>
<td>0.08</td>
</tr>
<tr>
<td>RelQual X IncentiveFrame</td>
<td>1</td>
<td>0.20</td>
<td>8.86</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Error</td>
<td>128</td>
<td>0.08</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Panel B: Simple effect tests**

<table>
<thead>
<tr>
<th>Bonus v. Penalty</th>
<th>df</th>
<th>( \chi^2 )</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low RelQual</td>
<td>1</td>
<td>0.70</td>
<td>0.40</td>
</tr>
<tr>
<td>High RelQual</td>
<td>1</td>
<td>11.38</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

**Low v. High RelQual**

| Bonus                              | 1  | 1.70          | 0.09    |
| Penalty                            | 1  | 12.14         | <0.01   |

<sup>a</sup> Contribution: the amount of money contributed by the participant to affect the likelihood that the manager receives a positive performance evaluation and either receives a bonus or avoids a penalty. The possible range is $0.00 to $0.50. Larger numbers represent greater positive effect on the manager’s likelihood.

<sup>b</sup> RelQual: We sum the 12 questions listed in the LMX-MDM in the Appendix and partition based on the median LMX-MDM total to create low and high categories.

<sup>c</sup> IncentiveFrame refers to the managers incentive condition and indicates either a bonus or penalty equal to 50% of an unspecified manager salary.

<sup>d</sup> Panel A p-values are one-tailed for RelQual and RelQual X IncentiveFrame, reflecting directional prediction, two-tailed otherwise. Panel B p-values are two-tailed for the effect of IncentiveFrame for Low RelQual and one-tailed otherwise.
TABLE 4: Withholding ($)

<table>
<thead>
<tr>
<th>RelQual $</th>
<th>IncentiveFrame $b$</th>
<th>Bonus</th>
<th>Penalty</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
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$^{a}$ Withholding: the amount of money sacrificed by the participant to negatively affect the likelihood that the manager receives a positive performance evaluation. Greater amounts make it more likely the manager does not receive the bonus or does receive the penalty, depending on condition. The possible range is $0.00 to $0.50. Larger numbers represent greater negative effect on the manager’s likelihood.

$^{b}$ IncentiveFrame refers to the managers incentive condition and indicates either a bonus or penalty equal to 50% of an unspecified manager salary.

$^{c}$ RelQual: We sum the 12 questions listed in the LMX-MDM in the Appendix and partition based on the median LMX-MDM total to create low and high categories.