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How Does Peer Honesty Affect Focal Manager Honesty in a Budget Reporting Setting?

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Keywords

honesty, social norms, disclosure, contagion

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Accounting | Management Sciences and Quantitative Methods

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Introduction

Multiple studies provide evidence that decision makers have preferences for honesty (Cardinaels & Jia, 2012; Evans, Hannan, Krishnan, & Moser, 2001; Matuszewski, 2010). While prior literature has focused on various factors that affect honesty, such as equitable distribution of income, span of control, and accuracy of information systems, research has paid less attention to the effect of peer honesty on the focal manager's honesty. In this study, we examine the effect of peer honesty on focal manager honesty, social norm perception, and personal emotional cost of engaging in dishonest reporting in a budget-reporting setting.

We disclose and compare the effect of two levels of knowledge about peer honesty – partial and full disclosure – to a control condition of no disclosure. In the partial disclosure condition, we disclose to the focal manager the reporting behavior of only the least honest peers. In the full disclosure condition, we disclose the reporting behavior of all managers. We are interested in two questions. First, does knowledge about the behavior of others who face a moral dilemma affect the focal manager's honesty? Second, when given the choice to follow a norm-compliant example or a norm-violating example, are focal managers more attracted by one over the other?

We view our disclosure manipulations as proxies for knowledge about peer behavior that employees can have in the standard process of conducting their business, without the employer intentionally disseminating this information.[1] Knowing the behavior of other managers could either have a positive or negative effect on the focal manager's honesty in a budget setting. As a positive effect, particularly in the full disclosure condition, disclosure could restrain the focal manager from behaving dishonestly. In that condition, managers receive information about

norm-compliant and norm-violating examples. Knowing about the honest behavior of others could potentially increase the perceived cost of engaging in dishonesty. Thus, managers knowing the behavior of others can be advantageous for a company if the resulting behavioral norms dictate that managers behave honestly. We refer to this as the restraining effect of disclosure.

Conversely, disclosing the behavior of others could have the opposite, detrimental effect. Knowing that others are behaving dishonestly could cause the focal manager to use the norm-violating behavior of others to justify engaging in dishonest behavior themselves (Bersoff, 1999). We refer to this as the contagion effect, which operates when the focal manager focuses on others that are engaging in dishonest reporting, and is particularly likely to operate in our partial disclosure condition. The focal manager then becomes less concerned about not engaging in what would otherwise be perceived as norm-violating behavior and maintaining a positive self-image. Thus, the manager revises what he/she believes is the social norm for behavior, finds dishonest reporting more acceptable, and then increases his/her propensity to report more dishonestly.

We explore the effect of peer honesty using an experimental setting similar to Evans et al. (2001). Participants in this setting adopt the role of a division manager and complete a multi-period budgeting task. Participants make budget-reporting decisions for 10 rounds that are essentially production funding requests from a central corporate body that cannot refuse the funding request. Participants have proprietary information about their actual production costs. They can either request funding for their actual production cost, or they can report a higher value. The more that the requested value exceeds actual production costs, the higher is both the manager's compensation and his/her dishonesty.

In our experimental conditions, we disclose the reported amounts of other managers without revealing the identity of those managers. We consider this setting without identity revelation more relevant than one with identity revelation. Specifically, employees may, in general, know that others are involved in deceptive acts without being able to identify specific individuals engaging in those acts. However, even though we think our disclosure conditions apply to relevant real world settings, our primary interest lies in using experimental economics to examine the effect of different types of information on focal manager behavior.

Our experiment uses three conditions to study the effect of peer honesty on focal manager honesty. First, we have a no disclosure condition, which serves as our benchmark condition. Second, we have a partial disclosure condition, where we disclose only the most dishonest reports to the focal manager. Knowing reported cost allows the focal manager to assess the level of peer honesty in the disclosed reports, since actual cost is held constant for all participants. Our third condition is a full disclosure condition, where all other managers' reported values are disclosed to the focal manager.

We find that honesty erodes over time in both the partial and full disclosure conditions, as compared to the control condition. Our results show that partial disclosure leads to the largest decrease in honesty. In the full disclosure condition, participants initially report more honestly compared to the partial disclosure condition. However, honesty steadily erodes over 10 rounds even in the full disclosure condition.

In the partial disclosure condition, where honesty decreased the most over time, we find that participants revise what they perceive as the social norm for reporting to a lower level of honesty. This social norm revision leads them to incur lower personal costs about reporting dishonestly. That is, the focal manager appears to experience less tension about reporting

dishonestly. This occurs even though the focal manager knows that the disclosed reports represent a subset of only the most dishonest peers.

It is noteworthy that honesty erodes over time even in the full disclosure condition. This was the condition we expected the potential for either the contagion or restraining effect to emerge because these participants had the opportunity to set a good example, or to follow the good examples set by honest managers in their cohort as the appropriate social norm. However, our participants instead chose to follow the example of dishonest behavior. This effect shows an asymmetry between norm-compliant and norm-violating behavior with norm-violating behavior being more contagious. This effect occurs in our setting absent any peer or economic pressure, since each participant's payoffs were unaffected by the behavior of others. In this condition the evidence indicates that the contagion effect outweighed the restraining effect.

Our study makes several contributions to the literature. First, we show that honesty is influenced by one's knowledge of the honesty of others facing the same moral predicament. Thus, we provide evidence about harmful dynamics when managers can identify norm-violating behavior of their peers. While our experiment was focused on a budget setting, we think our results are generalizable to other settings. Our findings might thus offer insights for other areas of accounting research such as the earnings management literature, where the behavior of peers may influence the behavior of the focal manager/firm.

Our second contribution is that we show that norm-violating examples are more contagious than norm-compliant examples in situations where the identity of norm violators are not known and explicit punishments for being caught lying are not present. In the full disclosure condition, focal managers generally chose to follow examples of norm-violating behavior, even though they could have chosen to follow the examples of norm-compliant behavior that were

also disclosed to them. We thereby extend the literature on the asymmetric behavior in response to "good" and "bad" examples (Emett, Guymon, Tayler, & Young, 2012). Finally, our findings provide clear evidence on the norm revision process. In our study, knowing about the behavior of others leads to an inferior outcome compared to the absence of such knowledge, particularly if only the most dishonest reports are known. Specifically, when participants in our partial disclosure condition engage in norm-violating behavior, they revise what they perceive as the social norm for reporting to a less honest level and believe such behavior is acceptable.

The remainder of this chapter is organized as follows. We review and summarize prior literature and develop hypotheses. Next, we provide an overview of our experimental design. Then, we discuss our results. Finally, we draw conclusions and discuss limitations and implications, and identify potential areas for future research.

Literature Review and Hypotheses

Honesty in Reporting Situations

Agency theory models individuals as motivated by self-interest (Baiman, 1982, 1990). Following these assumptions, individuals should not have preferences for honesty and should report opportunistically to the maximum extent possible in our reporting setting. However, Luft (1997) proposes that individuals have preferences for ethical behavior. Luft (1997) suggests that employees consider the magnitude of any lie they engage in and weigh the utility of pecuniary benefit derived from that lie with the disutility of not being honest in terms of personal costs for lying, resulting in a trade-off between the two.

Evans et al. (2001) provide empirical evidence in a budget reporting setting that individuals do have preferences for honesty. The study finds that individuals forego around 50%

of potential pecuniary benefit in order to report honestly. The authors find that preferences for honesty are present even when the payoff for being dishonest increases substantially.

A number of subsequent studies have examined potential factors that act as moderators and/or mediators to individuals' preferences for honesty. For instance, perceived fairness (Cohen, Holder-Webb, Sharp, & Pant, 2007), horizontal equity of salary changes (Matuszewski, 2010), presence of a superior decision-making authority (Rankin, Schwartz, & Young, 2008), competitive resource allocation (Brüggen & Luft, 2011), and contract incentives relative to budgetary slack (Hobson, Mellon, & Stevens, 2011), have been shown to affect honesty. Overall, these studies show that honesty is not just an individual preference, but is very much context dependent.

In addition to these studies, several studies explicitly examine the impact of disclosure of reporting behavior to others. One of the studies that examine the effect of disclosure on honesty is Hannan, Rankin, and Towry (2006). In Hannan et al. (2006), the accuracy of accounting reporting systems affects reputation concerns, which leads individuals to consider both the pecuniary benefits of dishonesty and the reputational costs of being viewed as dishonest. The authors find that the desire to create a positive impression leads managers to sacrifice pecuniary benefits in order to appear honest.

Another study that examines the effect of disclosure on honesty is Stevens (2002). Stevens (2002) examines the role of reputation and ethical concerns in three information asymmetry conditions, where the manager has different levels of information with which to infer dishonesty by the employee. The study finds that, as information asymmetry increases, employees express lower reputation concerns but not lower ethical concerns. A third study that examines the effect of disclosure is Nikias, Schwartz, Spires, Wollscheid, and Young (2010)

who examine the effect of budget request format on honest reporting. They find that aggregate reporting of budgets for two projects leads to higher levels of dishonesty than separate reporting of each project, with sequential reporting (as opposed to concurrent reporting) leading to lower levels of dishonesty in the second project.

All three studies find a positive effect of disclosure on honesty – meaning more disclosure leads to less norm-violating behavior. However, these studies focus on the supervisor as the recipient of the disclosed information. Managers facing a moral dilemma in those studies commonly do not receive information about peer manager honesty. In contrast, our study examines the effect of disclosure when the manager making the reporting decision is the disclosure recipient and is facing the same moral dilemma as the managers whose reports are being disclosed.

Social Norms and Personal Emotional Cost

Our study extends the literature by examining the impact of disclosing the reporting behavior of other managers on the focal manager's honesty. This aspect of disclosure we believe can be a crucial element of social control and mutual monitoring. Our interest lies in testing whether such disclosure strengthens or erodes honesty, how it affects the manager's perception of what the social norm for honest reporting is, and how it affects the personal emotional cost experienced by the manager from engaging in dishonest reporting.

According to Mazar, Amir, and Ariely (2008), social norms are formed through interactions with other people. Elster (1989) identifies a social norm as behavior, which is "shared by other people and partly sustained by their approval and disapproval. Social norms are

sustained by feelings of embarrassment, anxiety, guilt, and shame that a person suffers at the prospect of violating them" (pp. 99–100).

Given the role of negative emotions in sustaining social norms, it follows that the disclosure of behavior of others would likely lead to a higher level of honesty in our setting. This should particularly be the case when everyone's behavior is known, thereby providing examples of norm-compliant behavior. Hence knowing about norm-compliant examples could potentially lead to a higher emotional cost for violating norms. We refer to this as the restraining effect of disclosure.

Conversely, managers could use disclosure information and focus on norm-violating behavior. Findings from the psychology literature suggest that information about the lack of honesty of others may adversely affect the honesty of the focal individual. In particular, focal individuals could use the dishonesty of others to support their own dishonesty through a variety of motivated reasoning mechanisms (Kunda, 1990). Ayal and Gino (2012) suggest that the disconnect between the desire to abide by social norms and the reality of dishonest behavior creates ethical dissonance, or feelings of discomfort caused by holding two conflicting self-concept beliefs. This tension leads to a dissonance reduction mechanism. Such a mechanism could potentially lead to a norm revision process based on the information about the reporting of others. Shu, Gino, and Bazerman (2011) find that individuals exhibit moral disengagement and motivated forgetting of moral rules in response to their own failure to act honestly in an attempt to reduce associated negative feelings. In other words, observing the behavior of others who fail to act honestly could potentially be used to rationalize one's own dishonest behavior.

A study that suggests the lack of honesty of others may adversely affect the honesty of the focal individual is Gino, Ayal, and Ariely (2009). During each decision-making session in

Gino et al. (2009), a confederate points out the opportunity for personal gain by reporting dishonestly in a verbally forceful manner. The study finds that participants are more likely to engage in dishonest behavior when a confederate is employed. We extend this study in two ways. First, our study examines a budget reporting setting, which provides for a different level of realism. Second, although Gino et al. (2009) identifies that opportunistic behavior can result from making the opportunistic behavior of others salient, it does not address the personal costs of the focal individual's knowledge of this behavior. This means that there is a potential restraining effect from disclosure of own behavior or from the effect of knowing about norm-compliant behavior present in our study, which was not present in their study.

We conjecture that the effect of disclosure depends on the form and scope of disclosure. We differentiate between partial and full disclosure with partial disclosure establishing transparency only over the most dishonest behavior, and full disclosure establishing transparency over everyone's behavior.

We propose that partial disclosure can lead to lower honesty compared to no disclosure because partially disclosing only the most dishonest reports allows the focal manager to incur few personal costs of violating norms and to justify their own dishonesty. We refer to this as the contagion effect. Hence we propose that partial disclosure leads to a contagion effect and that honesty in this condition is lower compared to the absence of disclosure.

H1*-Partial disclosure leads to lower focal manager honesty compared to the absence of disclosure.*

While only limited information about reporting behavior and honesty may be available in many settings, in other settings information about the behavior of all constituents is available. This transparency of everyone's behavior should create a stronger reluctance to engage in norm-violating behavior compared to partial disclosure because in that condition at least some norm-compliant behavior will be disclosed thereby setting a good example. Knowing about these norm-compliant examples should provide for a restraining effect. In the full disclosure condition, participants can choose how they interpret the prevailing social norm. They could follow examples of high honesty, or they could follow examples of low honesty. Participants also have the opportunity to establish an honesty norm by reporting honestly and thereby making an attempt to inspire others.

We propose that the offsetting effects of contagion and restraint together lead to more honest reporting behavior in the full disclosure condition as compared to partial disclosure condition, but still less honesty compared to the no disclosure condition due to a stronger contagion effect. Thus, we propose the following hypothesis:

H2a*-Full disclosure leads to lower focal manager honesty compared to the absence of disclosure.*

H2b*-Full disclosure leads to higher focal manager honesty compared to partial disclosure.*

Next, we are interested in evaluating the mechanism through which honest reporting may change over time. Individuals have preferences for ethical behavior and thus follow what they perceive to be acceptable behavior when facing a moral dilemma (Evans et al., 2001; Luft, 1997; Stevens, 2002). Following social norms helps individuals to retain a positive self-concept (Mazar

et al., 2008). However, we conjecture that the decrease in honest reporting behavior over time (as hypothesized above) may be driven by participants changing what they perceive is the appropriate social norm for honesty based on the disclosure that they receive. That is, as the focal manager observes other managers' reporting behavior, the focal manager's perception of what constitutes acceptable reporting behavior is likely to change. We propose that observing dishonest reporting behavior will lead participants to revise their perception of what is considered an acceptable level of honesty downward. That is, participants will consider dishonesty to be acceptable and use others' dishonesty as justification to report more dishonestly themselves.

Following this logic, we expect participants to adjust their perceptions of what the prevailing social norm is, and judge dishonest behavior as more acceptable in the presence of disclosure of other managers' dishonest behavior.

H3*-Changes in the overall level of honesty between conditions are associated with changes in the perceived prevailing social norm related to honest reporting*.

As individuals change their perception about what they believe is the prevailing norm related to honest reporting, their emotional cost of engaging in dishonest reporting should change as well. Individuals experience an emotional cost when they violate social norms because compliance with social norms helps individuals to maintain a positive self-image (Ayal & Gino, 2012). Individuals weight potential pecuniary benefits that can be gained from violating a social norm, which in our budget reporting setting is to report a product cost accurately, against the emotional cost of violating such a norm. The tension between these two conflicting desires

results in a personal emotional cost for dishonest reporting (Gino et al., 2009; Mazar et al., 2008).

We propose that a change in what is considered the prevalent social norm has an impact on the emotional cost of dishonest reporting. This is akin to not feeling bad about dishonest reporting because "others are doing it too." Conversely, this personal emotional cost of dishonesty should be higher if the perception of the prevalent social behavior is honest reporting. Hence, we propose that the emotional cost of dishonesty is lower when a lower level of honest reporting is perceived to be an acceptable social norm.

H4*-The emotional cost of engaging in dishonest reporting is lower when a lower level of honest reporting is the perceived social norm.*

Experimental Manipulations and Procedures

Experimental Manipulation

Our experiment manipulates the disclosure of other managers' cost reports to the focal manager between subjects at three levels (no disclosure, partial disclosure, and full disclosure), and reporting round within subjects (10 rounds). In our no disclosure condition, participants do not receive information about the cost reports of other participants. This condition serves as our control condition against which we compare the reporting behavior in the other two conditions.

In the partial disclosure condition, participants receive a report containing the cost report amounts of the 20% of participants providing the least honest cost reports in each respective round (after they make their reporting decision for the round and before they make the reporting

decision for the next round). The disclosed reports are actual reports submitted by other participants in the session. In the partial disclosure condition we ran sessions with 10 participants each (thus, focal managers received the two least honest reports from each round). This disclosure condition only establishes transparency in regard to the reports of some, but not all participants.

In the full disclosure condition, participants receive a report containing the cost report amounts of all participants in the focal manager's cohort. Again, these are actual reports submitted by managers in the same session. In the full disclosure condition we conducted sessions with 7–10 participants. [2] This disclosure condition establishes transparency in regard to everyone's reporting behavior.

It is noteworthy that our disclosure conditions only establish transparency about the reporting behavior, but not about the identity, of the person engaging in the reporting. This type of disclosure resembles, in our opinion, a workplace setting in which behavior of others can be inferred by managers in similar positions without being able to establish the identity of the person engaging in this behavior and without a corporate decision-making body being able to determine the specific nature of the behavior. If the identity of the person could be established, then the first best solution of directly punishing agent dishonesty could be implemented and the control problem would disappear. Also, in many instances, privacy laws do not allow the disclosure of the identity of a person engaging in incriminating behavior. Similarly, companies might abstain from disclosing the identity of a person due to legal risks. In such environments, norm-violating behavior might become known without revelation of the identity of a person. In addition, it is possible that in such an environment, word about the most egregious norm

violations travels faster and further – akin to the information communicated in our partial disclosure condition. Hence, we view our setting as one with high practical relevance.

Experimental Procedure

We test our predictions by building on an experimental setting used extensively in the literature (e.g., Evans et al., 2001; Hannan et al., 2006; Rankin et al., 2008). In this setting, participants assume the role of managers who are tasked with making a reporting decision about a product cost. In this report, managers request funding for the production of a product by specifying the amount of funds they need for producing 1,000 units of the product. The addressee of the report is a central corporate office, which cannot reject the funding request.

When making the funding request, managers know actual production cost. The subsidy's accounting system generates an accurate cost report providing the actual cost for the production of one unit. This actual per unit cost is private information available to the manager only but not to the central corporate office. The per-unit cost for the product is between {4.00, 4.10,…, 5.90, 6.00} and is expressed in Lira, an experimental currency. The manager is able to use this actual cost information in their report when requesting production funding from the central decision-making body. Alternatively, managers can deviate from that value within the range of 4.00–6.00 Lira. While the actual cost is used for the production of the product, any difference between the actual cost and reported value in the funding report is paid out to the manager as compensation (additional to their fixed, per-round compensation of 750 Lira). Thus, managers can increase their welfare by reporting higher than actual production costs. This setting poses an ethical dilemma for the manager because dishonest reporting increases his/her welfare while honest and truthful reporting provides no such pecuniary benefits.

In our setting, we intentionally described the corporate decision making body as having made "substantial investments in recent periods to build up brand recognition and customer demand for the product." This information is provided to reduce the propensity for dishonest reporting behavior. Absent such information, our setting might not have provided for sufficient room for an increase in dishonest reporting behavior over time.

Managers make this reporting decision for 10 rounds one round at a time. Prior to conducting the study, we randomly drew what the actual per-unit costs of the product would be for the first four rounds, obtaining a cost average of 4.80 Lira. We chose actual costs for rounds 5–7 and 8–10 with the goal of obtaining a cost average that was approximately equal to the average of the first four rounds. The cost average in rounds 5–7 was 4.77 Lira and the cost average in rounds 8–10 was 4.73 Lira. We intentionally chose the actual per-unit production costs in this manner so that costs in each cluster of rounds would be comparable. This design decision enables us to examine changes in reporting behavior over time while ruling out different cost levels as a cause for those changes.

Each subject was presented with the same set of actual per unit costs for each round. As noted by Matuszewski (2010), this design decision provides three distinct advantages over using a random set of costs for each participant – an approach chosen in Evans et al. (2001). First, using the same set of costs reduces noise in the dependent variable that would be introduced through the use of randomly drawn costs. Second, it allows each subject the same potential for honest reporting. Third, it enables participants in the disclosure conditions to assess the level of their peers' honesty based on information about reported costs, which allows us to make inferences about how the peer reports affected the focal manager's honesty.

Following each round, participants in the two disclosure conditions received cost reports produced by managers in their session. In the partial disclosure condition, this report consisted of the actual cost report amounts for the 20% of participants with the highest cost reports. In the full disclosure condition, this report consisted of the actual cost report amounts for all participants. Participants were exposed to the report for 15 seconds and were verbally prompted to view the reported values in each round. This was done to direct the participants' attention to the report and to ensure that participants viewed the disclosure information contained therein.

After completing the reporting decisions, participants were asked to complete a post-experimental questionnaire. This questionnaire requested demographic information, including age, work experience, native language (English vs. Non-English), country of origin, and country where secondary education was obtained. Additionally, participants were asked about their perceptions of the prevalent social norm, a change in social norm perception throughout the study, and the emotional cost of making a reporting decision.

Participants responded to six items to measure what they perceived was the prevailing social norm related to honesty. We included items such as "I think other managers that participated in this session are honest people," "I think a lot of managers reported costs higher than actual production costs in this study," and "I assume other managers wanted to maximize their compensation when making a funding request." We developed the items based on measures that had been used in other studies that examine social norm perception (Berkowitz, 1973; Shu et al., 2011).

We included one item to capture the change in individuals' social norm perceptions. The item was "My perception of the cost that other managers reported [increased/decreased] throughout the experiment," measured on a 7-point scale with 1="decreased" and 7="increased."

The intent of the item was to measure the extent of a change in perception of what constitutes acceptable behavior in the reporting setting (i.e., the social norm).

To gauge the emotional cost of making a reporting decision we included six items. The items included "I felt bad about requesting funding higher than the actual cost of production," and "I felt obligated to report the actual production cost when making my funding request." We also captured reputation concerns, with two separate items. These items were "I was concerned that requesting funding higher than the actual cost of production would reflect negatively on my reputation" and "I was concerned about what others might think of me when making my reporting decision."

At the conclusion of each session, participants were then informed of their compensation. Participant compensation was determined based on their reporting behavior in one randomly chosen round. We did this intentionally to control for wealth effects, meaning that in the last round financial stakes are, all else equal, as large as in the first round, which is crucial given our interest in change of behavior over time. Experimental Lira are converted to US dollars at a rate of 100 Lira to $1. The base pay of participants in all conditions was $7.50 and adjustments for reporting higher than actual cost could theoretically increase the total payout per participant to $23.50. Average compensation among all participants was $14.15.

Our dependent variables of interest are reporting honesty for all 10 rounds and change in honesty over time. Consistent with Evans et al. (2001), reporting honesty is expressed as a number between zero and one, with zero indicating the participant reported the maximum possible cost (complete dishonesty) and one indicating the participant reported the actual cost (complete honesty).[3]

Participants

Participants were undergraduate students recruited at a large, private university. In total, 109 students participated in the experiment. Participants were randomly assigned to one of three experimental conditions (no disclosure, partial disclosure, and full disclosure). The average age of participants was 20.6 years; 41% of participants were women; and 77% of participants had some level of work experience.

Demographic variables were analyzed to determine whether significant differences existed across conditions. Supplemental analyses find no significant differences between age, gender, or work experience ($p>.10$). As no significance was discovered, no demographic covariates were included in our analyses.

The experiment was administered in a laboratory setting using Z-tree (Fischbacher, 2007), an experimental economics software program. Each experimental session lasted between 45 and 75 minutes. Participants were randomly assigned to participant identification numbers and seated at computer terminals for the duration of the experimental session. Complete participant anonymity was ensured throughout the experiment. After reading the instructions for the experiment, participants were required to complete a quiz to show they understood the instructions. Participants had to answer all questions correctly in order to advance to the study. Participants had to retake any questions that they had not answered correctly.

Results

Effect of Social Controls on Honesty

Fig. 1 provides a graphical representation of the mean levels of honesty by condition in order to aid in the visualization of our overall results. Table 1, Panel A provides descriptive

statistics for the mean level of honesty in each condition for round 1, rounds 2–4, rounds 5–7, and rounds 8–10. We grouped values in these intervals because actual costs in the clusters are more comparable opposed to the cost in each round (4.80 in round 1, 4.80 in round 2–4, 4.76 in rounds 5–7, and 4.63 in rounds 8–10). Table 1, Panel A shows that the initial level of honesty (i.e., the potential gain managers forfeited in the first round) is comparable in all three conditions, ranging from 67.2% in the partial disclosure condition to 68.8% in the full disclosure condition. The high level of initial honesty relative to results observed in prior research shows that we succeeded in setting up an environment that made a strong case for ethical behavior, a precondition to examining changes in honesty over time.

Overall honesty taken over all 10 rounds differs by condition. In the no disclosure condition, overall honesty is 67.7% for all 10 rounds, while in the partial disclosure condition overall honesty is 49.0%. In the full disclosure condition, overall honesty is 58.6%. The differences between the three conditions are statistically significant (p=.068, Table 1, Panel B), thereby indicating a negative effect of disclosure on honesty.

This effect of disclosure on honesty is even more pronounced when examining honesty in the last three reporting rounds only. Examining reporting decisions in the last three rounds shows an honesty level of 66.4% in the no disclosure condition, 44.6% in the partial disclosure condition, and 54.9% in the full disclosure condition. Table 1, Panel C shows that the difference between the three conditions is statistically significant (p=.037). Table 1, Panel D shows that honesty in the no disclosure condition is significantly greater than honesty in the partial disclosure condition (p=.005) and the full disclosure condition (p=.095).

Table 1, Panel E provides a detailed frequency distribution of the levels of reporting honesty by disclosure condition and round. This analysis confirms the previous results and

provides additional descriptive information. Specifically, in the no disclosure condition, 25% of the reports quote actual cost or less, thereby indicating complete honesty. In comparison, only 20% and 11% of the reports in the partial and full disclosure conditions, respectively, indicate complete honesty. The percentage of reports claiming the maximum payout possible (complete dishonesty) is 20% in the no disclosure condition, 24% in the partial disclosure condition, and 6% in the full disclosure condition.

Next we examine the change in honesty over time. The repeated measures ANOVA in Table 1, Panel B shows that the interaction term of round and disclosure is statistically significant ($p=.009$). To determine which disclosure condition specifically is different, we conducted additional tests comparing reporting honesty in the first round with honesty in the last three rounds. Table 1, Panel F shows the difference between the first round and the last three rounds is not statistically significantly different ($p>.10$) for the no disclosure condition.

In comparison, honesty in the partial disclosure condition decreases from 67.2% in the first round to 44.6% in the last three rounds (Table 1, Panel A). The analysis in Table 1, Panel F shows that this change is statistically significant ($p<.001$). It can be observed in Table 1, Panel A that the change in honesty in the partial disclosure condition occurs almost instantaneously after managers receive disclosure information. Specifically, honesty decreases from 67.2% in round 1 to 52.8% in rounds 2–4, and to 44.7% in rounds 5–7.

In comparison to the partial disclosure condition, the erosion of honesty in the full disclosure condition occurs more gradually over time. Average honesty decreases from 68.8% in round 1 to 59.9% in rounds 2–4, and to 54.9% in rounds 8–10. The change between the first round and the last three rounds is statistically significant ($p=.010$, Table 1, Panel F).

The erosion of honesty in the full disclosure condition is particularly noteworthy. This condition offered participants the opportunity to set an example by demonstrating honest behavior and thereby inspiring others to report honestly as well. While the slower erosion of honesty in this condition could indicate an attempt by at least some participants to exhibit such honesty leadership, we did not see any indications of participants sustaining such efforts over time. Our results show observers are clearly more inspired by the lucrative, albeit dishonest, examples instead of the costly yet honest ones.[4]

We proposed in H1, H2a, and H2b that disclosure can have the unintended consequence of leading to less reporting honesty. The data clearly show an erosion of honesty in both disclosure conditions. With respect to our hypotheses, we find support for H1 in noting a significant decrease in honesty between the no disclosure condition and the partial disclosure condition. In addition, we find support for H2a. We find a lower level of honesty in the full disclosure condition compared to the no disclosure condition. This suggests the restraining effect of disclosure is dominated by the contagion effect from knowing other managers' reporting behavior. We also find support for H2b that proposes a less pronounced erosion of honesty in the full disclosure condition compared to the partial disclosure condition, since the erosion of honesty in the full disclosure condition occurs more gradually.

Perceptions of Social Norms

We asked participants to respond to a post-experimental questionnaire related to their perceptions of normative behavior to further document the processes that lead to differences in reporting behavior. Specifically, we are interested in social norm perceptions for each experimental condition and changes in that norm over time.

To measure social norm perception, we included six items intended to measure the perception of the peer group's norms. We conducted a factor analysis and identified three relevant items that we then combined to create a social norm scale.

Table 2, Panel A provides the items and descriptive statistics for the individual social norm change items and the overall norm score. A higher score indicates lower perception of the values of the peer group, meaning the prevalent norm is considered to be less honest. The norm score in the no disclosure condition is lowest with 16.58 points, which indicates the highest perception of norms for honest behavior for peers in that condition. The score is highest in the partial disclosure condition with 18.20 points, meaning the perception of the ethicality of peer behavior is lowest, followed by the full disclosure condition with 17.32 points.
The difference in social norm perceptions across conditions is statistically significant (p=.039, Table 2, Panel C). A comparison of the no disclosure with the partial disclosure conditions shows that the difference is statistically significant (p=.006, Table 2, Panel D), while the difference between the no disclosure and the full disclosure conditions is not statistically significant at conventional significance levels (p=.123, Table 2, Panel D).

To capture perceptions about how the social norms for honesty changed over time, we asked participants whether or not they agreed with the statement "My perception of the cost that other managers reported [increased or decreased] throughout the experiment." Table 3, Panel A provides descriptive statistics of the responses. Table 3, Panel B shows that the responses are significantly different by condition (p=.037). Participants in both the partial and full disclosure conditions (compared to the no disclosure condition) perceived a significantly greater increase in the level of costs reported by other managers throughout the study (p=.006 and p=.059 respectively, Table 3, Panel C). Overall, these results indicate that participants in both disclosure

conditions perceived that honesty as a social norm decreased throughout the experiment. This provides support for H3.

Emotional Cost to Reporting

In addition to social norm perceptions, we also collected data on the emotional costs of reporting. H4 predicted that the emotional cost of engaging in dishonest reporting would be lower when a lower level of honest reporting is the social norm.

Table 4, Panel A provides descriptive statistics of the emotional cost items. We used four items to measure the emotional costs associated with participants' reporting decisions. The items measure the discomfort experienced when asking for more money than the actual production cost – a higher score indicates a higher level of discomfort. The mean emotional cost score ranges from 16.53 points in the full disclosure condition to 17.33 points in the partial disclosure condition. Table 4, Panel B provides the results of a factor analysis of the four items and shows, consistent with Nunnally (1978), acceptable reliability for our emotional cost scale. All four items load on a single factor with loadings above .6 and an overall coefficient alpha of .73.
H4 suggests that participants who engage in opportunistic behavior (i.e., exhibit less honesty) will experience lower levels of personal emotional costs related to their opportunistic behavior when social norms favor lower levels of honesty. In Table 4, Panel C, we examine whether the disclosure conditions affect the personal emotional costs of participants, while controlling for each participant's level of honesty. The ANCOVA results show significant differences between conditions with respect to the emotional cost of the reporting decision (p=.068, Table 4, Panel C). Using contrast coding, we compare each disclosure condition to the no disclosure condition. The personal emotional cost is significantly less in the partial disclosure condition than in the no

disclosure condition (p=.013, Table 4, Panel D). This suggests that participants in the partial disclosure condition experience lower personal costs associated with their opportunistic behavior compared to participants in the no disclosure condition. In comparison, the difference between the full and no disclosure conditions is not significant (p=.255, Table 4, Panel D). We attribute the lack of a significant difference between those two conditions to the lower level of social norm revision in the full disclosure condition.

These results provide support for the proposed effect that disclosure in our setting has an adverse effect on reporting honesty that leads to social norm revision, which in turn leads to lower personal costs of engaging in norm-violating behavior. This provides support for H4.

Discussion

When everyone's behavior is disclosed, prior research suggests that disclosure will have a restraining effect on norm-violating behavior. However, we did not find support for that prediction in our full disclosure condition. Our analyses show that there is an unintended negative consequence to the disclosure of everyone's behavior. Specifically, when disclosure provides information about both honest and dishonest peers, focal managers tend to follow the behavior of their dishonest peers rather than lead these peers by their honest example. In addition, as individuals become less honest, they find dishonesty more acceptable.

In both of our disclosure conditions, we observed lower levels of honesty as compared to our no disclosure condition, where participants did not have knowledge of the level of peer honesty. Moreover, the lower level of honesty appears to result from a norm revision process, whereby individuals reconsider what they believe constitutes acceptable behavior.

The findings show that the knowledge of the behavior of one's peers can have unintended consequences that are not beneficial to a company. Knowing about the norm-violating behavior of some members of a group may lead to increased levels of norm-violating behavior from other members of the group, equivalent to a moral race to the bottom.

Conclusion

Numerous studies provide evidence for the existence of preferences for honesty. While honesty has been examined in a variety of different contexts, only a few studies examine the effect of disclosure on honesty, but those studies focus on the superior as the recipient of that disclosure. In contrast, we examine the effect of the disclosure of peer honesty on focal manager honesty.

Preferences for honesty are based at least in part on the perception of a social norm. We examine the effect of two different forms of disclosure on honesty in a budget-reporting situation. First, we examine a partial disclosure setting in which the disclosure of top reporting behavior occurs. Second, we also examine a full disclosure setting in which the reporting behavior of all individuals is disclosed. We compare the observed level of honesty to a baseline condition in which no disclosure occurs.

We find that partial disclosure leads to a severe decrease in honest behavior. Subsequent analyses show that individuals in the disclosure conditions experience a social norm revision, whereby they use lower levels of peer honesty as a justification to engage in less honest reporting themselves. We find that disclosure leads to lower emotional costs for engaging in norm-violating behavior by means of rationalizing social norm violations and reduced personal costs. The observed effect is much stronger in the partial disclosure condition compared to the full

disclosure condition. However, even in the full disclosure condition, results provide evidence contrary to the conjecture that disclosing norm-compliant behavior is sufficient to create psychological costs, which should then deter such behavior.

We view our results as making two primary contributions to the literature. First we extend the literature on honesty preferences by showing that knowledge about the behavior of others has an impact on an individual's perception of what an individual considers an appropriate social norm. In particular, knowledge about the behavior of others led to a contagion of norm-violating behavior in our study by changing what focal managers considered was the social norm for honest reporting. Prior honesty research has largely ignored this important factor, which is a reality of organizational life.

Second, we extend the literature on norm violations by showing that individuals do not react equivalently to good and bad examples. Specifically, in our full disclosure condition, norm-violating examples inspired more norm-violating behavior than the norm-compliant examples inspired norm-compliant examples. We believe this finding indicates asymmetric behavior. This insight contributes to understanding fraud dynamics. Areas where our findings could explain behavior include, for example, the introduction of slack in budgets by department managers, or the "fudging" of travel expenses by employees, which appears to be problematic issue for many companies. Another example from the recent past is Enron, where norm violations committed by some were tolerated and facilitated, and may have spread to others over time.

Hence our study indicates that it is important for companies to be vigilant in pursuing issues such as inventory shrinkage in warehouses or misstated travel expenses (even when small amounts are at stake and the cost of an investigation outweighs the amount at stake) because tolerating norm-violating behavior can lead to contagion and lead to more norm-violating

behavior. Thus, companies need to not only weigh the potential loss from a norm-violating incident that can be recovered against the cost of an investigation, but also need to consider the impact of that incident on the perception of the prevailing social norm and the impact on the long-term behavior of others.

This chapter is subject to several limitations. Specifically, we only examined partial disclosure of the top norm violators. In addition, we do not disclose the identity of the reporting entity in our setting. Both experimental design choices were made intentionally. However, these limitations may present opportunities for future research. For example, future research could examine the effect of disclosing only the most honest reports. Such an examination may be able to lend additional insight into the restraining effect of disclosure, which may help understand the use of disclosure as a social control. Social controls have been defined as "the capacity of a society to regulate itself according to desired principles and values" (Janowitz, 1975, p. 82). Thus, enabling peers to infer the behavior of other managers is a form of social control that any organization could use in the design of their control systems.

In addition, future research could examine the effect of disclosure when the identity of the person reporting is revealed. Finally, this study has the potential to stimulate other research that examines the complex nature of the effect of knowledge about the behavior of others and the specific reasons why norm-violating examples appear more appealing compared to norm-compliant examples. Such research would help to build on the current streams of honesty and norm-violation literatures.

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Table 1. Summary Statistics: Mean Honest Reporting.

Panel A: Means (standard deviation)[c]

	Disclosure[a]			
	No disclosure	Partial disclosure	Full disclosure	Total
	N=35[b]	*N*=40	*N*=34	*N*=109
Round 1	.6774	.6717	.6880	.6786
	(.3994)	(.3731)	(.3219)	(.3636)
Rounds 2–4	.6971	.5280	.5986	.6043
	(.3932)	(.3789)	(.2994)	(.3640)
Rounds 5–7	.6710	.4427	.5814	.5593
	(.3890)	(.4071)	(.2910)	(.3776)
Rounds 8–10	.6635	.4464	.5491	.5482
	(.3664)	(.4017)	(.2928)	(.3673)
Overall honesty	.6766	.4901	.5860	.5799
	(.3757)	(.3692)	(.2698)	(.3492)

Panel B: ANOVA on overall honesty

Source of Variation	df	Sum of Squares	*F*-Value	*p*-Value[d]
Between-subjects				
Disclosure	2	.668	2.762	.068
Subject	106			
Within-subjects				
Round	9	2.220	6.115	<.001
Round×Disclosure	9	1.438	1.981	.009
Round×Subject	954	38.480		

Panel C: ANOVA on honesty rounds 8–10

Source of Variation	df	Sum of Squares	*F*-Value	*p*-Value [d]
Disclosure	2	.880	3.406	.037
Error	106			

Panel D: Planned contrasts on honesty rounds 8–10

Comparison	df	*t*	*p*-Value [d]
Honesty in rounds 8–10 in the no disclosure condition is higher than honesty in rounds 8–10 in the partial disclosure condition	74	2.610	.005
Honesty in rounds 8–10 in the no disclosure is higher than honesty in rounds 8–10 in the full disclosure condition	68	1.321	.095

Panel E: Frequency distribution of participant reporting by experimental condition and level of honesty

	Frequency distribution														
	No disclosure					Partial disclosure					Full disclosure				
	N=350 [e]					*N*=400					*N*=340				
Honesty %	0	.01–.50	.51–.99	1	>1	0	.01–.50	.51–.99	1	>1	0	.01–.50	.51–.99	1	>1
Round 1	8	1	19	5	2	5	9	16	5	5	2	8	18	5	1
Rounds 2–4	20	5	51	16	13	25	36	35	12	12	8	30	48	10	6
Rounds 5–7	20	10	46	19	10	36	34	26	14	10	5	33	56	4	4
Rounds 8–10	21	7	55	13	9	28	40	30	17	5	7	34	55	2	4
Overall	69	23	171	53	34	94	119	107	48	32	22	105	177	21	15
	20%	7%	49%	15%	10%	24%	30%	27%	12%	8%	6%	31%	53%	6%	4%

Panel F: Paired-sample t-tests on honesty

	df	*t*	*p*-Value [d]
No disclosure			

Panel F: Paired-sample t-tests on honesty

	df	*t*	*p*-Value [d]
Honesty is higher in round 1 than in rounds 8–10	34	.371	.357
Partial disclosure			
Honesty is higher in round 1 than in rounds 8–10	39	4.436	.000
Full disclosure			
Honesty is higher in round 1 than in rounds 8–10	33	2.472	.010

[a]We manipulated disclosure between conditions at three levels: (1) no disclosure, (2) disclosure of top 20% highest reports (partial disclosure), and (3) disclosure of everyone's reporting (full disclosure).

[b] *n*=number of participants in each treatment condition.

Table 2. Summary Statistics: Social Norm Change.

Panel A: Means (standard deviation) [c]

Statement	Disclosure [a]			
	No disclosure	Partial disclosure	Full disclosure	Total
	N=35 [b]	*N*=40	*N*=34	*N*=109
I assume other managers wanted to maximize their compensation when making a funding request. (PO1)	5.57	6.37	5.82	5.94
	(1.195)	(1.055)	(1.193)	(1.185)
I assume other managers felt justified in requesting funding higher than actual cost of production because they perceived that other managers also engaged in the same behavior. (PO2)	5.14	5.60	5.32	5.37
	(1.089)	(1.411)	(1.173)	(1.245)
I think a lot of managers reported costs higher than actual production costs in this study. (PO3)	5.83	6.23	6.18	6.08
	(1.294)	(1.349)	(1.086)	(1.256)
NormScore	16.54	18.20	17.32	17.39
	(2.883)	(2.554)	(2.900)	(2.832)

Panel B: Scale validity analysis for social norm scale

Item	Factor Loadings
PO1	.847
PO3	.778
PO2	.679
Eigenvalue	1.784

Panel B: Scale validity analysis for social norm scale

Item	Factor Loadings
% Variance explained	59.481
Cronbach alpha	.653
n=109	

Panel C: ANOVA on social norm scale (NormScore)

Source of Variation	df	Sum of Squares	*F*-Value	*p*-Value [d]
Disclosure	2	51.51	3.352	.039
Error	106			

Panel D: Planned contrasts on social norm scale (NormScore)

Comparison	df	*t*	*p*-Value [d]
Social Norm Score is lower in the no disclosure condition than in the partial disclosure condition	74	2.583	.006
Social Norm Score is lower in the no disclosure condition than in the full disclosure condition	68	1.170	.123

[a]We manipulated disclosure between conditions at three levels: (1) no disclosure, (2) disclosure of top 20% highest reports (partial disclosure), and (3) disclosure of everyone's reporting (full disclosure).

[b] *n*=number of participants in each treatment condition.

[c]Social norm is determined as the score of three statements. Participant ranked their agreement with the statement on a 7-point Likert scale with 1="disagree strongly" and 7="agree strongly." The norm score is calculated as [PO1+PO2+PO3]. A higher score indicates a perception of a lower norm.

[d]We report two-tailed p-values for the ANOVA and one-tailed p-values for the planned contrasts given directional predictions.

Table 3. Summary Statistics: Change of Norm Perception over Time.

Panel A: Means (standard deviation) [c]

Statement	Disclosure [a]			
	No disclosure	Partial disclosure	Full disclosure	Total
	N=35 [b]	*N*=40	*N*=34	*N*=109	
My perception of the cost that other managers reported increased/decreased throughout (CP1) the experiment.	4.49	5.48	5.12	5.05
(1.721)	(1.754)	(1.431)	(1.685)	

Panel B: ANOVA on differences in perception of change of social norm over time (CP1)

Source of Variation	df	Sum of Squares	*F*-Value	*p*-Value [d]
Disclosure	2	18.523	3.406	.037
Error	106			

Panel C: Planned contrasts on perception of change of social norm over time (CP1)

Comparison	df	*t*	*p*-Value [d]
Perception of change of social norm over time is lower in the no disclosure condition than in the partial disclosure condition	74	2.592	.006
Perception of change of social norm over time is lower in the no disclosure condition than in the full disclosure condition	68	1.591	.059

[a]We manipulated disclosure between conditions at three levels: (1) no disclosure, (2) disclosure of top 20% highest reports (partial disclosure), and (3) disclosure of everyone's reporting (full disclosure).

[b] *n*=number of participants in each treatment condition.

[c]Perception of change of social norm over time is determined as the score of one statement. Participant ranked their agreement with the statement on a 7-point Likert scale with 1="disagree strongly" and 7="agree strongly."

[d]We report two-tailed p-values for the ANOVA and one-tailed p-values for the planned contrasts given directional predictions.

Table 4. Summary Statistics: Personal Costs.

Panel A: Means (standard deviation) [c]

Statement	Disclosure [a]			
	No disclosure	Partial disclosure	Full disclosure	Total
	N=35 [b]	*N*=40	*N*=34	*N*=109	
I felt bad about requesting funding higher than the actual cost of production. (PC1)	4.09	4.65	4.38	4.39
(1.837)	(2.032)	(1.688)	(1.865)	
I felt bad about requesting higher funding than actual cost because it would have reduced profit for corporate headquarters. (PC2)	4.63	5.20	4.59	4.83
(1.784)	(2.151)	(1.760)	(1.924)	
I was concerned that requesting funding higher than the actual cost of production would reflect negatively on my reputation. (PC3)	4.20	4.20	4.21	4.20
(1.922)	(2.127)	(1.903)	(1.976)	
I was concerned about what others might think of me when making my reporting decision. (PC4)	3.69	3.28	3.35	3.43
(1.875)	(2.195)	(2.173)	(2.079)	
PC_Total	16.60	17.33	16.53	16.84
	(5.606)	(6.840)	(4.832)	(5.836)

Panel B: Scale validity analysis for personal cost scale

Item	Factor Loadings
PC3	.820
PC1	.828

Panel B: Scale validity analysis for personal cost scale

Item	Factor Loadings
PC2	.719
PC4	.611
Eigenvalue	2.248
% Variance explained	56.190
Cronbach alpha	.730

n=109

Panel C: ANCOVA on personal cost (PC_Total)

Source of Variation [e]	df	Sum of Squares	*F*-Value	*p*-Value [d]
Reported honesty level – Round 1 – covariate	1	4.884	.202	.654
Reported honesty level – Round 2 – covariate	1	4.069	.169	.682
Reported honesty level – Round 3 – covariate	1	13.414	.556	.458
Reported honesty level – Round 4 – covariate	1	133.642	5.539	.021
Reported honesty level – Round 5 – covariate	1	.895	.037	.848
Reported honesty level – Round 6 – covariate	1	1.028	.043	.837
Reported honesty level – Round 7 – covariate	1	.519	.021	.884
Reported honesty level – Round 8 – covariate	1	.015	.001	.980
Reported honesty level – Round 9 – covariate	1	17.182	.712	.401
Reported honesty level – Round 10 – covariate	1	6.234	.258	.612
Disclosure	2	487.05	2.773	.068
Error	96			

Panel D: Planned contrasts on PC_Total

Comparison	df	*t*	*p*-Value [d]
Personal cost of dishonest reporting is lower in the partial disclosure condition than in the no disclosure condition	74	2.279	.013
Personal cost of dishonest reporting is lower in the full disclosure condition than in the no disclosure condition	68	.662	.255

aWe manipulated disclosure between conditions at three levels: (1) no disclosure, (2) disclosure of top 20% highest reports (partial disclosure), and (3) disclosure of everyone's reporting (full disclosure).

b *n*=number of participants in each treatment condition.

cPersonal cost of reporting decision is determined as the score of four statements. Participant ranked their agreement with the statement on a 7-point Likert scale with 1="disagree strongly" and 7="agree strongly." PC_Total is calculated as [PC1+PC2+PC3+PC4].

dWe report two-tailed *p*-values for the ANCOVA and one-tailed *p*-values for the planned contrasts given directional predictions.

eThe covariate controls for differences in the reporting decision. We control for actual level of reporting honesty because we ask participants about the emotional cost of their reporting decision. Alternatively, we could have asked for an emotional cost in a hypothetical reporting situation. However, by doing that, we would have given up the main advantage of using an experimental economics setting, which is that decisions are tied to actual compensation.

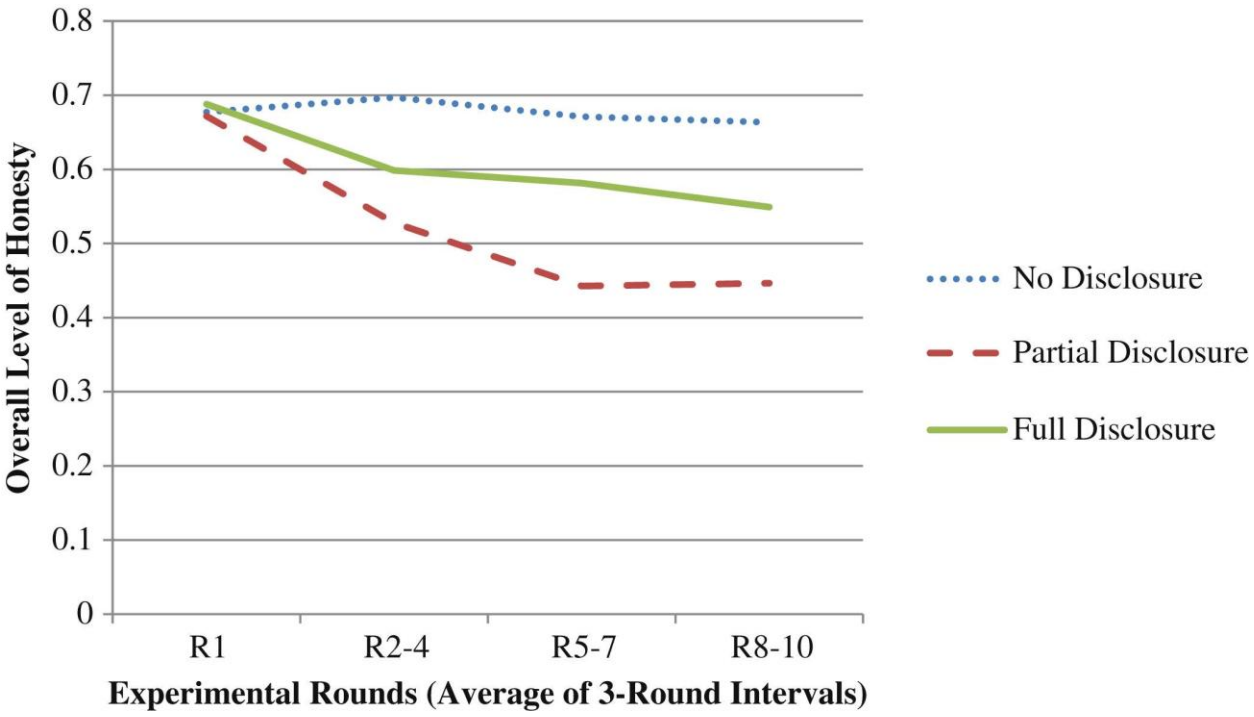

Figure 1. Change in Honesty Over Time.

Note: Variable Definition: Overall Level of Honesty=1–[(Reported Cost−Actual Cost)/(Maximum Reportable Cost−Actual Cost)]. Thus, values closer to 0 (1) indicate less (more) honesty. This graph shows the change in honesty between the first round and subsequent rounds. Subsequent rounds are clustered in groups of three rounds.

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Notes

[1] In other words, our intention is to understand "states of the world" that can exist for a manager working within a company.

[2] Statistical analyses were run using the number of experimental session participants for each observation as a covariate. This variable was excluded from our final analysis due to lack of statistical significance ($p>.05$).

[3] We used the following formula to calculate honesty: 1–[(Reported Cost–Actual Cost)/(Maximum Reportable Cost–Actual Cost)]. Thus, values closer to 0 (1) indicate less (more) honesty.

[4] As can be seen in Table 1, Panel E, some people reported honesty levels greater than 1. We did not drop these observations from our analyses for several reasons. First, reporting a lower than actual cost, particularly in the full disclosure condition, could be an intentional act on the part of some participants to signal and inspire norm-compliant behavior on the part of others. Also, only 2 out of 31 participants that reported lower than actual costs did so consistently. Eleven reported lower costs for two rounds only and 11 for one round only. This data, together with the fact that these participants succeeded in answering the comprehension check questions, help to rule out that these reports resulted from a misunderstanding of the instructions. Nevertheless, in a sensitivity test, after setting cost reports that are lower than actual cost to "1" all analyses and conclusions still hold.