

The Role of Contextual Norms on Managers' Corrupt Behavior

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Abstract

We experimentally examine the effect of norms on corrupt behavior using a bribery game. We employ a 2 x 2 within-subject design with participants in the role of managers deciding whether or not to bribe participants in the role of officials. We manipulate the information participants have about the corrupt behavior of other managers and officials. We find that when the behavioral norm for officials is to accept the bribe, managers are more likely to offer a bribe than when the norm for officials is not to accept the bribe. The managers are not affected by the behavioral norm of other managers. Our results suggest that managers consider the behavioral norm of officials because officials' decisions matter to their payoff. The behavioral norm of officials induces managers' strategic concern that *crowds out* their preference on honesty.

Keywords: corrupt behavior, bribery game, rational choice theory, social norm theory, moral disengagement theory.

Introduction

Companies around the world have been struggling for decades to curb corruption. Due to its immense cost, corruption has emerged as a priority concern among business, government, and international organizations. For example, estimates from the World Economic Forum (2019) convey that more than US\$ 1 trillion in bribes are paid each year (Fleeming, 2019). Bribery raises the cost of doing business significantly—approximately 57 percent of public procurement contracts involve bribery (OECD, 2014). One of the biggest corporate corruption scandals involved Siemens. In 2008, Siemens' corruption scandal was recorded as the biggest corruption case in terms of scale and geographic reach. Prior to the infamous corruption scandal, Siemens had an admirable reputation¹, yet the very rigid and strict code of conduct only existed on paper. One of the former Siemens managers stated that “It was about keeping the business unit alive and not jeopardizing thousands of jobs overnight” (Schubert & Miller, 2008). Bribery, to him, was a strategic-reasoned action. On account of the corruption scandal, Siemens paid more than US\$ 1.6 billion in fines², suffered from a huge loss of trust, and tarnished its brand reputation.

¹ According to company statement, since 1991, Siemens had established corporate anti-corruption norm consists of code of conduct and strict guidelines for their business activities. In addition, Siemens even become the corporate member of Transparency International (an NGO devoted on anti-corruption movements) in 1998 (van Erp et al., 2015).

² United States Securities and Exchange Commission press release <https://www.sec.gov/news/press/2008/2008-294.htm>

One potential explanation why high-profile corporate failures such as Enron, Worldcom, Parmalat, and Siemens occur is because a firm (i.e., principal) delegates rights to the manager (agent) who may misuse the authorities entrusted to them and create an agency problem (Baiman, 1991; Jensen & Meckling, 1976; see also Chong & Wang, 2019). Chong and Wang (2019, p. 275) suggest that one of the agency problems that arise from the delegation of decision rights is when managers abuse their power by engaging in opportunistic or unethical behaviors. In those circumstances, an organization has to effectively design a management control system that limits its agents' self-interested or opportunistic behavior. In order to design effective management control systems, firms need better insights into why a manager engages in corrupt (opportunistic-unethical) behavior.³ Within the current study, we focus on the determinant of managers' tendency to corrupt behavior.

To date, accounting research scholars have investigated issues related to agency problems with opportunistic behavior such as budgetary slack (e.g., Chong et al., 2021; Church et al. 2012; Hobson, et al. 2011), collusion (e.g., Hannan et al., 2013; Maas & Rinsum, 2013; Maas & Yin, 2022; Mayhew & Murphy, 2014; Zhang, 2008), misreporting (e.g., Cardinaels & Jia, 2016; Chong & Wang, 2019; Evans et al., 2001), but limited studies have investigated the issues associated with corruption at the individual level. Because the decision to engage in corruption lies in the hands of individuals, we should turn our attention to the individual level.

Scholars from a wide range of disciplines have explored the root of corrupt behavior from a country-level and a firm/organization-level perspectives (e.g., Alm et al., 2016; Fisman & Svensson, 2007; Healy & Serafeim, 2016; Kimbro, 2002; Mazzi et al., 2019; Neu et al., 2013; Persson et al., 2013). Limited research on corrupt behavior at the individual level tends to focus on either the unique attributes that individuals possess — the explanatory role of gender, age and cultural attitudes (e.g., Cameron et al., 2007; Fisman & Miguel, 2007; Keller et al., 2007; Roxas & Stoneback., 2004) or social factors (e.g., Pinto et al., 2008; Shafer & Simmons, 2011). However, individuals' behavior frequently results from an interaction between individuals and situational factors (Kish-Gephart et al., 2010). Therefore, arguably, focusing solely on the individual or the situation only provides a partial understanding of why individuals engage in corruption. The literature on management control systems affirms that it is imperative to understand internal firms' factors that influence the dynamics of managerial work at the individual level (see Hall, 2016).

In this study, we experimentally investigate the effect of the interaction between individuals in different conditions on their corrupt behavior. We employ a 2 x 2 within-subject experiment to investigate the conditions under which individual managers engage in corrupt behavior. Using a bribery game, participants in the manager's role decide whether to offer a bribe to the official under

³ Modesto and Pilati (2020) drew a conceptual relationship between unethical behavior, dishonest behavior and corrupt behavior, where the common ground for all of those behaviors is the violation of norms or rules.

four different conditions. Participants in the role of official's decide to accept or reject a bribe. Officials would not know they get an offer until they decide to accept or reject the bribe. Managers and officials increase their own payoff at the expense of society when the bribe is offered and accepted. When an official rejects a bribe, the manager's payoff decreases, but the official's and society's payoffs remain the same.⁴ This payoff structure reflects what constitutes corruption—corruptors acquire personal gains by reducing the welfare of society.

We examine whether (1) in-group norm, which refers to the norm of the group to which the individual belongs (i.e., norm of managers) and (2) other-group norm, which refers to the norm of the other group with which the individual is associated (i.e., norm of officials), affect managers' corrupt behaviors. We manipulate the managers' and officials' norms as either corrupt or honest.⁵ We divide the bribery game into two stages: initial and main. In the initial stage, participants play the bribery game for five rounds. The aim is to decide whether a participant is corrupt or honest. Before entering the initial stage, participants were asked to estimate about the behavioral norms of other participants. In the main stage, we give treatments to participants where they have to make a series of decisions under four different conditions.

We employ a combination of rational choice theory (RCT) and the social norm theory to understand the mechanism that drives individuals' decisions to engage in corrupt behavior. RCT is based on the assumption of rationality. According to the RCT, the mechanism that motivates corrupt behavior is a cost-benefit analysis — corruption prevails as long as the calculated gain exceeds the potential loss (Cornish & Clarke, 1987; Green & Saphiro, 1994). According to RCT, other individuals' behavior can affect one's decision when their behavior changes the cost and benefit calculation. Under RCT, corrupt behavior can be seen as a strategic complementarity — the expected return of individual engagement in corrupt behavior increases with the expected number of other individuals who do so.

While according to the social norm theory, individuals engage in corruption because most people in their surroundings commit corruption. Corruption is seen as a collective reputation, where individuals' incentive to engage in corruption depends on the collective reputation of the group to which they belong (Tirole, 1996). More individuals will more likely engage in corrupt behavior when corruption is perceived as the *expected* behavior. Although not exclusively related to corrupt behavior, a number of studies that emphasized the role of group affiliation, social connection, and peer pressure fall within this scope (e.g., DeZoort & Lord, 1997; King, 2002; Lord & DeZoort, 2001; Tayler & Bloomfield, 2011; Towry, 2003).

⁴ Note that in our bribery game, there is no strategy involved for the officials to engage in corrupt behavior. If the official accepts a bribe, and manager does offer a bribe, their payoff increases. Meanwhile if the manager does not offer a bribe, the payoff for the official remains the same. Thus, a rational dominant strategy for the officials is to always accept a bribe.

⁵ In this study, the term *honest* is used to oppose *corrupt*.

Our study finds that the norm among officials (other-group) influences managers' decision to offer a bribe. When the behavioral norm for officials is to accept the bribe, managers are more likely to offer a bribe than when the norm for officials is not to accept the bribe. However, the managers' norm (in-group) effect is not statistically significant. These results imply two consequences. Firstly, managers' corrupt behavior is driven by strategic complementarity; when officials are corrupt, it will affect managers to be corrupt too. In other words, when there are more corrupt officials, there are likely more corrupt managers. Our further analysis of the officials' corrupt behavior underpins the rationality behind corrupt behavior and strategic thinking reasoning. We found null results for the effects of both in-group and other-group norms on officials' corrupt behavior in the main stage. It means that neither in-group nor out-group norms affect officials' corrupt behavior. To be more specific, corrupt behavior is more of an individual rational and strategic thinking result in which the aim is to maximize the payoff.

Secondly, between the two norms, managers consider the behavioral norm of the group that is relevant to their payoffs (i.e., officials' norm). Our subsequent analysis provides an explanation of how norms affect corrupt behavior. As mentioned earlier, we asked participants to estimate the behavioral norms of other participants before starting the initial stage. We regress these participants' norm estimations with their decisions in the initial stage. We found that the norm estimations were statistically significant with both managers' and officials' corrupt decisions. We interpret this finding that there is a reverse causality in place, where corrupt behavior leads to how participants estimate the behavioral norms of others. However, since we controlled the behavioral norms in the main stage, when we found the effect of official norms on managers' corrupt behavior, it is because the officials' norm affects managers' corrupt behavior and not the other way around. The effect of officials' norms on managers' corrupt behavior is particularly pertinent because officials' behavior matters to calculate the final managers' payoffs.

Our supplementary analysis enables us to get insights into managers' reasons to engage in bribery. The reasons for such conduct fall into two categories: strategic choice and moral disengagement. The strategic choice includes reasons that are driven by a cost-benefit analysis of the situation and payoff maximization. While moral disengagement includes rationalization to morally disengage from corrupt behavior that covers two mechanisms: moral justification and displacement of responsibility.⁶ These findings support the notion that individuals not only rationally consider economic factors but are also susceptible to cognitive-psychological factors when making corrupt decisions. This finding is

⁶ In his latest book "Moral Disengagement: How People Do Harm and Live with Themselves", Bandura (2016) documents eight mechanisms of moral disengagement: moral justification, euphemistic labelling, advantageous comparison, displacement responsibility, diffusion of responsibility, distortion of consequences, dehumanization, and attribution of blame.

consistent with the conception of *bounded rationality*—the term to designate rational choice that takes into account the cognitive limitations of the decision makers (Simon, 1990).

Our study emphasizes that the association between individual and situational factors is imperative for a number of reasons. First, focusing on either individual behavior or situation in isolation neglect the situational process that influenced individuals' behavior or vice versa — the dynamic process between individuals that influenced a particular situation prevails (i.e., corrupt organization). In extension to that note, our study adds to the literature that in a corrupt transaction, the dynamics of other individuals in the transaction (other-group) matter more than the dynamics within the group (in-group). Second, our study supports the importance of putting situational factors into account to understand the dynamics of managers' corrupt behavior. In parallel to that note, corrupt behavior is considered a complex phenomenon involving layers of factors. Therefore, partial understanding derived from exclusively examining individual or situational factors may limit organization control design that prevents managers from engaging in corrupt or opportunistic behavior.

In addition, our results have practical implications. First, situation or context plays an important role in individuals' corrupt decisions. Our findings suggest that *whom you are associated with* is salient in a transaction that involves two parties (i.e., manager and official). Our results amplify the importance of individuals' perceptions about the people they are associated with. In addition, arguably revealing information that people whom you work with are corrupt might have an adverse effect.

Theory and hypotheses development

Perspective on the determinant of corrupt behavior

An organization needs to understand individual motivations to commit corrupt behavior to design effective anti-corruption controls. Two approaches to addressing such a question are by understanding the individual and situational factors. The determinant of corrupt behavior at the individual level can be explained through a critical discussion of rational choice theory. On the other hand, social-psychology theory is employed to understand individuals' corrupt behavior within a social context by their perceived or actual interactions with others.

The rational choice theory in corrupt behavior

An influential economic approach of the rational choice theory (RCT) has been dominantly used to analyze the determinant of corrupt behavior at the individual level. RCT has been extensively used to model and understand individual decisions in a range of social science fields (Coleman et al., 1992). However, there are core assumptions that are shared by rational choice theorists, such as utility maximization, the structure of preferences, decision making under uncertainty, and the centrality of individuality in collective outcomes (Green & Shapiro, 1994).

In the RCT, individuals consider their preferences when making decisions (Mathis & Steffen, 2015). Preferences are the individuals' internal motives, which comprise individuals' values. Therefore, RCT's premise is that when individuals make a decision, they will use all available information to

consider their options and the associated consequences, rank their options based on the expected utility and select an option that yields the highest expected value.

Rational choice theory refers to corruption as a function of calculation, strategic and self-interested behavior. The assumption is that individuals are strategic human beings who carefully calculate corrupt behavior's cost and benefit before undertaking them (Elster, 1989). Individual rational action can be explained under a parametric or a strategic choice approach. The alternative under which is more suitable to explain an individual's rational action depends on the context (Elster, 1989).

Parametric choice means that the choices made by an individual do not influence the parameters of other individuals' choices and vice versa. In other words, the decision made by an individual is independent of other individuals' decisions. When individuals choose parametrically, they maximize the utilities (i.e., highest benefit) relative to parameters that are set by the environment. Under parametric choice, the action made is a game against "nature". In parametric choice, an individual's corrupt behavior is not based on whether other individuals are corrupt. Instead, it is based on the individual's calculation and assessment of return of corrupt behavior and risk of detection and sanction. Some corruption studies emphasize individuals' cultural attitudes (Cameron et al., 2009; Fisman & Miguel, 2007), the role of partisan preferences (Anderson & Tverdova, 2003; Anduiza et al., 2013), the effect of risk tolerance (Becker, 1968; Lee & Guven, 2013) in its relation to corrupt behavior, all are the examples of parametric choice approach.

However, there are many times when other individuals' actions affect others' decisions, which is referred to as **strategic choice**. When corruption is a strategic choice, then every time other individuals make decisions or acts, it will affect each other's decisions. The calculation of cost and benefit of corrupt behavior becomes fundamentally interdependent with the corrupt behavior of others. Under strategic choice, the action made is a game against other minds. Therefore, the decision to be corrupt or not becomes a strategic complementarity because the expected return of engaging in corrupt behavior increases the more other individuals do so and vice versa. Corruption as a strategic choice implies that the coordination of beliefs about the likelihood of others' actions plays a crucial role in determining individual decisions to engage in a corrupt transaction. Studies explaining corrupt behavior as the result of social norms (Abbink et al., 2018; Bicchieri & Xiao., 2009; Köbis et al., 2015) exemplify the strategic choice approach in explaining corrupt behavior.

Corrupt behavior as a strategic complementarity (other-group norm)

The first perspective in explaining corrupt behavior as a societal phenomenon is based on the assumption that an individual's corrupt behavior results from an interdependent and societally contingent risk and return calculation, which stems from the Rational Choice Theory (RCT). RCT has been extensively used to model and understand individual decisions in a range of social science fields (Coleman et al., 1992). However, there are core assumptions that are shared by rational choice theorists, such as utility maximization, the structure of preferences, decision making under uncertainty, and the centrality of individuality in collective outcomes (Green & Shapiro, 1994).

Therefore, RCT's premise is that when individuals are making a decision, they will use all available information to consider options and their associated consequences, make hierarchies based on the

expected utility, and select an option that yields the highest expected value. Besides, under a condition of uncertainty, where the outcome of decisions is unknown, for each option, one assesses not only the potential outcomes but also the respective probabilities for each option. After each option's probability is estimated, one will select the option with the highest expected value.

According to the rationalist view, the mechanism that motivates individual corrupt behavior is the cost-benefit analysis: as long as the calculated gain of corruption exceeds the potential loss, the manager will offer the bribe to the official. Under the rationalist view, the mechanisms through which rational choice explanations operate are individuals' preferences and beliefs (Green & Shapiro, 1994). It is an individual calculative judgment of potential benefit and loss. Hence, according to the rationalist view, a manager's decision is based on its personal expected utility. According to this view, before deciding to act corruptly, an individual evaluates the potential rewards and punishments along with his/her moral values. Corrupt acts happen when the assessment of its benefit exceeds its costs.

To illustrate, consider a corrupt transaction between the driver and the police officer about a traffic violation. When the driver pays the police officer some amount of money lower than the actual legal sanction, both the driver and police officer are better off than when they have to abide by the law; the driver pays a little less, and the police officer gets extra money. The bribe is more interesting when the driver knows that the police officer will accept the bribe in such a situation.

The above illustration describes how individuals who are presented with the same corruption opportunity consider what other individuals do in the same situation. In that scenario, individuals' decision to engage in corrupt behavior is complementary to one another, that is, the expected return of individual engagement in corrupt behavior increases with the expected number of other individuals who do so.

As a transaction, bribery involves the coordination between two parties (the manager who offers the bribe and the official who accepts the bribe). This coordination between two parties possesses the risk that the other party will not endorse an act according to the wishes of the bribery initiator. For example, the possibility of the official rejecting the manager's bribe, which in turn costs the manager more in the form of a shattered image or being blacklisted from future government bids. In such a situation, when managers decide to bribe, they face uncertainty about officials' decisions.

Confronted with uncertainty, the managers cannot be confident that the bribe will be successful. In this situation, the manager must assess the utility of potential outcomes and the relevant probabilities of each result. To address uncertainty, the managers must evaluate each option's relevant probabilities by relying on empirical evidence, observation, and or their own experience in such a situation (Arrow, 1951). For these reasons, officials' reactions and how well informed the manager is about officials' reactions are prominent elements in their decision. In other words, the manager will selectively engage in offering the bribe after examining the official's probability of accepting the bribe.

H1: The managers will offer (not offer) the bribe when officials are more likely to accept (reject) the bribe.

Social norm theory: corrupt behavior as a collective reputation (in-group norm)

Understanding corrupt behavior can also be seen from the social norm theory. Social norms posit that an individual's behavior is governed by the informal rules of groups and societies they identify with. According to the social norm model, people tend to copy behavior they find common among other people in their reference network (Bicchieri, 2016). The two main arguments on why people follow social norms are based on the *information* and *affiliation* value that it provides (Bicchieri, 2016).

People follow social norms because it provides information on others' actions that serve as guidance in vague or ambiguous conditions, where it will be costly to acquire information solitarily (O'Fallon & Butterfeld, 2012). The behaviors of others serve as a situational cue that can influence what is the appropriate behavior in a given context (Bicchieri, 2016; Tayler & Bloomfield, 2011). The importance of information value in social norm conformity also notes that individuals have limitations to process all information by themselves (Jones & Ryan, 1997). In a cognitively complex and highly uncertain situation, like bribery, individuals will tend to look at their surroundings for cues to assist them in making decisions. As an illustration, the traffic violators are looking for a cue by observing their surroundings. When they find that everyone in the same situation bribes police officers, it means bribing is the way out. By conforming to the relevant network's behavior, individuals can save time and cognitive efforts to get the information of what is potentially to be appropriate behavior. In short, the information value of social norms provides a cheap shortcut to making a decision.

Social norm conformity is also caused by the *affiliation* value when individuals internalize the views of others with whom they expect to hold similar views (Wenzel, 2004). Under the *affiliation value*, individual behavior depends on the individual's perception of his relation to the group. Identification, thus, has powerful implications for behavior. The stronger the group identity, the more likely the group's members will interact and influence one another (King, 2002; Towry, 2003). Consequently, once individuals identify themselves with a group, they learn the norms that are particular to the group and conform to them.

Previous accounting studies explore the effect of conformity to social norms in a tax compliance setting (Bobek et al., 2007; Davis et al., 2003; Wenzel, 2004). Taxpayers who identified themselves as part of a compliant group perceive a strong social norm that people should be truthful about their taxes and therefore be compliant taxpayers and the reverse is true. In a theoretical analysis, Davis et al. (2007) suggest that the effect of changing enforcement on taxpayers' compliance is history-dependent. In a group of initially compliant taxpayers, reducing the enforcement level has little effect on compliance. Similarly, in a group of initially non-compliant taxpayers, increasing the enforcement level has a modest effect on compliance.

Previously mentioned studies imply that group reputation matters to an individual decision. An individual from a group with a collective reputation for corruption (honesty) has a motivation to behave corruptly (honestly), because potential partner (e.g., official as a partner for manager) will assume that one's is likely to be corrupt (honest) anyway. For example, in a corrupt society, where most people are corrupt, a general sense makes corrupt behavior an expected norm. In a situation where corrupt behavior is common, individuals are more disposed to engage in such behavior because the chance that almost everyone is corrupt is high. This makes individuals more confident to commit

corrupt behavior. Further, the prevalence of corrupt behavior also diminishes the sense of guilt because the common rationalization is “everybody else does it”, therefore making corrupt behavior flourish (Persson et al., 2013). Tirole (1996) refers to this mechanism as collective reputation; that is, an individual’s propensity to engage in corrupt behavior depends on the collective reputation of the group to which they belong. This line of reasoning is used to explain the persistence of corrupt practices in highly corrupt countries where many anti-corruption efforts have been unsuccessful in curbing corrupt behavior (e.g., Carson & Prado, 2016; Persson et al., 2013).

The mechanism in which collective reputation emerges relies on the assumption that individual past behavior is imperfectly observed (Tirole, 1996). Past individual behavior is not fully unobserved or fully observed but rather imperfectly observed. Due to this imperfect observability, the past behavior of the member’s group is used as a reference to predict his behavior. When the manager learns that many other members of his group are corrupt, he can still choose to be corrupt or honest. He can be honest because his behavior is partially observed by other individuals (other managers or potential official partners), in which he wants to sustain his reputation of honesty. This will depend really on individual self-interest (Stevens, 2002). At the same time, because a manager’s track record is imperfectly observed, his decision to be corrupt or honest is also based on other managers’ behavior. Therefore, there is an interplay between an individual and collective reputation on an individual’s decision. If other managers are honest, the manager that is part of the group has an incentive to act honestly. In contrast, if other managers are corrupt, the manager has an incentive to act corruptly (DeZoort & Lord, 1997; Lord & DeZoort, 2001).

H2: The managers will offer (not offer) the bribe when other managers are more likely to offer (not offer) the bribe.

The joint effect of collective reputation and strategic complementarity on corrupt behavior

Under the assumption of collective reputation, an individual’s corrupt behavior results from the imperfect observability of other members of the group’s behavior. An individual’s evaluation of the cost and benefit of acting corruptly relies on the behavior of his in-group norm. When other individuals are corrupt, acting corruptly is a high-yield investment. On the other hand, under the assumption of strategic complementarity, the individual’s decision to act corruptly relies on what the other group does. The coordination of beliefs about the possible actions of others is central in this perspective (other-group norm). To properly study the implication of which norms are possessed in the decision to act corruptly, the following research question (RQ) is proposed.

RQ: What effect does the level of bribery have on the managers when they receive information that most of the officials accept the bribe (other-group norm) and the other managers offer the bribe (in-group norm)?

Method

The bribery game⁷

⁷ In the experiment instrument, we did not mention the task as the bribery game.

The bribery game simulates corrupt transactions between a manager and an official, which generates negative externalities for society. Our bribery games design incorporates features of Abbink et al. (2018). In our design, participants will be randomly assigned either as the manager who could offer or not offer a bribe or as the official who could accept or reject the bribe.

Bribery between the manager and the official earns both parties extra money at the expense of society.⁸ Though we do not incorporate participants to play the role of society, the manager and official are informed about society's existence and the consequence of their actions to its welfare. Each manager, official, and society has the same endowment of 30 points. The manager decides whether to offer a bribe to the officials to avoid complying with government regulations. The manager can choose to offer a bribe of 10 points to the officials.

The official then decides to accept or reject the bribe. Accepting the bribe means the managers increase their payoff by 20 points. The official receives a bribe of 10 points but decreases social welfare by 30 points. Abbink et al. (2018) argue that this represents that bribery imposes negative externality to social welfare. In addition, this parametrization reflects that the economy as a whole is better off without bribery. Figure 1 contains the bribery game's representation with all of the players' payoffs denoted in experimental dollars.

[insert Figure 1 about here]

Similar to Abbink et al. (2018), we decide to use a context-free presentation with neutral language in the experimental task. Though we notably assign the participants in the manager or official role, we do not use loaded or emotive terms such as *bribe* or *corruption*; instead, the *bribe* is referred to as a *private payment*. A study by Abbink & Hennig-Schmidt (2006) finds that the use of neutral framing-context-free instruction does not make a difference in the bribery game. This study implies two things. One that context-free instruction is not necessarily less interpretable of the real-life situation that with-context presented. Two that using context-free instruction does not necessarily mislead experimental results. The bribery game is programmed in o-tree⁹ (Chen et al., 2016).

Treatments and procedures

The experiment has a 2x2 within-subject design in which we systematically manipulate the manager's and the official's norms. Therefore, each participant receives all four treatments (conditions). We apply a counterbalancing strategy through Latin square design where participants are randomized to a different order of conditions to reduce the order effect. Counterbalancing approach controls the ordering of treatments (conditions) to make it no longer a confounding variable. In addition, counterbalancing also enables us to detect if there are any order effects. In detail, the procedures and treatments of the experiment are as follows:

⁸ In our design, the society is represented with non-government organization based in Indonesia "Hutan itu Indonesia" (HIU). It was established in April 2016 by young scholars and activists from various backgrounds. HIU's main goal includes promoting sustainable forestry that balances the needs of the environment, wildlife, and forest communities and educating all levels about the awareness to conserve the forest for future generations.

⁹ o-tree is a powerful online software to create an online interactive experiment such as ours.

Part 0. Comprehension check and norm elicitation

Participants answered comprehension questions after reading the description of the bribery game. Comprehension questions captured participants' understanding of different payoffs that managers and officials can get in different scenarios. Of 110 participants, 88 participants answered all questions correctly immediately, 15 participants after one try, 5 participants after two tries and 1 participant each after five and six tries. All participants need to pass the comprehension check before continuing to the next task.

After a comprehension check, participants estimated probability that managers and officials would offer (not offer) and accept (reject) the private payment. This procedure is called norm elicitation. The norm elicitation is essential to generate a representation that there is a group (social) agreement, whether bribery is acceptable or not acceptable within the group. Krupka and Weber (2013) note the importance of norm elicitation to identify social norms. The elicitation norms method will represent social norms, constituting the social norms and revealing shared understanding. Table 1 provides a list of questions for norm elicitation.

[insert Table 1 about here]

Part 1. The initial stage

In the initial stage, we randomly divide participants into two roles: manager and official. Participants have a fixed role throughout the experiment. The purpose of the initial stage is to classify the manager and the official as honest or corrupt, depending on their decisions. For the initial stage, each round, participants in the role of managers will be randomly matched with a participant in the role of officials to play the bribery game for five rounds.

The managers are classified as honest when the number of offering bribes is less than three and classified as corrupt when offers are equal to or more than three. Similarly, the officials have to decide whether to accept or reject the bribe. The managers and officials make decisions simultaneously. Therefore, officials have to decide whether to accept or reject it without knowing it has been offered. Officials are corrupt when the number of bribe acceptance is equal to or more than three and are honest when the bribe rejection is equal to or more than three.

The initial stage is an essential step in our experimental design as it determines the social norm manipulation in the main stage. Our experiment design adds a feature of feedback, that is, the information of officials' (managers') decisions to manager (official) whether they accept (offer) or reject (not offer) a bribe. Adding feedback is first to improve participants' learning about the game and let them sense that they are making decisions with real participants. Second, to allow participants, both those in the role of managers and officials, to observe their partner's behavior. It is important to note that the feedback in the initial stage is provided after round five (i.e., at the end of initial stage). Figure 2 illustrates how the initial stage is conducted.

[insert Figure 2 about here]

Part 2. The main stage

The second stage in our experiment is the main stage in which the treatment will be given. The four conditions are as follows: (1) corrupt managers and corrupt officials; (2) honest managers and corrupt officials; (3) corrupt managers and honest officials; (4) honest managers and honest officials. The illustration of four treatments is shown in Table 2.

[insert Table 2 about here]

In the main stage, participants receive information according to their conditions. For example, participants in the role of managers in the conditions of corrupt managers and corrupt officials receive information that they are in a condition where other managers are corrupt (mostly offered bribes) and that their officials' partners are corrupt (mostly accepted bribes). All other participants also receive information that reflects the condition they are in. The description of the manipulation begins by informing participants that they are in a group composed of corrupt (honest) managers and corrupt (honest) officials and that the condition will be different in each round. The group composition is based on both managers' and officials' decisions in the initial stage. The description continues as follows:

*We formed a group composed of managers who offered the private payment to the **officials three times or more out of five rounds (two times or less out of five rounds)** and officials who accepted the private payment from the managers **three times or more out of five rounds (two times or less out of five rounds)**. From this group, we have randomly drawn an official (a manager) associated with you.*

The difference between the conditions are bolded and in parentheses to highlight the differences between the manipulations. We can think of the conditions presented to the participants as the representation of real-world phenomena where there are countries where managers or officials are more corrupt (or non-corrupt) than in others. We examine corrupt decisions by measuring managers' decisions to offer or not offer private payment and officials' decisions to accept or reject the private payment.

In the main stage, each participant in each condition is only paired with the participants that fit the criteria in the condition after all participants have taken a decision in the four conditions. For example, participants in the role of managers in the condition of corrupt managers and corrupt officials will only be paired with corrupt officials. Likewise, when they are in conditions of corrupt managers and non-corrupt officials, then they will be paired with non-corrupt officials. All participants will be paired with a participant that corresponds to the condition. Therefore, in the main stage, when participants get feedback about their counterpart's decision, the information presented reflects the true condition. The benefit of designing in such a way is that it enables us to create experiment protocols that are free from deception. The illustration of the main stage is depicted in Figure 3

[insert Figure 3 about here]

Part 3. Post Survey

After participants made their decisions in the main stage, they completed socio-demographic and post-decision questionnaires. To calculate participants' payoffs, we match the decisions made by the

participants and their partners. Then, we randomly choose one round out of the nine rounds for their payoffs. Table 3 summarizes the experiment timeline.

[insert Table 3 about here]

Participant Recruitment

We recruit participants using Prolific, a UK-based crowdsourcing platform that provides participant recruitment services for researchers.¹⁰ We do not have particular inclusion and exclusion criteria for participants recruitment. To finish the tasks, participants do not require specific knowledge or expertise.¹¹ We ran three sessions with 110 participants in total, 55 played in the role of managers, and 55 played in the role of officials.

Analyses and Results

We provide results from the main stage of the experiment. Our focus is to report managers' decisions, the findings of officials' decisions are provided and discussed in Appendix. First, we report the descriptive statistics in Table 4. As shown in Table 4, the highest mean for bribe offers is when most of the managers and officials are corrupt (mean=0.691, sd=0.466), while the lowest mean for bribe offer is when most of the managers and officials are honest (mean=0.382, sd=0.490). The results are consistent with RCT, which posits that the higher the incentives to engage in bribery, the more likely bribery happens. In this case, when officials are corrupt, there is a higher chance that the private payment offered by the managers is accepted. The results are particularly clear when we compare the means between manipulation two, where managers were grouped in honest managers-corrupt officials norms (mean=0.636, sd=0.485), and manipulation three, where managers were grouped in corrupt managers – honest officials norms (mean=0.436, sd=0.501).

[insert Table 4 about here]

To have a better illustration, Figure 4 shows the frequency of managers who offered a bribe across manipulation in the main stage. As can be seen in the figure, there is a higher frequency when managers are paired with corrupt officials and grouped with other corrupt managers compared to when they are paired with honest officials and grouped with other honest managers (*Fisher's exact test*, two tails, $p=0.00184$).

[insert Figure 4 about here]

Table 5 provides the results of our probit regression analyses. Recall that our first hypothesis is that managers will be more likely to bribe when paired with corrupt officials than with honest officials. The first hypothesis is supported (coefficient = 0.649 , SE = 0.221 , $p < 0.01$, see table 5). These results are robust with the inclusion of several control variables (see Model 2).¹² However, we do not find support

¹⁰ Prolific is found to be better than Amazon Turk with respect to participant diversity (geographical location, nationality, ethnicity, etc) (Peer et al., 2017).

¹¹ The study was reviewed and approved by Ethics Committee of the University of Western Australia.

¹² We conducted correlation analyses to explore the associations between our variables and to determine whether any demographic variables should be included in our regression analyses as covariates. The correlation is reported in Table 8. As shown in the table, managers' identity (i.e., corrupt or honest) is ranked first both in Pearson and

for H2, with results from Model 1 and Model 2 reporting no significant p -value for other managers' norms. In summary, managers consider whether their associated partners (i.e., officials) are corrupt or honest. When their associated partner is corrupt, they tend to be more corrupt than honest.

[insert Table 5 about here]

We also ran a regression analysis to measure the association between participants' estimations of other participants' behavioral norms and their actual decisions in the initial stage. As shown in Table 6 and Figure 5, there was an association between participants' estimation of others' behavioral norms with their corrupt decisions in the initial stage. We found that managers' estimations of officials' norm was statistically significant with their corrupt decisions (coefficient = 0.025, SE = 0.005, $p = 0.000$). Similarly, managers' estimations of other managers' norm was statistically significant with their corrupt decisions (coefficient = 0.021, SE = 0.006, $p = 0.000$). Given this finding, we interpret that there is a reverse causality in place. That is, managers' corrupt behavior leads to how they estimate the behavioral norms of other managers and/or officials, not the other way around. This particular finding emphasizes the importance of our experimental finding. Recall that in the main stage, we controlled the participants' norms. Therefore, when we find an effect of officials' norm on managers' corrupt decisions, we can be sure that it is the officials' norm that affects managers' corrupt behavior.

[insert Table 6 about here]

[insert Figure 5 about here]

In addition, we also assessed managers' estimations of other managers' and officials' behavioral norms. We asked managers to estimate (i) other managers' likelihood to offer or not offer a bribe and (ii) officials to accept or reject a bribe. From these questions, we have four estimations. We calculate the average of each estimation and then calculate 95% confidence intervals (CI) for those averages. We also calculate the average of managers' decisions in the initial stage. Then we compare these decisions' averages with the 95% CI of each estimate. An over-estimation or under-estimation is recorded if the lower (upper) limit of the 95% confidence interval (CI) of the estimation is greater than the parameter of the decisions to be estimated (i.e., managers' decisions in the initial stage).

We find there are systematic managers' underestimations of other managers' bribe offers and officials' bribe acceptance. By the same token, we use data from officials' decisions in the initial stage to see if there is a systematic officials' under (over) estimations of other officials and managers' behavioral norms. We find that there is also a systematic underestimation of corrupt behavior and overestimation of honest behavior. Regardless of under (over) estimations, both managers and officials estimate that

MIC¹² correlations, showing that it has the strongest correlation with the managers' decision to offer a bribe. A simple, intuitive sense makes sense: corrupt managers tend to bribe more than honest managers. Official norms also strongly correlate with the manager's tendency to offer bribes (*Pearson* rank = 2; MIC rank =4). However, the other managers' norm is weakly correlated with managers' decision to offer bribes (*Pearson* rank = 6; MIC rank =8). From the demographic variables, religion (*Pearson* rank = 3; MIC rank =6) and age (*Pearson* rank = 4; MIC rank =2) show a strong correlation with managers' tendency to offer bribes. While other demographic variables (gender, nationality, job) show weak correlations with the manager's decision to bribe. Given these results, we included managers' identities in our regression analyses and incorporated religion and age as covariates.

corrupt behavior is more rampant than honest behavior. Such estimations are parallel with actual decisions in the initial stage, showing that corrupt behavior is more dominant than honest behavior.

[insert Table 7 about here]

Supplementary Analysis

We perform additional analysis on the reasons used by managers to offer bribes. To gain better insight into why managers made their particular decisions, we asked an open-ended question about their rationale for their decisions. We do not limit our participants' responses; therefore, they can provide as many reasons as they wish.

To analyze participants' rationalization, we only examined their reasons for corrupt behavior and coded them. We do not report ethical reasons since it is not in our interest. We collected in total 54 responses. The codification of participants' responses fell into two big categories: strategic and moral disengagement. Strategic included reasons such as cost-benefit analysis of the situation and payoff maximization. Moral disengagement included reasons such as distrust towards the NGO, "better maximize self payoffs and then self-donate later", or suspicion that other participants prefer to raise their payoffs.

The most used rationalization was strategic reasons, cited 29 times. Participants use strategic reasons by considering the likelihood of officials' decisions to accept the bribe for payoff maximization. That said, managers offer the bribe when most officials accept the bribe and refrain from doing so when most officials reject the bribe. This reason is consistent with RCT that posits under uncertainty that to get the highest possible outcome, individuals' decisions are based on the probability of each possible outcome.

Another rationalization was moral disengagement, cited 14 times. According to Bandura (1990), moral disengagement is an individual's attempt to cognitively separate the moral component from unethical conduct in order to rationalize engaging in it. The moral disengagement mechanisms that we found were moral justification and displacement of responsibility. Participants use moral justification by claiming that they decide on corrupt behavior because they want to maximize their profit to donate later to their preferred charity. Displacement of responsibility appears when participants use reasons that their corrupt decisions are encouraged by their suspicion that other participants prefer to maximize their payoffs. They also attribute their engagement to corrupt behavior by blaming the NGO. They argue that most NGOs are scams and should be avoided to be given charity. Viewing NGOs to be responsible for their corrupt behavior is moral disengagement under the displacement responsibility mechanism (Bandura, 1999, 2016).

Conclusion

We investigate whether managers' engagement in corrupt behavior is driven by their associated officials or other managers' norms. Specifically, we provide treatments where managers encounter four different conditions regarding officials' and other managers' norms. We find that managers make more corrupt decisions when they are associated with corrupt officials. These findings extend our understanding from previous literature that in bribery, the primary manager's reference when making

decisions is their associated partner, which is official, not the other managers. Managers consider officials' behavioral norms because what officials do is relevant to managers' payoffs. While the other managers' norm amplifies managers' corrupt decisions, its sole effect is not statistically significant. Our findings provide evidence that a manager's corrupt behavior is a representation of strategic choice under Rational Choice theory.

This study has several implications for practice. It demonstrates that situation or context plays an important role in individuals' corrupt decisions in corrupt behavior. Our findings suggest that *whom you are associated with* is salient in a transaction that involves two parties (i.e., manager and official). In the case of our study, it is clear that managers consider their officials' partner behavior. When officials are corrupt, it is more likely that bribe offers will happen. This result amplifies the importance of individuals' perceptions about the people they are associated with. Revealing information that people whom you work with are corrupt might have an adverse effect.

The regression analysis of the managers' decisions in the initial stage with their estimations of other participants' behavioral norms emphasizes the importance of our experimental design. The regression revealed that there is an association of managers' corrupt behavior in the initial stage with their estimations of other participants' corrupt norms. We interpret that there is a reverse causality in such association, that it is the managers' corrupt behaviors that lead their estimation of other participants' corrupt behavior and not the other way around. This particular finding notes the contribution of our experimental study to address the concern of reverse causality.

The supplementary analysis presents how managers rationalize their corrupt behavior. The analysis shows that managers' rationalizations are consistent with RCT and moral disengagement theory. Managers pursue strategic consideration when making decisions to offer or not offer a bribe. This line of reasoning is consistent with the RCT, where individuals consider alternatives to look for the best outcome that maximizes their payoffs, even if that means disregarding their normative beliefs. Not only strategic consideration but moral disengagement also serves as a rationalization to engage in corrupt behavior. Therefore, our findings provide evidence that individuals are not only driven by rational economic factors but also susceptible to cognitive-psychological factors when making a corrupt decision.

This study is not without limitations. As with any other experiment study, we use hypothetical cases, which may not fully represent actual bribery cases. In addition, we provide information about other managers' norms and officials' norms simultaneously, which might limit the effect of other managers' norms on corrupt behavior. Further study can replicate our design by dividing information into other managers' and officials' norms and letting participants make more decisions in the main stage.

Nonetheless, we are confident with the design of our study where the norms of both managers and officials are endogenously imposed and that we use free-deception protocols. We provide feedback where all participants were informed about their associated partner decisions and can observe their partner decisions. That way, the corrupt norm or honest norm is endogenously imposed. In addition, when participants are situated in a corrupt manager – corrupt official condition (or other conditions),

such condition is true. In other words, it is almost certain that managers are paired with officials that fit the criteria of the condition (honest or corrupt).

This study is preliminary research. Future studies can probe further questions: to what extent does the information about other corrupt behavior increase the level of bribery? Is there any specific element to add the information about corruption that will not backfire? For example, is detailed information on the consequences of corruption required to limit the effect of corruption information? Who should be prioritized to be given intervention, the one who initiates the bribe or the one who accepts the bribe? We believe that learning who should be prioritized to control will be beneficial for organizations to design a more effective and efficient control system.

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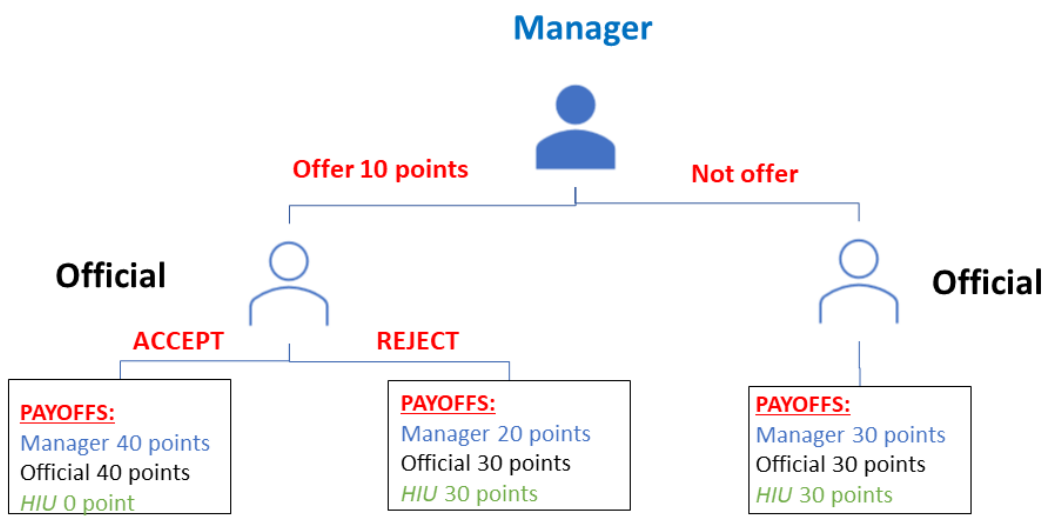


Figure 1. The bribery game

Table 1. Norm Elicitation

Role	Manager	Official
Aim	The manager estimates the norms for other managers	The official estimates the norms for other officials
Questions	<p>What is your estimation percentage of other managers in today's session that believe one or the other option should be chosen:</p> <p>-to offer the bribe to the official=... %</p> <p>-not to offer the bribe to the official=... %</p>	<p>What is your estimation percentage of other officials in today's session that believe one or the other option should be chosen:</p> <p>-to receive the bribe from the manager=.... %</p> <p>-to reject the bribe from the manager=... %</p>
Aim	The manager estimates the norms for officials	The official estimates the norms for manager
Questions	<p>What is your estimation percentage of officials in today's session that believe one or the other option should be chosen:</p> <p>-to accept the bribe from the manager=.... %</p> <p>-to reject the bribe from the manager=... %</p>	<p>What is your estimation percentage of managers in today's session that believe one or the other option should be chosen:</p> <p>-to offer the bribe to the officials=.... %</p> <p>-not to offer the bribe to the officials=... %</p>

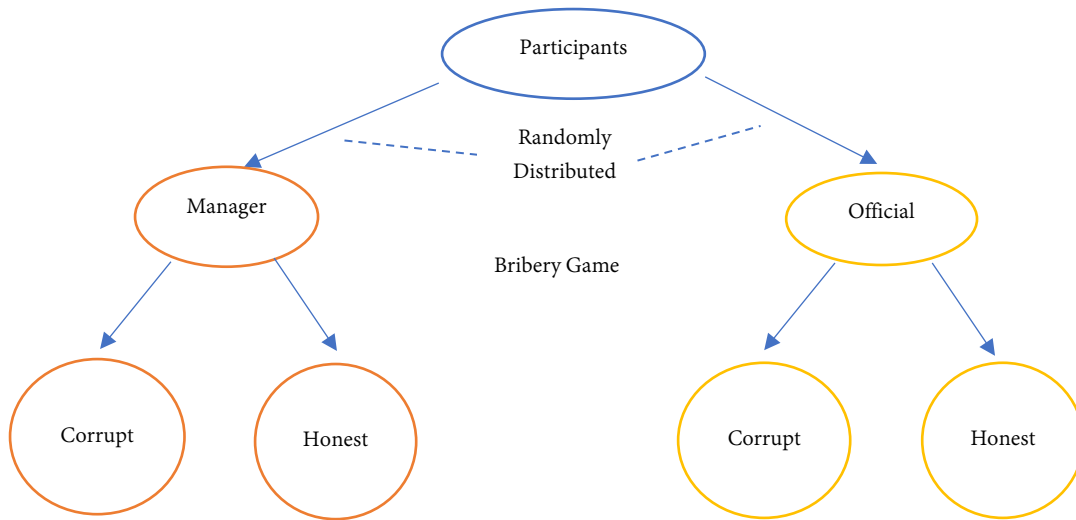


Figure 2. The initial stage

Table 2 . Treatments in the main stage

		Officials' norm	
		Corrupt	Non-Corrupt
Managers' norm	Corrupt	1	3
	Non-Corrupt	2	4

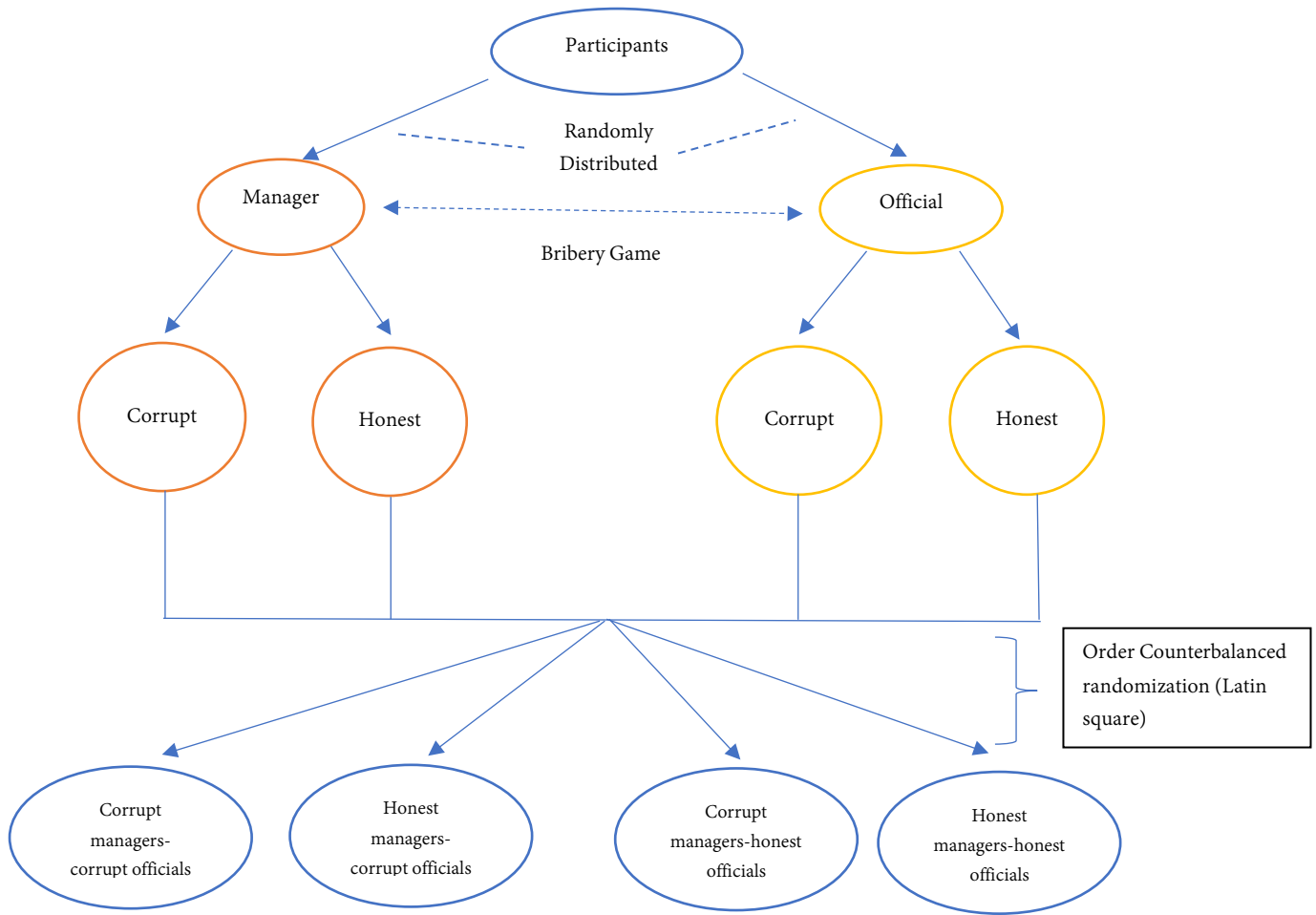


Figure 3. The main stage

Table 3. Timeline of experiment

Part 0	General Information Comprehension check Norm elicitation
Part 1	Initial stage 5 rounds (decisions) Random matching for each rounds Feedback after the last round
Part 2	Main stage 4 rounds (decisions) Random matching for each rounds Feedback in the last round Order counterbalanced randomization for treatment (Latin Square)
Part 3	Post-decisions questionnaires Socio-demographic questions Participants' matching to calculate earnings (at the end of session). Participants' payment

Table 4. Descriptive statistics of managers' bribe offers

Managers' norm	Officials' norm	n	mean	sd
Honest	Honest	55	0.382	0.490
Honest	Corrupt	55	0.636	0.485
Corrupt	Honest	55	0.436	0.501
Corrupt	Corrupt	55	0.691	0.466

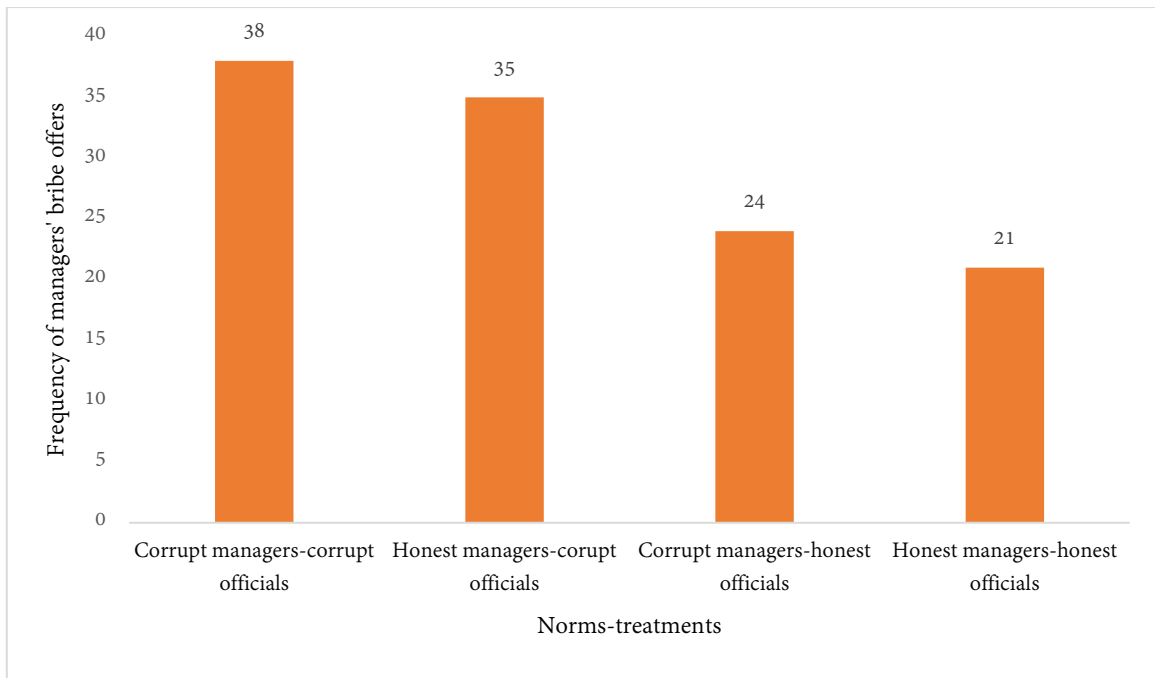


Figure 4. Frequency of managers' bribe offers across treatments

Table 5. Probit regression analysis

$$\text{Bribe offer} = \beta_0 + \beta_1 \text{Officials' norm} + \beta_2 \text{Managers' norm} + \beta_3 \text{Managers' norm} \times \text{Officials' norm} + \beta_4 \text{Managers' identity} + \beta_5 \text{Age} + \beta_6 \text{Religion} + \varepsilon$$

Variable	Model 1	Model 2
Officials' norm	0.649** (0.221)	0.873** (0.298)
Managers' norm	0.141 (0.196)	0.176 (0.257)
Officials' norm x Managers' norm	0.009 (0.241)	0.047 (0.325)
Managers' identity		0.444*** (0.063)
Age		-0.022 (0.016)
Religion		0.182* (0.099)
	N=220	N=220

*** p < 0.001; ** p < 0.01; * p < 0.1

Table 6. Regression analysis (Managers' decisions in the initial stage and their estimations of other participants behavioral norms)

$$\text{Bribe offer (initial stage)} = \beta_0 + \beta_1 \text{ Estimation of other managers' norm} + \beta_2 \text{ Estimation of officials' norms} + \varepsilon$$

Variable	Estimate	SE	t value	Significance
Intercept			-0.398	0.6907
Estimation of managers' norms	0.021	0.006	3.621	0.000
Estimation of officials' norms	0.025	0.05	4.962	0.000

Figure 5. Regression plot

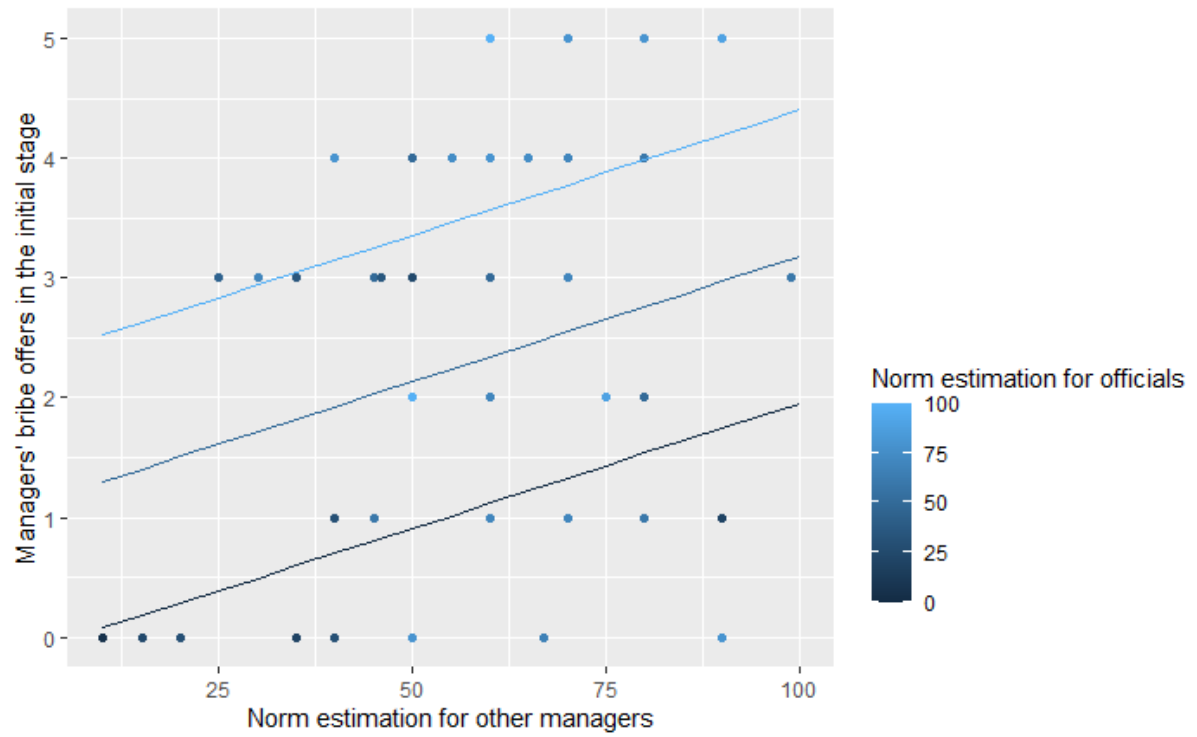


Table 7. Comparison of participants (managers and officials) decisions in the initial stage with their estimations of other participants' behavioral norms.

Decisions		Managers' actual decisions in the initial stage	Managers' estimation		Officials' estimation	
			95 % CI		95 % CI	
			Lower limit (%)	Upper limit (%)	Lower limit (%)	Upper limit (%)
Manager	offer a bribe	60.00	55.98 ^a	58.09	58.63 ^a	59.01
	not offer a bribe	40.00	41.90 ^b	44.02	40.99 ^b	41.37
Official	accepts a bribe	81.82	58.25 ^a	60.37	63.12 ^a	63.49
	reject a bribe	18.18	39.63 ^b	41.76	36.50 ^b	36.88

^a Underestimation

^b Overestimation

Table 8. Correlation analysis

Variable	Pearson	Pearson rank	MIC	MIC rank
Managers' identity	0.498	1	0.204	1
Officials' norm	0.256	2	0.048	4
Religion	0.201	3	0.034	6
Age	-0.157	4	0.125	2
Gender	-0.085	5	0.005	7
Managers' norm	0.055	6	0.002	8
Nationality	-0.053	7	0.048	3
Job	0.039	8	0.035	5

APPENDIX. SUPPLEMENTARY ANALYSIS FOR OFFICIALS' DECISIONS

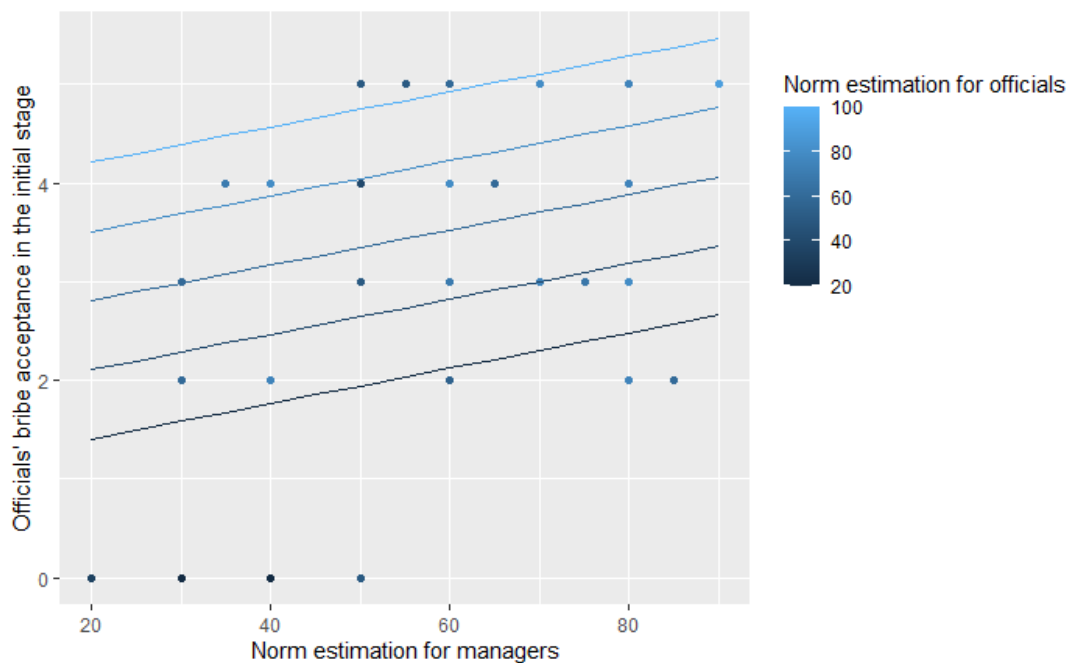
1. The regression analysis for officials' decisions in the initial stage with their estimations of other participants' behavioral norms.

$$\text{Bribe accept (initial stage)} = \beta_0 + \beta_1 \text{ Estimation of managers' norm} + \beta_2 \text{ Estimation of other officials' norms} + \varepsilon$$

Table (i)

Variable	Estimate	SE	t value	Significance
Intercept			0.935	0.351
Estimation of managers' norms	0.018	0.006	2.935	0.001
Estimation of officials' norms	0.035	0.006	6.046	0.000

Regression plot (i)



2. Descriptive statistics of officials' bribe acceptance in the main stage

Table (ii)

Managers' norm	Officials' norm	n	mean	sd
Honest	Honest	55	0.673	0.474
Honest	Corrupt	55	0.673	0.474
Corrupt	Honest	55	0.673	0.474
Corrupt	Corrupt	55	0.655	0.479

2. The probit regression analysis of officials' decisions in the main stage.

$$(ii) \text{ Bribe acceptance} = \beta_0 + \beta_1 \text{Officials' norm} + \beta_2 \text{Managers' norm} + \beta_3 \text{Managers' norm} \times \text{Officials' norm} + \beta_4 \text{Officials' identity} + \beta_5 \text{Age} + \beta_6 \text{Religion} + \varepsilon$$

Table (iii)

Variable	Model 1	Model 2
Officials' norm	0.000 (0.205)	-0.010 (0.271)
Managers' norm	0.000 (0.192)	-0.023 (0.261)
Officials' norm x Managers' norm	-0.050 (0.274)	-0.073 (0.370)
Officials' identity		0.578*** (0.087)
Gender		0.255* (0.150)
Age		0.028 (0.034)
Nationality		-0.004 (0.029)
Work experience		-0.056* (0.034)
Religion		-0.043 (0.082)
	N=220	N=216

*** p < 0.001; * p < 0.1

As shown from the regression analysis in Table (i), the associations between officials' decisions in the initial stage and their estimation of other participants' behavioral norms are statistically significant. Meanwhile, the probit regression analysis in Table (iii) shows that the effects of managers' and other officials' norms are not statistically significant. These collective findings (along with the findings of managers' data) strengthen our interpretation that there is a reverse causality which for non-experimental findings should be interpreted with caution.

The findings from the officials' data corroborate that individuals' corrupt behaviors are more of a rational decisions. Note that there is no strategy involved for officials to engage in corrupt behavior. When a manager offers a bribe and an official accepts it, both their payoffs increase. When a manager does not offer a bribe, the payoff for the official remains the same. Therefore, for officials, the preferable

choice is to always accept a bribe. As shown in Table (ii), officials' corrupt decisions in the main stage are evenly distributed across four different treatments.

Our collective findings of both managers' and officials' data provide evidence that an individual's corrupt behavior results from rational decision-making. The data shows that a manager's corrupt behavior is a representation of strategic choice, in which the decisions made by officials affect the decisions of the managers. Therefore, with more corrupt officials, it is more likely that there are more corrupt managers. On the other hand, an official's corrupt decision represents parametric choice, in which the decisions of others do not matter in officials' decisions. The official only considers pursuing their maximum payoffs. Both strategic and parametric choices fall under the rational choice model.