Journal of Forensic & Investigative Accounting
Volume 10: Issue 2, Special Edition 2018

The Effect of Peer Reciprocal Relationships and Interpersonal Affect on Internal Fraud Reporting

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Introduction

This study examines the effect of peer employee relationships on the intention to internally report fraud. Organizations put employees together in departments, on teams for special projects, or in small sub-groups by specific job tasks. Employee interaction with coworkers, teams, and departments daily is necessary. Such interactions are governed by a number of variables, which may help (or hinder) in the forming of social exchange relationships. Interpersonal affect is the like or dislike feeling one individual has toward another, while reciprocity is the feeling of obligation or indebtedness one individual feels toward another. These feelings not only affect how employees treat one another, or how well they work together, but may also influence an employee's likelihood to report fraud.

The 2016 ACFE *Global Fraud Study* finds that most organizations lose five percent of their revenues each year to fraud, with more than $6.3 billion in losses this year (ACFE, 2016). Kroll's 2015/2016 *Global Fraud Report* finds that seventy-five percent of companies reported falling victim to fraud in the last year, with sixty-nine percent reporting that the fraud resulted in a financial loss. Fraud is most often perpetrated (eighty-one percent of cases) by a company insider (Kroll, 2015), necessitating effective internal controls and whistleblowing policies.

Fraud may be detected is several ways (e.g., internal or external audits, clients or competitors, industry regulator, internal controls, law firms, the media, etc.), but tips are the most common. More than thirty-nine percent of fraud is detected through tips, with 20.6% of whistleblowers preferring to report to their direct supervisors (ACFE, 2016). More than seventy-five percent of occupational fraud is "committed by individuals working in seven key departments: accounting, operations, sales, executive/upper management, customer service, purchasing, and finance," with the accounting department originating more fraud than any other (16.6%) (ACFE, 2016).

To date, little is known about how peer employee relationships may affect the intention to whistleblow. Social exchange relationships are necessary in creating an effective work environment (Cropanzano and Mitchell, 2005). Shore et al., (2009), after reviewing many social exchange studies across different levels of relationships, conclude that overall "greater social exchange is associated with stronger employee contributions in the form of higher commitment, lower intention to quit, higher organizational citizenship behavior, and better performance." In short, social exchange relationships are beneficial to the organization, but the impact of these relationships on fraud reporting intentions is unknown.

The norm of reciprocity aids in governing work interactions, while encouraging cooperation (Robinson and Morrison, 1995; Deckop et al., 2003). Interpersonal affect is the like or dislike feeling that one individual feels for another. Employees are frequently able to work with people they do not like with successful outcomes. Such circumstances may be stressful and difficult, but the task at hand is typically achieved. Negative affect does not necessarily mean that two co-workers cannot be engaged in a reciprocal exchange agreement, but it may alter the value both individuals assign to events (Keysar et al., 2008). However, fraudster characteristics do influence reporting intentions (Mesmer-Magnus and Viswesvaran, 2005), and individuals are more likely to report those that they do not like (Robertson et al., 2011). When wrongdoing is discovered employee, relationships may help or hinder reporting. Given today's environment of high rates of fraud and large revenue losses, it is important to understand how the employee relationships that companies work so hard to foster may be causing unforeseen harm.

This study experimentally examines how peer relationships impact the intention to internally report fraud. Intention to whistleblow, although commonly used in whistleblowing literature, should not be confused with actual whistleblowing behaviors. Participants are asked how they believe they would respond in a situation, but they may do something entirely

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different when confronted with a similar situation in reality. That said, a 2 x 2 between-subjects experiment is conducted where reciprocity (indebted to fraudster or fraudster indebted) and interpersonal affect (positive or negative) are manipulated. In total, 109 students enrolled in a business master's program successfully completed the experimental instrument and are included in the study.

The experimental results indicate that peer relationships do influence the intention to whistleblow. In the reciprocal exchange agreement, when the fraudster is indebted to the employee, intention to whistleblow to internal audit significantly decreases, but does not affect the other reporting outlets. Positive interpersonal affect significantly decreases intention to report to the whistleblowing hotline, a supervisor, and internal audit. The interaction between reciprocity and interpersonal affect is significant for both intention to report to the whistleblowing hotline and intention to report to a supervisor.

Whistleblowing literature to date has primarily focused on studying aspects of the situation or attributes of the fraud discoverer. Situational aspects include evidence strength (Brink et al., 2013), materiality of the fraud (Brink et al., 2015), power distance (Taylor and Curtis, 2013), availability of internal rewards (Brink et al., 2013), ethical culture (Kaptein, 2011), inquiry (Kaplan et al., 2011), presence of procedural safeguards (Kaplan et al., 2009a), and the types of whistleblowing channels offered (e.g., Ayers and Kaplan, 2005; Curtis and Taylor, 2009; Kaplan et al., 2010; Kaptein, 2011; Robertson et al., 2011; Sonnier 2013; Zhang et al., 2013). Individual attributes include ethical positioning, ideology, and style (Brink et al., 2015; Fayard et al., 2014; Curtis and Taylor, 2009), emotions (Clements and Shawver, 2015), commitment (Taylor and Curtis, 2010), value orientation (Nayir and Herzig, 2012), locus of control (Curtis and Taylor, 2009), personality traits (Brink et al., 2015) and gender (Kaplan et al., 2009b). There is only limited evidence on how the fraud discoverer's relationship with the fraud perpetrator influences whistleblowing intentions.

Boo et al., (2016), conduct one of only a few studies to examine the effects of such a relationship. The authors examine the effect of a working relationship (close vs. not close) with the wrongdoer on propensity to whistleblow. They find that a close working relationship only reduces intention to report in the carrot condition (reward incentive scheme), but not in the stick (penalty incentive scheme) or control conditions. Boo et al., (2016) manipulate the working relationship using affect, loyalty, support, contribution, and professional respect. This study focuses in on one of the items that makes up a working relationship by examining affect.

The remainder of this study is organized as follows. The next section reviews the relevant literature and develops the hypotheses. The following section discusses the research method. Finally, the experimental results are presented and the paper closes with conclusions, limitations, and implications.

Theory and Hypothesis Development

Social Exchange Theory

Social exchange theory posits that parties in an exchange relationship provide tangible benefits to one another (Blau, 1964) and views the employment relationship as "an exchange of loyalty and effort in return for organizational inducements…wages, fringe benefits, nature of the job, [and] working conditions" (Coyle-Shapiro, 2002). Exchange is based on the norm of reciprocity, where individuals are obligated to "help those that have helped them" (Gouldner ,1960). This reciprocal interdependence on one another is an essential characteristic of social exchange (Molm, 1994; Gergen, 1969). Note that negotiation and explicit bargaining are different from the exchange process of reciprocity, in that the latter creates stronger interpersonal bonds (Molm, 2000, 2003). In the organization, reciprocity norms dictate that employees are obliged to return favorable treatment and organizational support they receive in the form of caring about the organization's welfare (Eisenberger et al., 2001).

Social exchange theory posits that when one individual does another a favor, there is the expectation of a future return, although the timing and form of that return may be unclear (Blau, 1964). Further, the value of the return is not well-defined as the action itself imbues the value (Brown, 1986). This indefinite obligation poses some risk that the favor will not be returned, requires a long-term perspective as the return could take some time, and allows the parties involved to show their trustworthiness (Blau, 1964; Shore et al., 2009). However, reciprocal interdependence, where the actions of one party are in response to the behavior of the other, reduces risk and encourages cooperation (Molm, 1994). Obligation is also critical in creating an on-going social-exchange relationship and "tends to engender feelings of personal obligation, gratitude, and trust" (Blau, 1964).

The quality of work relationships involved in social exchange may be positively or negatively influenced by interpersonal affect, which is how one person feels about another (Robertson et al., 2011). These feelings of liking or disliking a co-worker may alter the value placed on actions occurring within the social exchange relationship. Understanding how the social exchange relationship may influence the likelihood of fraud reporting informs management and auditors of the likelihood that fraud may go unreported.

Reciprocity

The norm of reciprocity is an important part of work relationships in organizations. Reciprocity plays a role in governing interactions (Dabos and Rousseau, 2004; Robinson and Morrison, 1995) and is "fundamental to all social orders" (Gobel et al., 2013). Reciprocity encourages cooperation among co-workers and helping behaviors in organizations (Deckop et al., 2003; Koster and Sanders, 2006). For these reasons, one must understand how reciprocal relationships may affect an individual's likelihood of reporting fraud, and how the fraud itself changes this relationship.

The norm of reciprocity was once thought to be universal (Gouldner, 1960). However, in recent years it has been discovered that this norm varies among individuals (Keysar et al., 2008). Individuals interpret actions differently (Keysar et al., 2008), and they may vary in the extent to which they follow the reciprocity norm (Perugini et al., 2003). Further, patterns of reciprocation differ when they are viewed as prosocial acts of giving or antisocial acts of taking (Keysar et al., 2008). Acts of giving are viewed as being more generous, while acts of taking tend to escalate (Keysar et al., 2008). This research asserts that "reciprocity appears to operate on an exchange rate that assigns value to the meaning of events" (Keysar et al., 2008).

When an individual asks another for help, there are costs on both sides. When deciding whether to ask for help the individual considers not only the cost to themselves but also the cost/reward to the individual who would help them (DePaulo and Fisher 1980). When considering asking for help individuals who do not believe they will be able to repay the debt are less likely to ask for help, and those that do terminate their request for help as soon as possible (Greenberg and Shapiro, 1971). If the individual asking for help believes the request to be especially costly greater feelings of indebtedness are incurred (Fisher et al., 1981). From the helper's point of view, they are less likely to help individuals who are unhelpful toward others, although this effect is moderated by situation severity (Bhatnagar and Manchanda, 2013). When the situation is severe, individuals seem to want to help no matter how unhelpful the help receiver has been in the past (Bhatnagar and Manchanda, 2013). In sum, when engaging in a reciprocal relationship all involved consider the potential costs of asking for and providing help, as well as the benefits.

When adhering to the norm of reciprocity, both parties have expectations as to the costs and benefits of the relationship. When one individual is indebted to another for a significant favor, this may impact how the individual reacts upon discovering that the other party is engaged in an unethical activity. Regarding the norm of reciprocity, Gouldner (1960) states that reciprocity universally makes two minimal demands: "(1) people should help those who have helped them, and (2) people should not injure those who have helped them." This engrained social norm will bias the fraud discoverer against reporting the fraud when they feel indebted to the fraud perpetrator. However, the existing social exchange relationship would be violated upon the discovery of fraud. It is expected that the breach of trust in this relationship will cause the reciprocal relationship to be terminated after the fraud discoverer overlooks the current situation to re-pay their debt to the fraudster. Thus, following hypothesis is formally proposed:

H1: An individual is less likely to report fraud when they feel indebted to the fraud perpetrator.

Interpersonal Affect

Interpersonal affect exists in the everyday lives of most individuals, the role it plays in choices, such as the decision to internally report fraud, requires further exploration. How one person feels about another is interpersonal affect (Robertson et al., 2011). This concept is "other-directed", meaning one person elicits positive or negative feelings in another (Casicaro and Lobo, 2008). Individuals very quickly judge others to be likeable, warm, or competent from mere glimpses of behavior (Ambady et al., 2000). Interpersonal affect too may develop very rapidly without extensive interaction (Casciaro and Lobo, 2008). But, interpersonal affect and friendship are not the same. Friendship involves a history of interaction and certain behaviors, while interpersonal affect has no requirements on the depth of the relationship (Krackhardt, 1992).

Positive interactions will trigger positive emotions and lead to positive interpersonal affect, while negative interactions will lead to negative emotions and negative interpersonal affect (Robertson et al., 2011). Similarly, positive attributes lead to positive likeability, while negative attributes are linked with negative likeability (Kaplan et al., 2008). These interpersonal interactions influence cognitive information processing (Zajonc, 1980). Individuals are more likely to recall overall impressions of others, as opposed to specific behaviors, and to recall information consistent with their preconceived notions (DeNisi et al., 1984), going as far as to not seek out contradictory evidence (Robbins and DeNisi, 1994). Essentially, individuals are cognitively motivated to arrive at conclusions that are consistent with prior experience, causing them to better process confirming evidence as opposed to disconfirming evidence (Gigerenzer and Gaissmaier, 2011). Ultimately, both negative and positive affect will bias an individual when that person is making his or her decision of whether to report fraud.

When evidence of fraud is discovered, interpersonal affect may consciously or unconsciously bias the fraud discoverer. Studies posit that wrong-doer characteristics, such as likeability, may impact reporting decisions (Mesmer-Magnus and Viswesvaran, 2005). Prior research also finds that individuals are more likely to act against less likeable individuals (Robertson et al., 2011), that negative affect may have a stronger impact than positive affect on decision making (Robbins and DeNisi, 1994), and that in general negative information is weighted more heavily (DeNisi et al., 1984). That said, studies still suggest that individuals tend to discard information that is affect-inconsistent, meaning disconfirming evidence, viewing this evidence as an anomaly which can be explained away (Robbins and DeNisi, 1994; Gigerenzer and Gaissmaier, 2011). This bias may or may not overcome an individual's sense of ethical or moral responsibility.

Employees are aware that their employer expects them to behave ethically. Interpersonal affect can influence the persuasiveness of evidence, where positive emptions can lead to more persuasion (Petty and Cacioppo, 1986; Petty and Briñol, 2008). Bhattacharjee et al., (2012) find that experienced auditors are significantly less likely to believe their client has a problem when positive affect is present, and as a result document more positive items and fewer negative items. Similarly, individuals with positive interpersonal affect toward the fraud perpetrator may be biased to believe there is an explanation for the evidence of wrongdoing, or they are somehow mistaken, and may avoid their responsibility to act ethically, biasing them against reporting. If the individual has negative interpersonal affect toward the fraud perpetrator, he/she may be more likely to recall their ethical responsibility to report the fraud and use this responsibility as an additional reason to report the fraud perpetrator. These individuals are also more likely to jump to the conclusion that the individual did something wrong, which increases the probability of reporting the activity. So, with these considerations, the following hypothesis is formally proposed:

> **H2:** An individual is less likely to report fraud when they have positive interpersonal affect for the fraud perpetrator.

Interaction of Reciprocity and Interpersonal Affect

Social exchanges do not have a well-defined "value," giving and taking are intended to be repaid relatively equally. Yet, this is not always the case, as an individual's view of value is impacted by the meaning of events (Keysar et al., 2008). Further, research indicates that reciprocal behavior, and whether individuals adhere to these norms, is influenced by "cultural understandings of morality" (Gobel et al., 2013). Given this information it becomes difficult to generalize the population to one expected outcome when every individual will view the situation through their own unique lens. That said, some assumptions can be made based on existing theory.

Traditional social exchange theory assumes that the parties involved are unemotional (Lawler and Thye, 1999). However, liking is positively associated with social exchange (Moideenkutty and Schmidt, 2016). The affect theory of social exchange posits that exchange outcomes have emotional effects and exchange is a joint activity where emotions influence how the individuals involved feel about the exchange (Lawler, 2001). Positive emotions would include pride and gratitude while negative emotions include shame and anger (Lawler, 2001). When two parties engage in an exchange, positive emotions produced from a successful exchange will increase solidarity and affective attachments, while negative emotions from an unsuccessful exchange will lead to the opposite (Lawler et al., 2000; Lawler, 2001). One manifestation of solidarity is "forgiving costly behaviors or isolated instances of opportunism" (Lawler, 2001).

When fraud is discovered, the preexisting interpersonal and social exchange relationship will affect the reporting decision. Previous exchanges that resulted in good feelings may have further strengthened the positive interpersonal affect (or the like feeling) or begun to change the previous negative interpersonal affect (or dislike feeling), leading the individual to overlook an instance of bad behavior. However, if the previous exchange resulted in bad feelings this could have the opposite effect, strengthening the preexisting negative affect or diminishing the positive affect. The scenario used in this study has either the fraud discoverer or fraud perpetrator performing a significant and costly favor for the other party. When the fraud discoverer is the party offering this favor negative feelings, such as anger, are expected. Hence, when a feeling of indebtedness is absent the mean reporting intentions between positive and negative affect should be rather dissimilar. When the fraud discoverer is the party receiving the favor positive feelings, such as gratitude, are expected. Accordingly, when a feeling of indebtedness and gratitude are present the mean reporting intentions between positive and negative affect should be somewhat similar. The following hypothesis is formally proposed:

> **H3:** The impact of affect upon the likelihood of fraud reporting is greater when a feeling of indebtedness is absent.

Choice of Reporting Outlet

When considering where employees prefer to report fraud, most research to date examines internal versus external channels (Brink et al., 2013; Sonnier, 2013; Zhang et al., 2013) or anonymous versus non-anonymous channels (Ayers and Kaplan, 2005; Curtis and Taylor, 2009; Kaplan et al., 2009b; Kaplan and Schultz, 2007; Taylor and Curtis, 2010). Kaplan and Schultz (2007) separately consider intentions to report to an anonymous hotline, management, or the internal auditor, and Kaplan et al., (2010) study intentions to report to the supervisor's supervisor over the internal auditor. Robertson et al., (2011) study auditor intentions to report to a mentor, engagement partner, the firm's hotline, and the PCAOB's hotline and find that auditors preferred to talk to people within the firm, followed by the internal hotline, and avoided the external hotline. Generally, the difference in the intentions to report to the numerous internal channels available to employee has been understudied. Given the prior evidence that employees prefer to report internally (Brink et al., 2013; Kaplan et al., 2009b; Kaptein, 2011; Sonnier 2013), and the difficultly anonymous reporting causes in following up on complaints (Kaplan and Schultz, 2007), encouraging internal, non-anonymous reporting is beneficial to the organization. Understanding the circumstances for which employees would be least likely to report internally can aid management in crafting effective whistleblower policies, or otherwise encouraging employees to report to a trusted senior staff member or internal audit.

Employees most commonly report unethical acts to a direct supervisor (ACFE, 2016). This reporting is not only an individual the employee interacts with on a daily basis, but they would allow the individual to follow the chain of command. Reports made to the company's whistleblowing hotline and internal audit may appear to be more formal and heavily documented, and therefore more intimidating to potential whistleblowers. However, the circumstances under which fraud is discovered likely influences which reporting outlet an employee ultimately chooses to utilize. Such circumstances may include who is involved in the situation (a peer, supervisor, or executive), the type and materiality of fraud, if the employee has a reason to be angry with any of the individuals responsible for the available reporting outlets, how the individual feels toward the fraud perpetrator, etc.

The decision of which outlet an employee uses may be quite complex, especially in the situation used in this study. The employee either has negative or positive feelings toward the individual committing the fraud and may or may not feel indebted to that individual. The employee may worry that their supervisor will not take their report seriously if the supervisor is aware of the employee's dislike for his co-worker. Or, the employee may be afraid to report to through a non-anonymous outlet if they are indebted to their co-worker and worry about being outed (i.e., the reason for the indebtedness). Yet, for most individuals the most natural action to take is to approach another trusted individual with which they are familiar, their supervisor. The following hypothesis is formally stated:

> **H4:** Individuals, in all instances of affect and reciprocity, are more likely to report to their supervisor than to the whistleblowing hotline or internal audit.

Research Method

The sections below discuss the design, task, independent and dependent variables, and the participants.

Design

This experiment utilizes a 2 x 2 between-subjects design to investigate how peer employee relationships impact intention to internally report fraud. The between-subject's factors are interpersonal affect (positive or negative) and reciprocity (co-worker is indebted to the fraudster or the fraudster is indebted to the co-worker).

Task

Participants are given an experimental instrument describing the Innovative Bicycle Company (IBC), a hypothetical developer, manufacturer, and seller of innovative bicycles and related accessories. The instrument describes the relationship between the two senior accountants who are peers, Morgan and Alex (see Interpersonal Affect discussed below under Independent Variables). This is followed by information about how one of the accountants covered for the other during an emergency (see Reciprocity discussed below under Independent Variables). The participants next read a scenario in which Morgan discovers that Alex is engaging in a check cashing scheme, in which Alex stole nearly $10,000 in just the previous month. Alex is apparently taking the checks made out to IBC and depositing them into an alternative account under his control with the name Irresistible Bike Co. The instrument concludes by making participants aware of the different reporting options (hotline, managers, auditors).

After reading the scenario, participants respond to a series of questions designed to measure their likelihood of reporting to the whistleblowing hotline, their supervisor, and internal audit (discussed below under Dependent Variables). Participants also respond to manipulation check questions, and questions about the ease of the case and the morality of the unethical act. The instrument then concludes with demographic questions.

Independent Variables

Interpersonal Affect

Interpersonal affect is manipulated between participants. The two levels represent a feeling of positive affect (the individual is likeable) and negative affect (the individual is not likeable) toward the fraud perpetrator prior to knowledge of the fraud. Attributes are chosen which are thought to universally evoke positive or negative feelings. The individual is purposefully not described using specifics which would likely be viewed differently by unique people (such as a staunch member of a political party, a devout to a religion, etc.). But rather, the manipulations rely on evoking feelings of similarity (things the individuals have in common) and a strong working relationship, or differences and a work relationship filled with disagreements.

Under the positive interpersonal affect manipulation, the relationship between the innocent co-worker (Morgan) and fraudster (Alex) is described as friendly and filled with trust and respect. The manipulation also describes Morgan and Alex's friendship outside of work as being built on many common interests, values, and membership in the same organizations. Under the negative interpersonal affect manipulation, the relationship between the innocent co-worker (Morgan) and fraudster (Alex) is described as antagonistic and lacking cooperation. The relationship between Morgan and Alex is further described as being fraught with disagreements resulting from very different personalities and values.

Reciprocity

Reciprocity is manipulated between participants. Reciprocity is a give and take relationship where a positive action by one party is reciprocated by the other, and so the stage of the relationship (who currently owes whom) is manipulated. In both manipulations, one of the individuals covers for the other during a critical time at work following an emergency that causes the individual to leave work without notifying superiors. In one manipulation, Morgan (innocent co-worker) owes Alex (fraudster) because Morgan left work without notifying a superior or the auditors just hours before the yearly financial statements were due to be filed. As the participant takes on the feelings of Morgan in this study, this manipulation also includes Morgan's feelings of gratefulness and indebtedness. In the other manipulation, Alex (fraudster) owes Morgan (innocent co-worker), because of the same situation.

Dependent Variables

Each of the dependent variables for hypotheses one thru three are presented on a separate screen and participants are asked to consider each question independently of the others. Participants are asked for how they believe the individual in the scenario would responded, as well as how he/she would respond in the same situation. Asking the question both ways allows for social desirability bias to be assessed. This study measures intention to report similarly to previous research (Ayers and Kaplan, 2005; Brink et al., 2013; Kaplan et al., 2011; Kaptein, 2011).

Social desirability bias is the tendency of individuals to adjust their behavior to present themselves positively in terms of socially and culturally acceptable norms (Chung and Monroe, 2003). Research shows that for accountants, social desirability bias is greater when individuals encounter more unethical situations, and that women tend to exhibit higher social desirability bias than men (Chung and Monroe, 2003). In this study, social desirability bias is calculated using the difference between the likelihood that Morgan would report and the likelihood that the participants would report in the same situation.

Again, participants are first asked to respond based on how they believe the accountant, Morgan, would behave. Three dependent variables are presented on a scale of 0 to 100 anchored with "not at all likely" and "very likely." The first is, "What do you believe the likelihood is that Morgan would report this instance of questionable behavior to the IBC's whistleblowing hotline?" The second is, "What do you believe the likelihood is that Morgan would report this instance of questionable behavior to their (Morgan and Alex's) supervisor?" And the third is, "What do you believe the likelihood is that Morgan would report this instance of questionable behavior to the internal auditor?"

Next, participants are asked to imagine that they were the ones facing the situation. The following three dependent variables were presented on a scale of 0 to 100 anchored with "not at all likely" and "very likely." The first is, "How likely is it that you would report this instance of questionable behavior to the IBC's whistleblowing hotline?" The second is, "How likely is it that you would report this instance of questionable behavior to your supervisor?" And the third is, "How likely is it that you would report this instance of questionable behavior to the internal auditor?" Each of the questions are considered independently as a form of internal reporting of fraud, and as such, are each individually set as the dependent variable in the ANOVAs presented later.

The dependent variables for hypothesis four are the differences in reporting intentions among the three outlets so that the difference in where participants intend to report may be analyzed. Since there are three outlets there are three difference scores. The three difference scores are the dependent variables for this hypothesis. All three dependent variables are subsequently analyzed for H4.

In this hypothesis participants' preference for each reporting outlet is analyzed. That is, do participants have a higher likelihood of reporting to one outlet over another. Participants are separately asked for their reporting intentions to the whistleblowing hotline, supervisor, and internal audit, as discussed above. A reporting intention difference score was created like that used by Kaplan et al., (2010) and used here as the dependent variable. This allows for a more sophisticated analysis, as opposed to simply comparing outlet means. The difference score is computed by subtracting the participants' indicated intention to report to one reporting outlet from another. For example, the supervisor dependent variable score is subtracted from the whistleblowing hotline dependent variable score. A positive score in this instance indicates that the individual had a higher likelihood of reporting to the whistleblowing hotline, while a negative score indicates that the individual had a higher likelihood of reporting to the supervisor.

For example, participant A indicated that their intention to report to the whistleblowing hotline is seventy percent (seventy out of 100 on the scale), their intention to report to their supervisor is eighty-five percent, and their intention to report to internal audit is sixty-five percent. The supervisor score of eighty-five percent is subtracted from the whistleblowing hotline score of seventy-five percent for a difference score of -15%. Then the internal audit score of sixty-five percent is subtracted from the supervisor score of eighty-five percent for a difference score of twenty percent. Lastly, the whistleblowing hotline score of seventy percent is subtracted from the internal audit score of sixty-five percent for a difference score of -5%. This calculation is done for all participants and the difference scores served as the dependent variable for H4. Table V summarizes the difference scores.

Participants

Participants are students enrolled in a graduate business course, with the majority enrolled in a graduate level accounting course. Some students participated in the experiment during dedicated class time (students had the opportunity to opt out and several did so), while others participated outside of class for extra credit offered by the course professor. All students accessed the experiment online through a Qualtrics link.

A total of 109 students completed the entire instrument and passed manipulation checks.[1] Table I summarizes the background information about these participants. As shown, participants' mean age is twenty-five, fifty-eight percent are female, fifty-four percent are U.S. citizens (with China being the other most common country of origin), forty-five percent are pursuing a Master of Accountancy, and sixty-five percent have two years or less of full time work experience.

Several recent studies use graduate students to examine whistleblowing intentions (e.g., Brink et al., 2015; Brink et al., 2013; Zhang et al., 2013; Kaplan et al., 2010). The use of students as proxies for entry-level employees is examined in prior studies, which generally find that students can be appropriate proxies (e.g., Elliott et al., 2007; Ashton and Kramer, 1980). With the advent of Amazon Mechanical Turk (MTurk) student responses have also been compared to those of MTurk workers and results indicate that responses between the groups do not substantially differ in many ways (such as in effort, attitudes about money, or judgement and decision-making behavior) (e.g., Goodman et al., 2012; Berinksy et al., 2012; Paolacci et al., 2010). The graduate student participants in this study are appropriate proxies for an employee who encounters fraud. Graduate students take accounting as part of their curriculum, so they understand the situation described in the case. Further, given the requirement for group work in the graduate curriculum, the mean age of twenty-five, and the likelihood that most students had at least participated in an internship prior to taking this experiment, it is reasonable to assume that participants had engaged in reciprocal behavior in the past and worked with others they did or did not like.

Bivariate statistical analyses do not reveal any demographic differences between groups. Demographic characteristics are also tested to determine if these variables are significant covariates. Covariate testing reveals full time work experience is significantly correlated with intention to report to both the whistleblowing hotline and internal audit. Individuals with more work experience are more likely to report to the whistleblowing hotline and internal audit. Prior research indicates that employees with greater tenure (experience) and higher organization levels tend to be more likely to whistleblow (Mesmer-Magnus and Viswesvaran, 2005). However, given the limited number of participants in this study with more than 10 years of work experience, some caution is required when interpreting the results of this study. Full time work experience is included in the models for whistleblowing hotline and internal audit reporting outlets.

Results

Manipulation Checks

To check the interpersonal affect manipulation, participants are asked "What was the overall impression given of Alex?" and respond on a scale from 0 to 100, anchored with "Alex was NOT likeable" and "Alex was likeable." Participants in the negative interpersonal affect condition (M=36.68; SD=22.19) indicate a significantly lower score than participants in the positive interpersonal affect condition (M=58.79; SD=28.67; t=-5.13, p=0.000). To check the reciprocity manipulation, participants are asked, "Please use the scale below to describe where Alex and Morgan's relationship stood" and respond on a scale from 0 to 100, anchored with "Alex owed Morgan" and "Morgan owed Alex." Participants in the Alex (fraudster) owes Morgan (fraud discoverer) condition (M=45.97; SD=20.08) indicate a significantly lower score than participants in the Morgan (fraud discoverer) owes Alex (fraudster) condition (M=60.86; SD=20.30; t=-5.07, p=0.000). The tests of hypotheses below include only those 109 participants which successfully passed the manipulation checks.

Tests of Hypotheses

Several ANCOVAs are employed to test the hypotheses, and can be found in Tables II, III, and IV. Reporting intention for each reporting outlet (whistleblowing hotline, supervisor, internal audit) serves as the dependent variable(s). The independent variables are reciprocity and interpersonal affect. For intention to report to the whistleblowing hotline, supervisor, and internal audit 49.7%, 20.1%, and 35.3% of variance, respectively, is explained by the models. In all three ANCOVAs, social desirability bias is a significant covariate, with full time work experience acting a significant covariate for likelihood of reporting to the whistleblowing hotline and internal audit. The results discussed below for Hypotheses 1, 2, and 3, are presented with one-tailed p-values.

Hypothesis 1 examines the effect of reciprocity on an individual's likelihood of reporting fraud, and states that an individual will be less likely to report when they feel indebted to the fraud perpetrator. In the presentation and discussion

[1] 189 students completed the instrument, those that failed a manipulation check were removed from the analyses.

of results, positive reciprocity is when the fraud perpetrator owes a debt to the fraud discoverer and negative reciprocity[1] is when the fraud discoverer feels as though they owe the fraud perpetrator. The main effect of reciprocity is significant only for intention to report to internal audit. When reporting to internal audit (F(1,109)=6.637, p=0.006), participants in the negative condition had a higher mean, 72.1 (SE=4.41), than participants in the positive condition, who had a mean of 60.60 (SE=4.56). Interestingly, the limited evidence indicates that individuals may be more likely to report when they feel indebted than when they do not, at least when reporting to internal audit. Therefore, the data and results are not consistent with the Hypothesis 1.

Hypothesis 2 examines the effect of interpersonal affect on an individual's likelihood of reporting fraud, and states that an individual will be less likely to report fraud when they experience positive affect toward the perpetrator (i.e., the fraud discoverer likes the fraud perpetrator). The main effect of interpersonal affect is significant for all three reporting outlets. When reporting to the whistleblowing hotline (F(1,109)=15.179, p=0.000), participants in the positive condition had a lower mean, 65.07 (SE=4.28), than those in the negative condition, 82.11 (SE=3.97). When reporting to the supervisor (F(1,109)=3.774, p=0.027), participants in the positive condition again had a lower mean, 72.50 (SE=4.54), than those in the negative condition, 81.01 (SE=4.26). Finally, when reporting to internal audit (F(1,109)=5.517, p=0.010), participants in the positive condition once again had a lower mean, 61.09 (SE=4.64), than those in the negative condition, 71.66 (SE=4.33). Taken together the data and results are consistent with Hypothesis 2.

Hypothesis 3 examines the interaction between the two main effects of interpersonal affect and reciprocity on an individual's likelihood of reporting fraud. The hypothesis states that the impact of affect will be greater when a feeling of indebtedness is absent. Figures II, III, and IV display the results of this interaction and are visually consistent with this hypothesis. The interaction of interpersonal affect and reciprocity is significant for intention to report to the whistleblowing hotline (F(1,109)=3.603, p=0.030), very marginally significant for intention to report the supervisor (F(1,109)=1.686, p=0.099), but not significant for intention to report to internal audit. As can be seen in Figures II and III, the means for negative reciprocity (where a feeling of indebtedness and perhaps gratitude are present) are much closer together than the means for positive reciprocity (where no feeling of indebtedness is present). Therefore, the data and results provide some support Hypothesis 3.

Hypothesis 4 examines participants' likelihood of reporting to one outlet over another to examine were participants prefer to report. A summary of the difference scores can be found in Table V. A positive score indicates that the first outlet listed is higher and a negative score indicates that the second outlet listed is higher.

Tables VI, VII, and VIII show the main effects, interactions, and cell means for each of the reporting outlet difference scores. In Table VI, the difference between the whistleblowing hotline and supervisor reporting intentions, results in a significant main effect for reciprocity (F(1,105)=3.009, p=0.043), a very marginally significant main effect for interpersonal affect (F(1,105)=1.690, p=0.098), but not a significant interaction (F(1,105)=0.585, p=0.223). The results indicate that participants preferred to report to the supervisor over the whistleblowing hotline when positive interpersonal affect or positive reciprocity was present. In Table VII, the difference between the supervisor and internal audit reporting intentions, results in a significant main effect for reciprocity (F(1,105)=4.745, p=0.016), but no significant main effect for interpersonal affect (F(1,105)=0.090, p=0.383), nor a significant interaction (F(1,105)=0.344, p=0.280). Results indicate that participants preferred to report to the supervisor over internal audit in all instances, but even more so when positive reciprocity was present. In Table VIII, the difference between the internal audit and whistleblowing hotline reporting intentions, results in no significant main effect for interpersonal affect (F(1,105)=1.479, p=0.114), or reciprocity (F(1,105)=0.001, p=0.490), but in a very marginally significant interaction (F(1,105)=1.961, p=0.082). The results indicate that participants preferred to report to the whistleblowing hotline over internal audit in almost all instances. Overall, it generally appears as though employees are most likely to report their supervisor, followed by the whistleblowing hotline, and are least likely to report through internal audit. Therefore, the results provide some support for employees preferring to report their supervisor.

Discussion and Conclusion

This study sought to delve into how peer employee relationships affect the intention to report fraud. Much of the prior whistleblowing literature focuses on supervisor reporting (Barnett et al., 1996), so it is necessary to consider how

[1] Negative reciprocity is not used in its classical sense of reciprocating pain, mistreatment, or punishment.

reporting a peer may be different than reporting a supervisor. Reporting a peer involves going to an authority outside of one's group to report a group member's wrongdoing and is often thought of as a specific type of whistleblowing (Trevino and Victor, 1992). Peer whistleblowing is more delicate than any other type of whistleblowing (Loyens, 2013) as the individuals involved are confronted with a difficult ethical dilemma (Barnett et al., 1996). Group norms, complex group pressures, and fear of rejection discourage whistleblowing (Trevino and Victor, 1992). When considering reporting on a peer the individual must weigh the "protection of integrity versus the protection of colleagues" (Loyens, 2013). Yet, research on the effects of power distance (peer versus superior) in whistleblowing is rare, so little evidence is available as whether individuals would be less likely to report a peer, as the preceding discussion would lead one to believe. This is part of the motivation behind the Taylor and Curtis (2013) study, which examines the effects of power distance on auditor reporting. The authors find that individuals are more likely to report the unethical conduct of their peers than their superiors. Still, more research is needed in peer reporting and the effects of power distance.

In the scenario in this study, one of the parties committing fraud took advantage of the relationship. Interpersonal affect further complicates both the reciprocal exchange relationship and what to do when fraud is discovered. Being in an exchange relationship with co-workers is generally necessary to efficiently complete one's job, but it can be especially difficult when you are the one who owes the debt to someone you dislike. Interpersonal affect can also lead to a decreased desire to report, as it is difficult to report someone whom you truly like. This study looks at the interplay between these variables, reciprocity, and interpersonal affect.

Results indicate that affect may be more troublesome for intention to report than reciprocity. Interpersonal affect significantly predicts intention to report for all reporting outlets, whereas reciprocity is only significant for intention to report to internal audit. The interaction between interpersonal affect and reciprocity is significant for intention to report to the whistleblowing hotline and supervisor. Generally, intention to report is highest when negative interpersonal affect (dislike toward the fraudster) and negative reciprocity (fraud discoverer is the party indebted) are present, and lowest when positive interpersonal affect is present.

The decrease in intention to report when the fraudster is likeable is worrisome. Management works to ensure that employees get along and have good work relationships, which helps to foster a positive work environment. Management tries to hire individuals who seem to fit in and appear as though they will get along with potential co-workers. The likelihood that positive interpersonal affect decreases intention to report should be addressed through employee training, education, awareness, and policies. Prior studies show that employees are more likely to report their peers when they perceive that doing so is part of their role responsibility (Trevino and Victor, 1992). However, even though individuals are less likely to report when they liked the fraudster, the mean likelihood of reporting was still rather high at sixty-one to seventy-two percent.

Interestingly, the limited findings for reciprocity were the opposite of what was hypothesized. When the fraud discoverer was indebted to the fraud perpetrator they were not less likely to whistleblow, but more likely. Were these individuals angry at owing a debt and perceived reporting cancelled the debt without having to repay the favor? More research is needed to tease out the reason behind these contradictory findings.

This study has several limitations. First, experiments require the attention of participants, so these experiments tend to be brief. It can be difficult in a short period of time for participants to internalize the feelings related to affect and reciprocity that were being manipulated in an otherwise very simplistic environment. Second, experiment participants were graduate business students of varying nationalities. Although neither U.S. citizenship nor country of origin were significant covariates in this study it is unknown if this affected results. Pilot testing indicated that these variables would be significant covariates, so the fact that they were not in the final test is peculiar. Lastly, intention to report, although a common measure to study whistleblowing, is very different from reporting in real life. These participant students might react very differently to such a situation if they encounter it in their future careers.

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Figure I: Experimental Procedure

Link

- Individuals receive, and if they choose, click on, a link they received via BlackBoard.

Informed Consent

- Participants state that they consent to participate and are over the age of 18.

Scenario

- Participants receive one of four possible scenarios to read.

Experimental Questions

- Participants answer eight questions to determine their likelihood of reporting the fraud.
- Participants are asked both about how they think the accountant in the scenario would act as well as what they would do in that same situation.

Case Questions & Manipulation Checks

- Participants answer five questions about the ease of the case and ethicality of the act commited in the scenario.
- Participants answer two manipulation check questions.

Demographic Questions

- Participants answer 12 demographic questions.

Figure II: Participants' Observed Likelihood of Reporting to the Whistleblowing Hotline

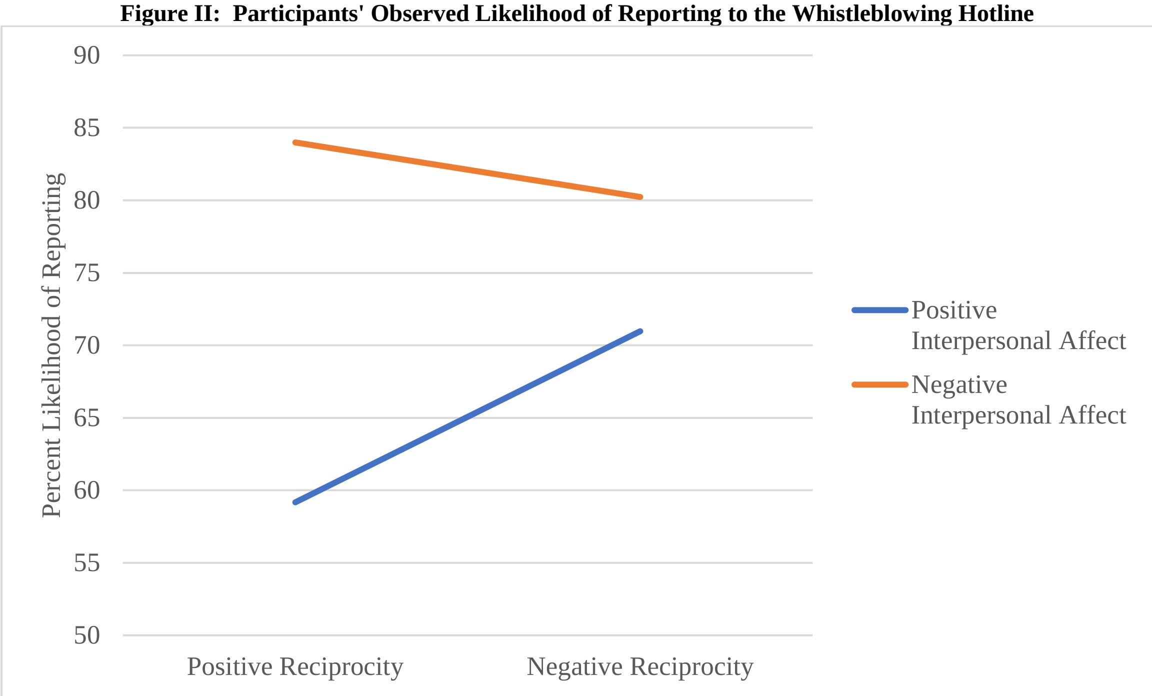

Figure II reports the participants' likelihood of reporting the fraud to the whistleblowing hotline by experimental condition. The experiment varies interpersonal affect (negative or positive) and reciprocity (negative or positive).

Figure III: Participants' Observed Likelihood of Reporting to a Supervisor

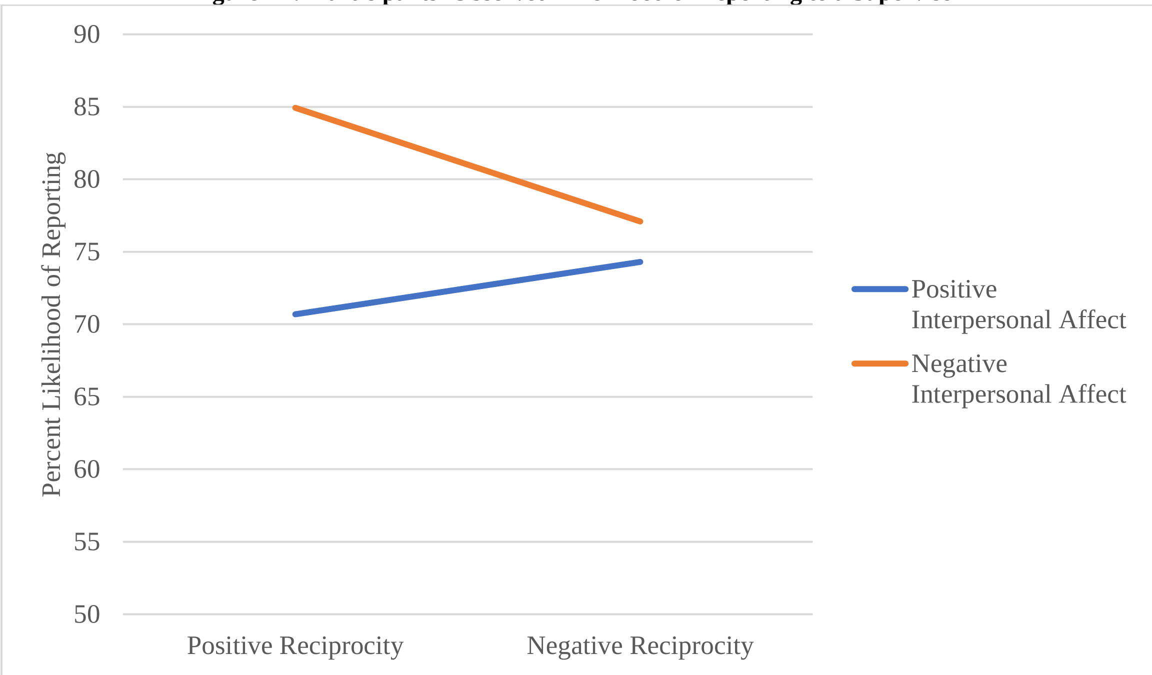

Figure III reports the participants' likelihood of reporting the fraud to a supervisor by experimental condition. The experiment varies interpersonal affect (negative or positive) and reciprocity (negative or positive).

Figure IV: Participants' Observed Likelihood of Reporting to Internal Audit

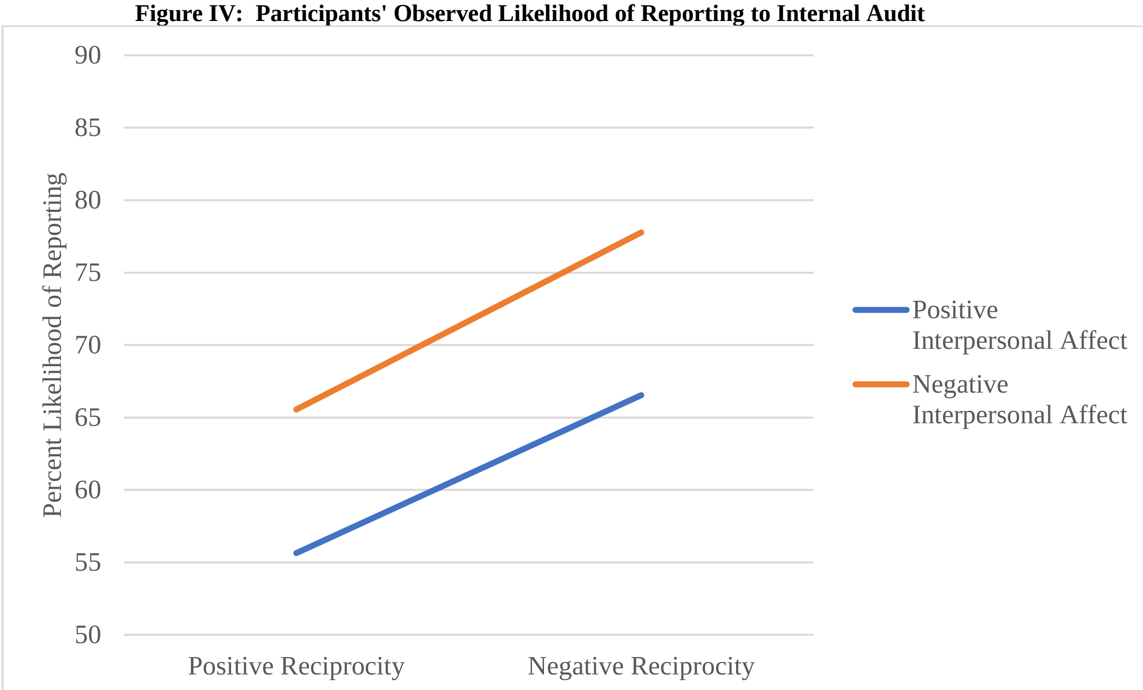

Figure IV reports the participants' likelihood of reporting the fraud to internal audit by experimental condition. The experiment varies interpersonal affect (negative or positive) and reciprocity (negative or positive).

Table I: Demographic Information

	Successful Participants
Age	
Mean	25.32
SD	5.50
Gender	
Male	42.2%
Female	57.8%
Citizenship	
United States	54.1%
Asia	29.4%
Middle East	9.0%
India	8.3%
Other/Unknown	7.3%
Degree Pursuing	
Master of Accountancy	45.0%
Master of Business Administration	42.2%
Other	12.8%
Full-Time Work Experience	
0-2 years	65.1%
3-4 years	10.1%
5-10 years	19.3%
11+ years	5.5%

109 Successful Participants

Table II: Intention to Report to Whistleblowing Hotline

Panel A: ANCOVA Results with Social Desirability Bias as a Covariate

	SS	df	MS	F	p-value*
Social Desirability Bias	36,660.98	1	36,660.98	81.336	0.000
Work Experience	2,443.62	1	2,443.62	5.421	0.022
Interpersonal Affect	7,777.59	1	7,777.59	15.179	0.000
Reciprocity	410.12	1	410.12	0.910	0.171
Affect * Reciprocity	1,623.90	1	1,623.90	3.603	0.030
Error	46,425.97	103	450.74		
Total	700,800.00	109			

R Squared = 0.520, Adjusted R Squared = 0.497

*p-values other than social desirability bias and work experience are one-tailed

Panel B: Cell Means (Standard Error) {Sample Size} across Treatment Conditions with Social Desirability Bias and Work Experience as a Covariates

	Positive Reciprocity	Negative Reciprocity	Main Effect: Interpersonal Affect
Negative Interpersonal Affect	83.99	80.23	82.11
	(3.91)	(4.03)	(3.97)
	{30}	{28}	{58}
Positive Interpersonal Affect	59.17	70.97	65.07
	(4.48)	(4.07)	(4.28)
	{23}	{28}	{51}
Main Effect: Reciprocity	71.58	75.60	73.59
	(4.20)	(4.05)	(4.13)
	{53}	{56}	{109}

Cell means represent participant responses to the following question: "How likely is it that you would report this instance of questionable behavior to the Innovative Bicycle Co.'s whistleblowing hotline?" Participants indicated their response on a sliding scale from 0 to 100, anchored with not at all likely and very likely.
Interpersonal affect is whether the participant received the paragraph which made the fraudster appear unlikeable (negative affect) or likeable (positive affect).
Reciprocity is whether the participant received the paragraph where the fraudster was indebted to Morgan (positive reciprocity) or where Morgan was indebted to the fraudster (negative reciprocity).
Social desirability bias is the difference between how the participants indicated they would report in the situation and how they believed the other party would report.
Work experience is the participants' indicated number of years of full time work experience.

Table III: Intention to Report to Supervisor

Panel A: ANCOVA Results with Social Desirability Bias as a Covariate

	SS	df	MS	F	p-value*
Social Desirability Bias	14,784.01	1	14,784.01	28.466	0.000
Interpersonal Affect	1,959.97	1	1,959.97	3.774	0.027
Reciprocity	121.20	1	121.20	0.233	0.315
Affect * Reciprocity	875.48	1	875.48	1.686	0.099
Error	54,012.59	104	519.35		
Total	719,118.00	109			

R Squared = 0.231, Adjusted R Squared = 0.201

*p-values other than social desirability bias are one-tailed

Panel B: Cell Means (Standard Error) {Sample Size} across Treatment Conditions with Social Desirability Bias as a Covariate

	Positive Reciprocity	Negative Reciprocity	Main Effect: Interpersonal Affect
Negative Interpersonal Affect	84.93	77.09	81.01
	(4.21)	(4.31)	(4.26)
	{30}	{28}	{58}
Positive Interpersonal Affect	70.69	74.30	72.50
	(4.75)	(4.32)	(4.54)
	{23}	{28}	{51}
Main Effect: Reciprocity	77.81	75.70	76.76
	(4.48)	(4.32)	(4.40)
	{53}	{56}	{109}

Cell means represent participant responses to the following question: "How likely is it that you would report this instance of questionable behavior to your supervisor?" Participants indicated their response on a sliding scale from 0 to 100, anchored with not at all likely and very likely.
Interpersonal affect is whether the participant received the paragraph which made the fraudster appear unlikeable (negative affect) or likeable (positive affect).
Reciprocity is whether the participant received the paragraph where the fraudster was indebted to Morgan (positive reciprocity) or where Morgan was indebted to the fraudster (negative reciprocity).
Social desirability bias is the difference between how the participants indicated they would report in the situation and how they believed the other party would report.

Table IV: Intention to Report to Internal Audit

Panel A: ANCOVA Results with Social Desirability Bias and Work Experience as Covariates

	SS	df	MS	F	p-value*
Social Desirability Bias	25,976.30	1	25,976.30	48.036	0.000
Work Experience	2,332.78		2,332.78	4.314	0.040
Interpersonal Affect	2,983.63	1	2,983.63	5.517	0.010
Reciprocity	3,589.24	1	3,589.24	6.637	0.006
Affect * Reciprocity	11.70	1	11.70	0.022	0.442
Error	55,698.75	103	540.77		
Total	577,397.00	109			

R Squared = 0.383, Adjusted R Squared = 0.353

*p-values other than social desirability bias and work experience are one-tailed

Panel B: Cell Means (Standard Error) {Sample Size} across Treatment Conditions with Social Desirability Bias and Work Experience as Covariates

	Positive Reciprocity	Negative Reciprocity	Main Effect: Interpersonal Affect
Negative Interpersonal Affect	65.55	77.77	71.66
	(4.25)	(4.40)	(4.33)
	{30}	{28}	{58}
Positive Interpersonal Affect	55.64	66.54	61.09
	(4.87)	(4.41)	(4.64)
	{23}	{28}	{51}
Main Effect: Reciprocity	60.60	72.16	66.38
	(4.56)	(4.41)	(4.49)
	{53}	{56}	{109}

Cell means represent participant responses to the following question: "How likely is it that you would report this instance of questionable behavior to the internal auditor?" Participants indicated their response on a sliding scale from 0 to 100, anchored with not at all likely and very likely.
Interpersonal affect is whether the participant received the paragraph which made the fraudster appear unlikeable (negative affect) or likeable (positive affect).
Reciprocity is whether the participant received the paragraph where the fraudster was indebted to Morgan (positive reciprocity) or where Morgan was indebted to the fraudster (negative reciprocity).
Social desirability bias is the difference between how the participants indicated they would report in the situation and how they believed the other party would report.

Table V: Participants' Likelihood of Reporting Differences Between Reporting Outlets
Cell Means

Cell	Whistleblowing Hotline - Supervisor Difference	Supervisor - Internal Audit Difference	Internal Audit - Whistleblowing Hotline Difference
Negative Interpersonal Affect / Negative Reciprocity	4.46	2.14	-6.61
Negative Interpersonal Affect / Positive Reciprocity	-2.20	17.07	-14.87
Positive Interpersonal Affect / Negative Reciprocity	0.79	6.93	-7.71
Positive Interpersonal Affect / Positive Reciprocity	-16.39	15.52	0.87

Cell means represent the difference in participant responses between intention to report to the outlets listed, where the second listed outlet score is subtracted from the first listed outlet score. A positive mean indicates that participants were more likely to report to the first listed outlet, a negative mean (in red above) indicates participants were more likely to report to the second outlet listed.
Interpersonal affect is whether the participant received the paragraph which made the fraudster appear unlikeable (negative affect) or likeable (positive affect).
Reciprocity is whether the participant received the paragraph where the fraudster was indebted to Morgan (positive reciprocity) or where Morgan was indebted to the fraudster (negative reciprocity).

Table VI: Intention to report to WB Hotline—Supervisor

Panel A: ANCOVA Results

	SS	df	MS	F	p-value*
Interpersonal Affect	2,154.16	1	2,154.16	1.690	0.098
Reciprocity	3,834.37	1	3,834.37	3.009	0.043
Affect * Reciprocity	745.53	1	745.53	0.585	0.223
Error	133,811.96	105	1,274.40		
Total	140,712.00	109			

R Squared = 0.044, Adjusted R Squared = 0.016

*p-values are one-tailed

Panel B: Cell Means (Standard Deviation) {Sample Size} across Treatment Conditions

	Positive Reciprocity	Negative Reciprocity	Main Effect: Interpersonal Affect
Negative Interpersonal Affect	-2.20	4.46	1.02
	(35.35)	(29.35)	(32.48)
	{30}	{28}	{58}
Positive Interpersonal Affect	-16.39	0.79	-6.96
	(47.56)	(30.15)	(39.51)
	{23}	{28}	{51}
Main Effect: Reciprocity	-8.36	2.63	-2.72
	(41.29)	(29.54)	(35.99)
	{53}	{56}	{109}

Cell means represent the difference in participant responses between intention to report to the whistleblowing hotline and the supervisor, where supervisor scores are subtracted from hotline scores. A positive mean indicates that participants were more likely to report to the whistleblowing hotline, a negative mean (in red above) indicates participants were more likely to report to the supervisor.
Interpersonal affect is whether the participant received the paragraph which made the fraudster appear unlikeable (negative affect) or likeable (positive affect).
Reciprocity is whether the participant received the paragraph where the fraudster was indebted to Morgan (positive reciprocity) or where Morgan was indebted to the fraudster (negative reciprocity).

Table VII: Intention to report to Supervisor – Internal Audit

Panel A: ANCOVA Results

	SS	df	MS	F	p-value*
Interpersonal Affect	70.85	1	70.85	0.090	0.383
Reciprocity	3,70.76	1	3,70.76	4.745	0.016
Affect * Reciprocity	270.35	1	270.35	0.344	0.280
Error	82,554.89	105	82,554.89		
Total	98,307.00	109			

R Squared = 0.048, Adjusted R Squared = 0.021

*p-values are one-tailed

Panel B: Cell Means (Standard Deviation) {Sample Size} across Treatment Conditions

	Positive Reciprocity	Negative Reciprocity	Main Effect: Interpersonal Affect
Negative Interpersonal Affect	17.07	2.14	9.86
	(28.98)	(23.84)	(27.44)
	{30}	{28}	{58}
Positive Interpersonal Affect	15.52	6.93	10.80
	(39.03)	(18.61)	(29.60)
	{23}	{28}	{51}
Main Effect: Reciprocity	16.40	4.54	10.30
	(33.37)	(21.33)	(28.34)
	{53}	{56}	{109}

Cell means represent the difference in participant responses between intention to report to the supervisor and internal audit, where internal audit scores are subtracted from supervisor scores. A positive mean indicates that participants were more likely to report to the supervisor, a negative mean (in red above) indicates participants were more likely to report to internal audit.
Interpersonal affect is whether the participant received the paragraph which made the fraudster appear unlikeable (negative affect) or likeable (positive affect).
Reciprocity is whether the participant received the paragraph where the fraudster was indebted to Morgan (positive reciprocity) or where Morgan was indebted to the fraudster (negative reciprocity).

Table VIII: WB Hotline

Panel A: ANCOVA Results

	SS	df	MS	F	p-value*
Interpersonal Affect	1,443.67	1	1,443.67	1.479	0.114
Reciprocity	0.710	1	0.710	0.001	0.490
Affect * Reciprocity	1,913.78	1	1,913.78	1.961	0.082
Error	102,464.47	105	102,464.47		
Total	112,001.00	109			

R Squared = 0.031, Adjusted R Squared = 0.003

*p-values are one-tailed

Panel B: Cell Means (Standard Deviation) {Sample Size} across Treatment Conditions

	Positive Reciprocity	Negative Reciprocity	Main Effect: Interpersonal Affect
Negative Interpersonal Affect	-14.87	-6.61	-10.88
	(36.12)	(28.24)	(32.54)
	{30}	{28}	{58}
Positive Interpersonal Affect	0.87	-7.71	-3.84
	(32.86)	(26.78)	(29.68)
	{23}	{28}	{51}
Main Effect: Reciprocity	-8.04	-7.16	-7.59
	(35.30)	(27.27)	(31.29)
	{53}	{56}	{109}

Cell means represent the difference in participant responses between intention to report to internal audit and the whistleblowing hotline, where hotline scores are subtracted from internal audit scores. A positive mean indicates that participants were more likely to report to internal audit, a negative mean (in red above) indicates participants were more likely to report to the hotline.
Interpersonal affect is whether the participant received the paragraph which made the fraudster appear unlikeable (negative affect) or likeable (positive affect).
Reciprocity is whether the participant received the paragraph where the fraudster was indebted to Morgan (positive reciprocity) or where Morgan was indebted to the fraudster (negative reciprocity).