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An Examination of Fraud from Three Perspectives: The Perpetrator, the Whistleblower, and the Examiner

Ali Abdullah Alhasan

Dissertation submitted
to the John Chambers College of Business and Economics
At West Virginia University

In partial fulfillment of the requirements for the degree of
Doctor of Philosophy in
Accounting

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2022

Keywords: fraud, whistleblowing, framing, psychological distance

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ABSTRACT

An Examination of Fraud from Three Perspectives: The Perpetrator, the Whistleblower, and the Examiner

Ali Abdullah Alhasan

This dissertation is made up of three studies that look at fraud from three different perspectives. The first study looks at fraud from the perspective of the perpetrator. The second study examines fraud from the whistleblower’s perspective. The third study studies fraud from the perspective of the investigator (internal auditor).

Study one utilized an online experiment via Amazon Mechanical Turk (M-Turk) to look at whether technology has a psychological distancing effect on humans, and how that may affect individuals to commit fraud. In addition, the study also examines how one’s familiarity with technology, measured via iPhone screen time, can moderate the relationship between the psychologic distancing effect of technology and fraudulent or unethical behavior. Results show a moderate significant effect for the interaction, indicating that for those who are less familiar with technology, their behavior did not differ regardless of which group they were in, whereas those who are more familiar with technology behaved more ethically in the more real (low technology) group. This study contributes to the fraud literature by demonstrating an advantage to hiring more tech-savvy employees in terms of ethical behavior within the workplace.

Study two also utilized an online experiment on M-Turk to examine whistleblowers. Specifically, the study manipulated the tone of code of conduct (positive versus negative) and measured other traits (e.g., narcissism, perception of self-ethics, and ethics of other employees) while participants were presented with an opportunity to blow the whistle on a fraud they were witnessing. Results show that the tone of the code and some traits do play a role in determining whether an employee decides to delay blowing the whistle or not. For example, in mediation analysis a negative tone increased perception of termination for violations of the codes and hence caused participants to report earlier. In addition, males and more educated were more likely to delay whistleblowing. This study contributes to the whistleblowing and framing literature as it documents how the framing of the codes could affect the ethical behavior of whistleblowing.

Study three utilized three paper-based experiments with a group of accounting professionals/internal auditors. The three experiments looked at how level of detail, framing of future promotion, and supervisor’s emotional intelligence may affect the choice of project to investigate a potential fraud, how serious a project is rated, and how much in resources should be allocated to the project. In addition, the study also looked at other personality traits like trust and narcissism. Results show that level of detail does matter as individuals that perceived more detail in a potential whistleblower tip tend to rate a higher seriousness and allocated more resources. However, in experiments 2 and 3 the choice of projects was not affected by framing or supervisor emotional intelligence, but instead additional analysis revealed an interesting interaction between choice of project and the experiment manipulation on the amount of resource allocated to projects. This study contributes to several fields (auditing, fraud, and psychology) as it documents the effect of source credibility, framing and supervisor emotional intelligence on fraud investigators, which could help companies provide additional training on what to say when blowing the whistle, and what type of supervisors they should hire.
DEDICATION

I dedicate this dissertation to the following: First, to WVU for giving me the opportunity to earn my degree. I am truly thankful as my experience has not only changed me academically/intellectually, but also made me a better person. Second, to the faculty at WVU Accounting department, specifically Dr. Riley, Dr. Fleming, Dr. Holderness, and Dr. Sorenson, whose continuous support throughout my five years in the program made it possible for me to succeed as a PhD student. Third, to my family for being patient while I embarked on this journey, especially my parents. Finally, to my friends, the old and the new ones I made in Morgantown, for adding love and laughter into my daily routine.
ACKNOWLEDGEMENT

I would like to acknowledge my advisor and dissertation chair, Dr. A. Scott Fleming for the support, positivity and all the weekly meetings that eventually resulted in this dissertation. In addition, I would also like to acknowledge the rest of my committee members, Dr. Richard A. Riley for his endless support as department chair, Dr. D. Kip Holderness Jr. for the valuable feedback that inspired my solo paper, and for all the one-on-one research discussions that improved the quality of my research, and finally Dr. Christopher P. Scheitle for his guidance and his role in giving me a strong statistical foundation, which I will keep utilizing as a researcher.

Furthermore, I want to acknowledge the Accounting PhD program coordinator, Dr. Trevor L. Sorenson, for his role in making sure I reach the light at the end of the tunnel. I also want to acknowledge the efforts of all the faculty that taught me in different classes throughout my time at WVU. The knowledge gained from each one of them has significantly developed my abilities as a researcher.

Lastly, I would also like to take this opportunity to acknowledge my Accounting PhD cohort, Marie Rice, and Chen Zhao, in addition to other classmates from both within and outside the Business School for supporting me and encouraging me in times where I really needed a push. They all made my experience unique and fun.
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CHAPTER ONE: INTRODUCTION

Fraud has proven to be very costly to organizations. On one hand, the organizations that are victims to a fraud scheme suffer significant losses, and on the other hand, so do the organizations that fail to detect the fraud early on (ACFE, 2020). Therefore, this dissertation seeks to study fraud from three different perspectives: the perpetrator, the whistleblower, and the examiner.

The first study in this dissertation looks at how technology can affect potential fraudsters. Specifically, the study seeks to find out if technology affects psychological distance in a way that affects fraudulent behavior. In addition, the study also seeks to investigate if the effect of technology on fraudulent behavior is moderated by how attached or familiar to technology the perpetrator may be. Results show some support for psychological distance playing a role in ethical behavior. In addition, results show moderate support for attachment/familiarity to technology acting as a moderator where we see individuals that are more familiar with technology were more ethical in a more real (less psychologically distant) group compared to those in a less real group, whereas those who are less familiar to technology did not differ between the two groups (more and less real). The study holds practical implications as the past year has witnessed a shift towards online technology due to the COVID-19 pandemic (Yan, 2020). Therefore, better understanding how such a shift affects employees’ potential unethical behavior is important to organizations.

The second study examines the interplay between external factors (framing of a code of conduct and perception of co-worker ethics) and internal factors (personality traits, perception of self-ethics and demographics) on the decision to blow the whistle when financial incentives are present. Results show that both external and internal factors matter as to whether a potential whistleblower decides to report early or delay reporting to gain additional gains. The study
contributes to the literature by providing a better understanding of what affects the whistleblower specially since the Dodd Frank Act presents financial incentives for reporting fraud (Brink et al., 2013). In addition, whistleblowing is of practical importance as it remains the number one tool to preliminarily detect fraud (ACFE, 2020).

The third and last study explores fraud from the internal fraud examiner’s perspective. The study seeks to better understand what factors affect the choice of fraud case to examine. In a series of three experimental studies, results show that perception of how credible the whistleblower tip is, and work experience affected both how the examiner rates the seriousness of the tip and how much of the budget should be allocated to examine the tip. However, results show no support for a relationship between examiner’s personal traits, such as skepticism, tolerance for ambiguity, trust, narcissism, and risk literacy on the examiners’ preferences on which fraud case to examine. A better understanding of factors that affect fraud examiners can improve the efficiency of future examinations.
CHAPTER TWO: EXAMINING THE MODERATING EFFECT OF TECHNOLOGY ATTACHMENT ON THE RELATIONSHIP BETWEEN FRAUD AND PSYCHOLOGICAL DISTANCE

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The COVID-19 pandemic has caused a big shift towards online platforms. For example, businesses shifted to working remotely, schools shifted to online teaching, and social interactions shifted to social media. This study explores the consequences of such a shift on the perpetration of fraud. While technology might increase psychological distance, which may lead to unethical behavior, prior studies have shown mixed results for the relationship between psychological distance and ethical behavior. Therefore, this study adds to prior literature by using an experiment to examine the effect of psychological distance, via a more real versus more online environment, on the commission of fraud. In addition, this study further contributes to the literature by examining whether attachment to technology moderates the relationship, which is important for organizations that are currently using online technology in its day-to-day operations. Finally, results show that attachment to technology does have a moderating effect and that psychological distance does play a role in ethical behavior. Future studies can further examine the role of psychological distance via an improved design to better understand the distinct roles played by the two measures (CLT versus ethical distancing). In addition, future research can also investigate whether media richness theory has an effect on ethical behavior.

Key words: psychological distance, fraud, technology attachment, construal level theory
1.0 INTRODUCTION

Fraud occurs when an individual knowingly misrepresents the truth or conceals a material fact to induce another individual to act to his/her detriment (Garner, 2004). There are several types of fraud, including occupational fraud, which has become widespread globally (ACFE, 2020). Occupational fraud represents a type of fraud in which an individual acts fraudulently against his employer, and the ACFE 2020 Report to the Nations (ACFE, 2020) estimates approximately 2,500 cases of occupational fraud. Due to the negative impact and cost of fraud, researchers and practitioners looked at ways to prevent and detect fraud, such as the use internal controls as a preventive measure (Dorminey et al., 2012; Trompeter et al., 2013; Asare et al., 2013) and anonymous whistleblowing hotlines to preliminarily detect fraudulent acts (Dworkin, 2007; Miceli et al., 2009; Trompeter et al., 2013; Taylor & Curtis, 2010). The latter is very important as approximately 43% of occupational frauds are preliminarily detected by tips (ACFE, 2020). With the recent COVID-19 pandemic there has been a big shift to an online/virtual environment in business and the education system (Yan, 2020), which may have important operational ramifications as it relates to ethics and fraud (Dilla et al., 2013), especially as features from the virtual world become incorporated in the business environment (Reeves & Read, 2009). This change in workplace environment has highlighted and opened an important literature gap. With many employees working virtually, does this increase or lessen the intent and likelihood of occupational fraud? To help better understand this new environment, I utilized an experiment that incentivized participants to misreport and examined the rate at which participants misreport, contrasting two theories which predict opposite outcomes; Ethical Distancing (Kaufmann et al., 2005), which claims that the more psychologically distant an individual is from an act the more
likely that individual will behave unethically, and Construal Level Theory (Trope & Liberman, 2010), which claims that more psychologically distant individuals will behave more ethically.

Technology has witnessed significant advancement and usage in the recent period such as the increase in Zoom users and the increase in e-learning capacity for schools that use Blackboard, Canvas, etc. (Yan, 2020). In addition, consumer behavior has also changed during the pandemic as online purchases in the grocery and retail sectors have experienced high growth (Hobbs, 2020). While such advancements do have advantages to the world in general and to the business world specifically, there may be disadvantages as well. For example, technology may make it easier for individuals to commit fraud by introducing new fraud channels or even making it easier to rationalize by distancing individuals from the act and the consequences of fraudulent behavior (Guragai et al., 2017). However, not all individuals are accustomed, equally familiar, or attached to technology, even if now they are required to use it on a daily basis. For instance, some individuals might regularly use their smartphone, while others may not even own one. The management literature looks into the moderating effect of technology. For example, Kuo (2013) finds that technology readiness moderates the relationship between information systems qualities and organizational performance by enhancing the positive effect information system quality on organizational performance. In addition, Middlemist and Hitt (1981) found that technology moderated the relationship between perceived work environment and subunit effectiveness in that the relationship became more positive as technological complexity increased. However, to my knowledge, no accounting research has looked at whether familiarity to technology can act as a moderator between psychological distance and ethical behavior, particularly when working remotely. In other words, might differences in how attached a person is to technology moderate the distancing effect technology is thought to have?
Reber et al. (2004) utilizes the concept of processing fluency to describe how easily information is processed, noting that individuals process information easier if that information is familiar to them. In addition, fluent processing of a piece of information will make people more likely to think that the information is true and real (Reber & Schwarz, 1999). Utilizing an over-generalized stereotype to illustrate the point, imagine the comparison of old and young individuals. Older generations may have less technological interactions since technology was less pervasive when they were young, whereas younger people today are practically raised with technology. Therefore, younger individuals, being raised in a more technological world, are more familiar with technology and will perceive the technological world as more real or part of their reality, which as a result might reduce the psychological distancing effect compared to older individuals. As the younger “Generation Z” (individuals born in the early 2000’s) enter the workforce and as many work environments have shifted online during the COVID-19 pandemic, companies might have employees that are more attached to technology than previous generations and knowing how such a difference might affect their ethical behavior is important to business owners. The potential impact on occupational fraud in this new environment, and which theory in my experimental context best explains the phenomenon, would add to our understanding, and fill a current literature gap.

The purpose of this research is twofold; one, to see which of the two theories, ethical distancing, or Construal Level Theory, better explain the relationship between psychological distance and commission of fraud as a main effect; and two, to see if attachment to technology moderates the effect of psychological distance on fraudulent behavior. This study makes several contributions to the fraud, technology, and criminology generational difference literature, which has significant overlap to the accounting profession. In addition, due to limitations in the past,
younger Generation Z members were too young to be included in such studies; hence this study has a sample that includes such individuals who were born and raised surrounded by technology and smartphones. Furthermore, this study is timely in the sense it comes during the COVID-19 pandemic when more and more individuals are working remotely and utilizing technology.

The remainder of the paper proceeds as follows: (2) the Background and Hypothesis section presents the related literature in fraud, technology, and distancing and the hypothesis. (3) The Methodology presents how the study is designed, who are the participants, the experimental tasks/procedures, and the variables measured. (4) The Analysis section presents the results. (5) The Discussion section presents a summary of the practical and theoretical contribution made by the study, in addition to its limitations.

2.0 BACKGROUND AND HYPOTHESIS:

2.1 Fraud & Asset Misappropriation

The ACFE Report to the Nations (ACFE, 2020) shows that occupational fraud is widespread with an estimated 2,500 cases reported and spread over twenty-three industries and 125 countries. These occupational frauds can be categorized in three main categories: asset misappropriation, corruption, and financial statements fraud. This research focuses on asset misappropriation, as it is the most common scheme used, making up 86% of total fraud cases in the report (ACFE, 2020).

To better understand why people commit fraud, Cressey (1950) built upon Sutherland’s (1940) White Collar Crime theory and came up with what is now referred to as the fraud triangle. Based on the fraud triangle, for fraud to occur the perpetrator must be able to rationalize the act, perceive an opportunity to act, and must have an incentive or pressure to act fraudulently. Prior research has focused on the incentives/pressures and opportunity elements of triangle (Dechow et
However, the rationalization element did not receive as much focus in the literature (Hogan et al., 2008; Murphy & Dacin, 2011). In fact, Trompeter et al. (2013) identifies the study of rationalization as an open area for future research, which provides motivation for this study. Rationalization is a mental process that allows an individual to justify his/her problematic behavior (Sloane, 1944; Fointiat, 1998). The justification of problematic behavior reduces the negative affect related to the act, which as result encourages unethical behavior, but in order for an individual to successfully rationalize a bad act he/she must believe their own rationalization to be true (Kunda, 1990). This research expands understanding of distancing may impact rationalization in the commission of occupational fraud.

2.2 Ethical Distancing

Jones (1991) and Moberg & Seabright (2000) look at moral reasoning while focusing on how psychologically connected actors are to the outcome of their actions. The authors divide behavior into three components, the person committing the act, the action itself, and the outcome or result of the behavior. The stronger the perceived connection between the components, the more ethical a person will be. For example, Kaufmann et al. (2005) looks at how bad actors reduce the connection to the outcome when behaving unethically and posit that actors can create ethical distancing. This is achievable in several ways, one of which involves the comparison of the wrong act to a more wrong alternative act. For example, the actor might agree that stealing is wrong but still steals under the rationalization that he could have done something else that is much worse, such as committing murder. Within the context of this proposal, an actor might rationalize stealing when done through a computer system because it may not be as bad as physically stealing money. Neutralization is a concept somewhat similar to rationalization, in that the more capable a person
is of neutralizing the perception that he/she violated a social norm the more likely he/she will behave unethically (Sykes & Matza, 1957). The remote-working environment creates distancing as compared to an in-person working environment, which then in turn may aid in rationalization.

Guragai et al. (2017) summarizes research related to the intersection between Accounting Information Systems (AIS) and ethics, and calls attention to gaps in the literature, arguing that the interaction between people and AIS presents a risk of unethical behavior. The existence of a system may cloud an accountant’s awareness or even how they evaluate an event as being wrong or right (Hannan et al., 2006). In addition, digital systems or certain technologies may encourage unethical behavior by giving the actors the ability to distance themselves from their actions (Guragai et al., 2017), which may reduce the perpetrator’s perceived personal responsibility and enables neutralization.

2.3 Construal Level Theory

Construal Level Theory (Trope & Liberman, 2010) centers on how mental representations (perception, comprehension, interpretations) of an object or event is affected by how psychologically distant an individual is from that object or event. The more distant the more abstract the mental representation, and the less distant the more precise and specific the representation (Liberman & Trope, 2008). In fact, Gamliel et al. (2016) found that in a US sample, in a high utility context, unethical behavioral intentions were higher in the low-construal level compared to the high-construal level, meaning that the abstract representation presented more ethical intentions and the more concrete representation presented less ethical intentions. However, the paper does not expand further to look beyond intentions and into actions. Relatedly, higher construal levels have a positive effect on self-control (S. Alper, 2019), which was shown to increase resistance to cheating temptations (Mead et al., 2009) and more ethical behavior (Rua et
In addition, experimental research demonstrated that high construal levels decreased preference of immediate and small rewards (Fujita et al., 2006). Therefore, higher-level construal is expected to decrease unethical behavior through higher self-control. However, Zuckerman et al. (1981) suggested that ethical behavior is a natural response, and that unethical behavior requires more self-control. This was further supported by recent empirical research, showing that individuals under time pressure were more honest because they did not have enough time to control their natural honest behavior and behave dishonestly instead (Capraro, 2017). Similarly, Veer et al. (2014) found that deception was lower when subjects were experiencing higher cognitive load, which suggests that honest behavior is more natural and less draining than dishonest behavior. Furthermore, low construal level was found to lead to better moral judgments than higher construal levels (Gong & Medin, 2012). Based on that, higher Construal levels can lead to unethical behavior instead. A gap in the literature remains, and an empirically supported explanation for the differences in the findings of previous research is still absent (Alper, 2019).

The theory of ethical distancing suggests that the more psychologically distant a person is from the action or its consequences the more likely the person will behave unethically. Conversely, though, Construal Level Theory suggests that the more distant a person is the more abstractly he/she will perceive the situation and hence behave more ethically. These conflicting potential outcomes are of particular interest to this proposal. Since the literature is divided and the theories suggest outcomes in opposite directions, I state my first hypothesis in the null as follows:

H1: Psychological distance will have no effect on ethical behavior.

2.4 Moderating Effect of Attachment/Familiarity to Technology

Reber et al. (1998) and Laham et al. (2012) found that individuals tend to rate a stimulus more positively if it was easily processed. Individuals are seduced by conclusions that are easily
made compared to conclusions that require more effort (Alter, 2013). However, processing disfluency can also lead individuals to process information more carefully and take more abstract perspective (Alter, 2013). In addition, processing fluency can affect judgment in two ways: One, when individuals use naïve theories to draw a relationship between fluency and the stimuli presented (Schwarz, 2004); and two, based on the hedonic marking hypothesis, when individuals utilize the positive affect caused by fluency in making judgments (Winkielman et al., 2003). The high processing fluency signals that a stimulus has been encountered before, which results in a more positive feeling compared to an unknown stimulus, which is correlated with fear of the unknown (Winkielman et al., 2003; Hill, 1978). Reber et al. (1998) show that higher fluency resulted in a stimulus being evaluated more positively. If the hedonic marking hypothesis is true, then fluency will result in unethical behavior being judged less wrongly. However, if the naïve theory is true then fluency will result in unethical behavior being judged more wrongly (Laham et al., 2009). The moral judgment of an individual will affect his/her behavior. For example, if an act is judged as unethical an individual is less likely to do it. Since the two theories offer opposing predictions, I hypothesize a moderating effect of technology attachment as more attached individuals will be more fluent in processing online material, but I do not hypothesize a direction for the moderation, because the direction of the moderation is dependent on the direction of the results in H1. For example, if psychological distance had a negative or positive effect on ethical behavior then technology attachment will moderate the relationship such that those who are more attached to technology will not differ based on psychological distance, whereas those who are less attached to technology will be affect be psychological distance (either negatively or positively based on H1). Therefore, the second hypothesis is as follows:
H2: The effect of psychological distance on ethical behavior is moderated by attachment to technology, specifically either individuals that are more (less) attached to technology will behave more (less) ethically when they are psychologically distant or vice versa.

[Insert Figure 1 Here]

[Insert Figure 2 Here]

3.0 METHODOLOGY:

Below I present the design, participants, experiment procedures/task, independent and dependent variables for the experiment.

3.1 Design

The experiment utilized a 2 (dice task: online versus real die) x 2 (cash task: cash picture versus no cash picture) between-participants design. The study manipulated psychological distance between high and low where the real die and the cash picture represent the low distance and the online die and cash number represent the high distance. In addition, attachment to technology was also measured to test for moderation.

3.2 Participants

With the current coronavirus pandemic, utilizing an online platform was more feasible than an actual in-person lab experiment, and therefore participants were recruited online from Amazon Mechanical Turk. Subjects for this experiment examined a common fraud which may be experienced by anyone, eliminating the necessity to limit the sample to accounting professionals. Ninety-six participants (out of a desired one hundred) completed part 1 of the pilot study that involved the demographic and different measures, such as in-person/social interaction, trust in technology and attachment to technology. After part 1, forty participants returned a week later to complete part 2 of the study that included the simulation with the dice and cash tasks plus the post
experiment questionnaire. Preliminary analysis proved informative. Based on the feedback from the pilot study, changes were made such as the reduction of several items from the in-person/social interaction scale, trust in technology scale, and time spent on technology scale. In addition, the study was no longer divided into two separate components and instead completed the entire instrument in one study.

A total of 293 participants completed the survey and after removing participants that failed several checks, straight-liners\(^1\), and those who did not follow instructions the final sample size was 228. Adding the pilot sample would have increased the total sample size to 266 participants, but the analysis was conducted without including the pilot sample to eliminate a potential confound.

The sample was made up of M-Turk participants that own iPhones. This is due to the measurement of the independent variables (technology attachment), which is currently available on the Apple product. iPhones have a built-in feature that shows you how much you have been using your phone and gives you a weekly average with details on how long each application was used (see figure 4.3 below for an example). Other phones that utilize other systems, such as Android, either do not have the built-in feature or provides different information that is not easily comparable between systems, and therefore such data would be difficult to identify with non-iPhone users. This also eliminates a potential confound, which is the possibility of results being driven by different phone users rather than the manipulation. In other words, in a sample with iPhone and Samsung phone users, one might say the results are due because these two groups are causing the difference, but in this case since the sample is made up of only iPhone users then the results cannot be due to different groups of phone brand users. Research looking at differences

\(^1\) Straight-liners are individuals that provide the same answer again and again in a survey. For example, if a survey has 6 questions that ask the participants to rate something from one to seven, a straight-liner is someone who would answer the same each time (e.g., six), which creates a straight vertical line down the survey if we were to plot it.
between iPhone and Android users has shown conflicting results. On one hand, Gotz et al. (2017) found no significant differences in personality traits between users, while on the other hand, Shaw et al. (2016) found that there are differences between users. One important difference was that iPhone users were shown to have lower levels of honesty and humility.

[Insert Figure 3 Here]

The attention and manipulation checks are discussed in the tasks section below. Following Simer (2020), I used checks that are specific to the task for comprehension. Further, built-in filters were utilized to reduce the number of Super-Turkers. Such filters include requiring participants to have a high approval rate (greater than 97%), removing straight liners (Cook, 2020), and limiting the number of surveys performed. *Straight liners* are those who answer all questions the same, such as clicking on the highest value for all Likert scale questions. Buchheit et al. (2018) and Buhrmester et al. (2018) have used similar filters and checks. Lastly, the M-Turk sample is limited to the US as it is the population of interest in this study, and the U.S. M-Turk sample has lower error rate compared to an International M-Turk sample (Steelman et al., 2014; Smith et al., 2016). An attention check was used asking participants to choose their favorite color from a list of 8 colors (red, orange, yellow, blue, green, grey, black, and violet), but were specifically given a note right under the question telling the participants to choose one specific color (grey), regardless if it was their favorite color or not, to see if they are paying attention or just doing the survey quickly. In addition, a manipulation check was used for the dice task where participants that utilized a real die were asked to take a picture of the die in their hand before the task started. At the end, the participants are asked if they used a real or online die. A portion of the real dice group uploaded

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2 Super-Turkers are individuals that earn a lot of money via Mturk by completing many surveys and are usually very fast when participating in a study.
fake pictures that were downloaded from the internet as revealed by a google image search, and those were removed as mentioned above.

Participants earned a base amount of $1 for participating in the experiment, which took them an average of twenty-four minutes. Participants earned an average of $2.06 in the study. Buhrmester et al. (2016) found that a compensation of $0.50 resulted in an average of 30 to 40 surveys submitted per hour for studies that took between five to ten minutes. In addition, Casler et al. (2013) paid M-Turkers $0.50 for a 10–12-minute task, which was a high rate of pay compared to similar task at that time. More recent studies have paid more than previously but are still within the range paid in this study. For example, Reiter (2020) paid Turkers a flat fee of $1 for a 10–15-minute study and Simer (2020) paid $2, therefore the current payout in this study ranging between $1-$3.00 is within and higher than the current norm. Participants also have the chance to earn additional reward based on how they perform. Specifically, the bonus is determined by how much the participants report in their dice rolling task and how much they misreport the cash reporting task. The most unethical participant would receive a total of $3 made up of the $1 fixed fee, plus $1.50 if he/she rolled sixes in each period and $0.50 if the participant decided to misreport and “steal” all the cash.

3.3 Experiment Procedures and Task

[Insert Figure 4 Here]

Participants started by clicking on the Qualtrics link presented on M-Turk. Once they got in Qualtrics they read a cover letter asking them to participate. Then participants were asked to answer demographic information and additional questions for variables of interest to this study. These questions gathered the following information: age, gender, work experience in years, education level, in-person/social interaction, trust in technology, technology use (self-reported)
and the extent of mobile usage by uploading a screenshot of the screen report available in their iPhone’s settings. Instructions on how to make a screenshot and where to find the screen report were provided to make sure all participants know how to take the screenshots and upload them on the computer. The self-reported technology use included six items. The measures are as follows: Approximately how many hours per week do you spend on each of the following activities (1) Using the internet for work or school purposes, (2) Using the internet for other than work/school (e.g. emailing, shopping, searching, downloading/ watching music, movies etc.) (3) Playing electronic games on a computer, TV, phone, or other device, (4) Texting on a cell phone, (5) Visiting social networking sites like Facebook, Twitter, Instagram, Snapchat, etc., (6) Video chatting (Skype, Zoom, Facetime, etc.). These items are all continuous and are partially adopted from Twenge et al. (2018), except for item 1. Furthermore, multiple items were used to measure the construct “In-person social interaction”, because individuals that spend more time on the screen will spend less time engaging in social interaction, but individuals might be spending their non-screen hours differently, and so measuring and controlling for social interaction can eliminate a confound that the effect is due to differences in non-screen hours. The items are as follows: (1) How often do you get together with friends, informally? (2) How often do you go to parties or other social affairs? (3) How often do you go to the shopping mall? (4) How often do you go out for fun and recreation during a regular week? (5) How often do you go out on a date? These items are measured with a 7-point scale ranging from never to everyday and are adopted from Twenge et al. (2018). In addition, participants were also asked if their answers would be any different if they were doing the survey before the COVID pandemic.

Afterwards, participants were presented with details on the tasks they will be performing and how the reward is calculated. M-Turk participants were asked to assume the role of
employees in a hypothetical company where they have two main tasks to perform. The first task involves rolling a die (online die versus real die) and reporting the number they got on each roll for five periods. The online die group is the more distant and the real die is the less distant, psychologically. The compensation was based on the dice rolls reported with higher numbers resulting in higher compensation. Statistically the average dice roll should be 3.5 in any given period (or 17.5 for five periods). This task was utilized to allow the participants to do something that was not directly monitored by Qualtrics and hence make the participants more comfortable to behave as they will. The second task was the cash reporting task, which involved reporting and safe keeping of cash. Participants were divided into two groups; one group was presented with just a number indicating how much cash is in the safe box in a given period (high psychological distance) and the other group was presented with pictures of the cash in the safe box before reporting (low psychological distance). The dice and cash task were both done for five periods, but participants did not know the number of periods in the experiment to prevent any bias in final reporting-period behavior. The periods are designed to provide more realism as employees usually work in companies for several periods. The high psychological distance group did not have the cash pictures but instead had participants click on a box that revealed how much cash is available in each period and then asked to report the cash available. I am using this variable because I am interested in unethical behavior and this task presents participants with a choice to be ethical (i.e., correctly reporting the amount of cash and not gaining any additional reward) versus a choice to be unethical (i.e., misreporting less cash to get more rewards). In addition, it also provides a continuous measure instead of dichotomously dividing participants between ethical and unethical. Unlike the dice task, the cash task is monitored, and hence unethical participants can be identified with more certainty. Total reward was a fixed $1 fee for
participating plus the amount dice rolls reported and cash misreported after the conversion rate is applied. The conversion for the dice task was as follows: one unit equals $0.05, and the conversion rate for the cash task is as follows: $10 game money equals $0.05 actual US Dollars. The total cash in all five periods together is equal to $100 in game money, but each period did not have $20 (they are not evenly spread) so that the task is more realistic. For example, period 1 showed $26, period 2 showed $4, period 3 showed $17, period 4 showed $31 and period 5 showed $22, making the total $100 in game money. Based on that, the highest bonus the most unethical participant could earn is $0.50 USD, which will only happen if they reported a zero amount in every period instead of reporting the truthful amount. The incentive to misreport is the bonus payout above the $1 fixed fee and dice reward, because unless the participants misreport, they cannot get more than the $1 fixed fees plus the dice roll amount reported (which on average should be 17.5 equivalent to $0.875). The post-experiment questionnaire is the same for both groups.

After completing the task participants filled out the post-experiment questionnaire. The questionnaire provided insights on which theory CLT versus Ethical Distancing has a stronger role in affecting participants behaviors. To measure CLT levels the Behavioral Identification Form (BIF) was used, which includes twenty-five dichotomous items (Vallacher & Wegner, 1989). Ethical Distancing was measured by utilizing eleven items that were created based on the Kaufmann et al. (2005) research paper. In addition, the post-experiment questionnaire also provided insight on to whether technology was perceived to have a distancing effect or not. The items that were used are as follows: (1) Rate how psychologically difficult it is to physically steal cash in person. (2) Rate how psychologically difficult it is to steal cash via a computer system. Items (1) and (2) utilized a 7-point scale from extremely easy to extremely difficult. Item (3) asked
how ethical it is to physically steal cash in person and item (4) asked how ethical it is to steal cash via a computer system. Items (3) and (4) utilized a 7-point scale from very unethical to very ethical. Lastly, the post experiment questionnaire also included manipulation and attention checks to filter out participants as mentioned earlier.

3.4 Independent Variables

*Psychological Distance*

*Psychological distance* is operationalized using a real die and pictures of cash. Specifically, I manipulated *psychological distance* in two ways: real versus online dice, and with versus without a picture of cash. In the picture participants saw different cash denominations a flat surface next to each other. The without picture group did not see such pictures, but rather only saw a number on the screen representing the cash present. Two different measures of psychological distance were used (CLT and Ethical Distancing measures) as mentioned above to see which psychological distance plays a stronger role in ethical behavior within the tasks in this study.

Fujita et al. (2006) used videos to manipulate spacial distance to affect the level of construal applied by participants. Specifically, the authors informed one group of participants that the video was recorded in a near location and the other group were told that the video was recorded in a very far location. In addition, Bar-Anan et al (2006) finds further support that construal levels are forms of psychological distance by utilizing four experiments that manipulated construal levels via distinct/exemplar words for the low construal group and abstract/categorical words for the high construal group. Therefore, within the context of this study, the *without* picture group represents the more distant scenario, whereas the *with* picture group represents a less distant scenario, because visually seeing the cash in the picture represents are more distinct/exemplar representation of cash.
compared to the without picture which just presents a number on a screen (a more abstract representation).

**Attachment to Technology**

*Attachment to Technology* is operationalized by using the screen time report available in iPhones. Specifically, participants took a screenshot of the iPhone’s screen time report, a feature unique to the Apple product. This is a new measure introduced in this study as previous studies utilized self-reported measures based on how much time the participants think they spend using different technologies (Twenge et al., 2018).

### 3.5 Dependent Variables

The study measured two dependent variables: *Total dice amount reported*, and *total amount of cash reported*. In addition, the time to perform both tasks was measured. Since I am interested in measuring how attachment to technology interacts with psychological distance to affect ethical behavior, the *dice amount* provides some insight as amounts that are higher than average could indicate unethical behavior. Moreover, the *amount of cash reported* provides a better proxy measure of unethical behavior. If a participant reported truthfully then the amount reported will be $100, but if the participants was unethical and misreported to gain higher rewards then the cash reported will be less than $100. This variable is also dichotomized based on whether a participant *stole cash* or not. In addition, the use of *time taken to report the dice and cash* follows Capraro (2017) who found that time constraints resulted in more ethical behavior because unethical behavior that results in higher rewards requires more deliberate thinking that requires more time. I interpret this as participants who choose to behave unethically will spend more time to report the dice roll and the experimental discrepancy in cash. The cash task only measures ethical behavior. If misreporting results in cognitive dissonance, then those participants will spend more time to
misreport the numbers. Finally, the last dependent variable is *total compensation* calculated as a function of adding both the compensation from the dice task and the cash task. The higher the total compensation the more unethical the participant behaved.

### 3.6 Control Variables

To rule out alternative explanations to the results several control variables were included. First, gender was included because prior literature has shown that females are more ethical (Franke et al., 1997), conservative, and risk averse (Palvia et al., 2015) than men. In addition, age was also included because prior research has shown that older individuals are more ethical (Peterson et al., 2001; Deshpande, 1997) and risk averse (Albert & Duffy, 2012) than younger ones. Both gender and age were included as controls in Holderness et al. (2017). Furthermore, education level was measured because individuals with higher levels of education show higher ethical standards than those with lower levels of education (Deshpande, 1997). Lastly, work experience in years was the last covariate included.

### 4.0 ANALYSIS / RESULTS

#### 4.1 Main Analysis Results

To test for H1 several analyses were conducted looking at 3 different dependent variables (total dice, total cash, and total compensation). In univariate analysis with total dice as the dependent variable and dice group as the predictor results show a significant positive main effect (coefficient=1.30, p-value 0.027, two-tailed). This means that those who were in the real dice group reported a significantly higher total dice amount and hence were less ethical. To identify if the results were due to the manipulation affecting the CLT or ethical distancing additional analysis was conducted with dice group as the predictor, once with CLT as the dependent variable and once with the ethical distancing scale as the dependent variable. However, both analyses were not
significant. This could be due to one of several reasons, (1) the manipulation did not affect psychological distance, (2) the manipulation did not affect the measure of psychological distance that was used, or (3) because CLT and ethical distancing measures were collected after the participants was exposed to both the dice and cash manipulations, the manipulations might have interacted. Further analysis was conducted including both manipulations (dice and cash) as predictors including the interaction between the two. When CLT scale was the dependent variable results showed a positive but non-significant interaction effect (coefficient=0.23, p-value=0.145, two-tailed). When ethical distancing scale was the dependent variable results were similar in that the interaction was also non-significant and hence did not have a distancing effect This means that the interaction between the manipulations was not the reason for non-significant distancing effect, but rather it could be either that the manipulation did not affect psychological distance, was not strong enough, or did not affect the specific measures used. Future studies could utilize different measures of psychological distance or stronger manipulation to get a better idea on how the manipulation affects psychological distance in both CLT and ethical distancing, and hence provide a better understanding of how psychological distance affects ethical behavior. Also, future studies can utilize one manipulation per study instead of two manipulations to reduce complexity. Additionally, mediation analysis was performed to see if the dice manipulation might have had an indirect effect on psychological distance via total dice. Mediation results show that the dice manipulation had a significant indirect effect on ethical distancing but did not have an effect on CLT.

[Insert Figure 5 Here]

Moving on to analyze the second dependent variable, total cash reported, an OLS regression was performed with two predictors; the cash group and the total dice reported from the
dice task. Results show a moderately significant negative interaction effect (coefficient=-1.66, p-value=0.063, two-tailed), which means those who were in the cash picture group reported significantly less cash as total dice reported increased, whereas those in the no cash picture group did not differ in total cash reported as total dice reported increased. Further analysis was performed to investigate if the results were due to distancing in CLT or ethical distancing theory. The analysis was run twice (once with CLT as the dependent variable and again with ethical distancing scale as the dependent variable). CLT analysis was not significant, but the ethical distancing analysis revealed significant positive main effect for total dice, which means those who reported a higher dice amount were more distant. In addition, those in the cash picture group were less distant but the effect was close to moderate significance (p-value=0.105, two-tailed). This could provide support to the argument that the manipulation was not strong enough but does indeed have an effect on psychological distance.

To test for H2 several analyses were performed. First, since the study included two manipulations and the analysis for H2 looks at the moderating effect of technology attachment, which means the analysis will include a 3-way interaction, I wanted to simplify the analysis and break it down to a 2-way analysis that presents an overall picture of the results. To do so I created a dichotomous variable “real” which is equal to 1 if the participant was presented with both a real die and a cash picture, and zero if the participant was presented with both an online dice and the no picture cash group. This simplifies the analysis as it divides the sample into two groups (real versus online) instead of having four groups. However, this also means that a portion of the sample is lost, specifically those who were once in a real manipulation and once in an online one, such as being first in an online dice group and then in a cash group (more real) group. An OLS regression was performed with total compensation as the dependent variable and two predictors: “real” and
iPhone screen time (n=124). Results show a moderately negative interaction (coefficient=-0.10, p-value 0.087, two-tailed). This shows that those who were tech savvy and exposed to real manipulations were compensated less and hence more ethical than those who are tech savvy but had online manipulations, whereas those who are not tech savvy did not differ. This provides support for technology attachment having a moderating effect, but it seems to moderate the relationship in a different way than hypothesized. For example, instead of making tech savvy individuals more ethical in a psychologically distant situation it seems that tech savvy individuals are more ethical in less distant situations compared to those who are not tech savvy. These results could also be explained by media richness theory (Daft & Lengal, 1986), which posits that media richness can improve performance. While face-to-face is seen as the richest media channel, the results in this study might imply that for tech savvy individuals the richness of the channels is higher compared to others that are less familiar to technology, and therefore the manipulations that are more real might be more real for tech people, which could be why we see them acting more ethically compared to others that are not tech familiar. In hindsight it would have been better to run several studies separately with each manipulation alone so that observations are not lost, and to make the analysis and results interpretation simpler compared to having a 3-way interaction.

[Insert Table 1 Here]

[Insert Figure 6 Here]

4.2 Additional Analysis Results

Results show that ethical distancing theory seems to play a role in unethical behavior as seen with higher compensations (more unethical behavior) resulting in higher scores on the ethical distancing scale, but why don’t we see any results with CLT? Could it be that CLT, as measured in this study, plays a role before the fact as a neutralization mechanism, whereas ethical distancing
plays a role after the fact as rationalization mechanism. To further investigate this possibility an OLS regression was performed with total cash as the dependent variable and two predictors (cash group and the residuals of CLT). Since the CLT measure was collected in the post experiment questionnaire it could have been affected by any one of the variables collected prior to the CLT measure. Therefore, the model to calculate the residuals included all the variables prior to the CLT measures. If CLT was collected at the beginning of the experiment I would have used the raw CLT score instead. Results show a significant positive interaction (coefficient=15.79, p-value=0.033, two-tailed). Results were qualitatively similar in a logistic regression including “stole cash” as the dichotomous dependent variable instead. This indicates that those who were more psychologically distant via CLT were more ethical when presented with a cash picture compared to the no cash picture group who were more unethical as psychological distance increased. However, when the same analysis was performed with the residuals of the ethical distancing scale no significant effects were observed. The results shed more light on the possibility that both CLT and ethical distancing could be playing a role but in different ways. For example, CLT might be playing a stronger role before the act as a neutralization technique and ethical distancing might be playing a role after the fact as a rationalization mechanism to reduce cognitive dissonance.

[Insert Table 2 Here]

[Insert Table 3 Here]

[Insert Figure 7 Here]

5.0 DISCUSSION

5.1 General Discussion

In a study that looks at the moderating role of attachment to technology on the relationship between psychological distance and unethical behavior, I first find some support for a positive
relationship between psychological distance and unethical behavior, and that attachment to technology does have a moderating effect on the relationship. However, while results show that ethical distancing theory plays a strong role, I am unable to eliminate CLT as another important factor that plays a different role as shown in the additional analysis section.

The results have important implications in terms of today’s business world that have become more online post COVID. It might be wiser for employers to hire more tech-savvy people not just for their tech abilities but also for their ethical behavior. In addition, untabulated analysis that look at how being affected by COVID in terms of in-person interaction and screentime usage also affected individuals’ ethical behavior, which also poses the important question if such COVID effects will dissipate after COVID is over and everything goes back to normal. If effects are longer lasting then those affected may need an intervention to bring them back to normal and make them behave more ethically.

5.2 Limitations

As with any lab experiment the study suffers from lack of ecological validity, and therefore I acknowledge that it may impact external validity. I cannot say for certain that individuals will behave the same way in the real world when performing real tasks for their employers. However, the fictitious currency used does add to realism to a certain extent. In addition, the study is limited as it uses a sample that only use iPhones. This is a limitation because the results might not generalize to non-iPhone users should any significant differences exist between such groups. Also, M-Turk suffers from self-selection as participants self-select which study in which to participate. This might bias the results as it might not be representative of the entire M-Turk population and the non-M-Turk population. Moreover, the experiment does not involve a feature whereby participants could get caught, which also reduces realism. In other words, participants might
behave differently if a possible audit was included as part of the procedures as you would expect to find in real life. Lastly, the M-Turk sample used is located in the US, which also limits our ability to generalize to other populations not in the US.

5.3 Contributions

This research has important practical implications. First, technology is becoming an important part of everyday life. In addition, Generation Z (individuals born in 1996 and later) have been exposed to more technology since birth (Dimock, 2019) and are more attached than previous generations with almost 50% reporting that they are constantly online throughout the day (Anderson & Jiang, 2018). This study shows that the increased use of technology has an effect on ethical behavior. In addition, the recent COVID-19 pandemic has shifted many aspects of everyday life to an online (no physical contact) environment, and this study shows that those affected by the pandemic on a social level behaved unethically as a result. Knowing how the new workforce might differ than previous workers will provide more insight to employers regarding types of internal controls to be used. In addition, the study extends research in the fields of psychology, fraud, and forensic accounting.

5.4 Future Research

Future research can utilize different designs, include additional psychological distance measures and possible add measures related to Media Richness Theory. Specifically, with the manipulations it might be better to include only one manipulation (either dice, the cash task, or any other appropriate task) instead of two manipulations together. In addition, another design can include the psychological distance measures (CLT and ethical distancing) at the beginning of the study before the manipulations and tasks to explore if there is further support to what was found in the additional analyses. In addition, future studies could use different manipulation checks to
see if the manipulations affected psychological distance, without having participants perform a simulation, before running the experiment with the manipulations and tasks together. Lastly, as media richness might be playing a role it is worth adding measures to see if that is true. This will also further contribute the literature that combines fraud with communication.
Appendix:

Figure 1³:

³ This figure demonstrates how the two theories predict ethical behavior as psychological distance increases. For example, in terms of ethical distancing theory (the right part of figure 1), we have the act itself in the center and as psychological distance increases the theory predicts less ethical behavior, whereas on the left side we have CLT predicting more ethical behavior as psychological distance from the act increases.
Figure 2:

Hypothesis Diagram:

Psychological Distance \( \rightarrow \) H1 \( \rightarrow \) Unethical Behavior

H2

Attachment to Technology
Figure 3:
Figure 4:
Figure 5:

Mediation Diagram:

Dice Group

Path A
1.29**

Ethical Distancing

Path B
0.04***

Total Dice

Path AB (indirect effect):
0.051**
Figure 6: Moderating effect of technology attachment (moderator=screentime) on the relationship between psychological distance (IV=real) and ethical behavior (DV=total compensation)
Figure 7: Moderating effect of CLT (residuals) on the relationship between psychological distance (IV=cash group) and ethical behavior (DV=total cash & stole cash)
Table 1:

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Standard errors in parentheses
*p < 0.10, **p < 0.05, ***p < 0.01
Table 1 includes 7 OLS regression models. The first row includes the dependent variables for each model, and the first column includes the independent variables.
Dependent variables: (1) total_dice is the sum of amount reported in the dice task after each die roll. (2) clt_scale represents the CLT score for each participant, higher CLT means higher psychological distance. (3) ethdist_scale represents the ethical distancing score for each participant, higher scores mean higher psychological distance. (4) total_cash is the sum of the cash reported in the cash task, higher cash amount reported represents more ethical behavior. (7) actual_compensation is the total compensation earned for participating in the study, higher compensation means more unethical behavior/reporting.
Independent variables: dice_group is a dichotomous manipulated variable for the type of dice used in the dice task (0 = online dice, 1 = real dice). Cash_group is a dichotomous manipulated variable for the type of cash seen in the cash task (0 = no cash picture presented, 1 = with cash picture presented). Centered_total_dice is the same the dependent variable (1) total_dice after centering. Real is a dichotomous variable for the type of dice used in the dice task and the type of cash seen in the cash task (0 = online dice and without cash picture present, 1 = real dice and with cash picture present). Z_totalscreentime is the standardized score based on the iPhone screen time reported in hours.
Table 2:

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Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 2 includes 6 OLS regression models. The first row includes the dependent variables for each model, and the first column includes the independent variables.

Dependent variables: (1) clt_scale represents the CLT score for each participant, higher CLT means higher psychological distance. (4) ethdist_scale represents the ethical distancing score for each participant, higher scores mean higher psychological distance.

Independent variables: total_dice is the sum of amount reported in the dice task after each die roll. total_cash is the sum of the cash reported in the cash task, higher cash amount reported represents more ethical behavior. actual_compensation is the total compensation earned for participating in the study, higher compensation means more unethical behavior/reporting.
Table 3:

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</table>

Standard errors in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01

Table 3 includes 2 OLS regression models and two logistic regression models. The first row includes the dependent variables for each model, and the first column includes the independent variables.

Dependent variables: (1) total_cash is the sum of the cash reported in the cash task, higher cash amount reported represents more ethical behavior. (2) stole_cash is a dichotomous variable (0 = did not steal cash, 1 = did steal cash)

Independent variables: Cash_group is a dichotomous manipulated variable for the type of cash seen in the cash task (0 = no cash picture presented, 1 = with cash picture presented). cltresid represents the residual of the CLT score for each participant after including it in a model with all the variables measured in the study, higher CLT means higher psychological distance. ethdistresid represents the residual of the ethical distancing score for each participant after including it in a model with all the variables measured in the study, higher scores mean higher psychological distance.
CHAPTER THREE: WHISTLE WHILE YOU WORK: THEORY AND EXPERIMENTATION OF FACTORS REGARDING FRAUD TIPSTERS

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Abstract

This study uses an experiment to investigate whether financial incentives, in combination with certain behavioral factors, induce some individuals to delay reporting an occupational fraud. Further, this study introduces a new theory of whistle blowing that captures these factors. Our findings suggest that while many subjects report fraud immediately, some factors lead subjects to delay reporting in order to maximize financial benefits. Other factors associated with whistle blowing delay include personal characteristics such as individual self-ethics, narcissism; and organizational factors such as perceived ethics of other employees.

Key words: whistleblowing, financial incentives, altruism, narcissism, framing
1.0 Introduction

Occupational fraud is a high cost of doing business and can have a very negative impact on revenues for a typical organization (ACFE 2020). Fortunately for the capital markets, management and corporate financial executives, audit committees, and auditors, the actions of the whistle blower aid in the discovery of such fraud. The Association of Certified Fraud Examiners (ACFE) estimates that a whistle blower may be involved in more than 40% of frauds reported (ACFE 2020). Therefore, we note the obvious that the role of the whistle blower is an important function in the markets and is particularly important to the accounting profession.

Our insights into the characteristics of the whistle blower are still developing. This study serves to add to the literature in two primary aspects. First, we introduce a new theoretical structure and model to describe the behavioral antecedents of the decision to whistle blow. Second, we use an experiment to test our model and identify which components may influence whistle blowing outcomes when financial incentives for whistleblowing is present. In other words, the study sheds light into what factors, both external and internal, play a role in either deciding to blow the whistle or delaying the action of whistleblowing to reap additional financial rewards. This is very relevant given the Dodd-Frank Act of 2010.

In this experiment we find that the new model generally holds and that factors such as narcissism and the perceived ethical level of the average employee and of the self, impact when a tipster is likely to whistle blow.

This paper proceeds in the following fashion. Section 2 presents the theory and develops the hypotheses, Section 3 explains the methodology, Section 4 covers the results, and Section 5 contains our conclusion.
2.0 Theory & Hypothesis

2.1 Whistle Blowing

Whistle blowing is the reporting of perceived wrongdoing in an organization (Victor et al. 1993). Near and Miceli (1985) describe whistleblowing as a four-element process of the disclosure of alleged illegal, immoral, or illegitimate practices which include the whistle blower, the alleged act, the alleged participant, and the organization. Researchers have examined various situational and dispositional characteristics of whistle blowers (e.g., Dozier and Miceli 1985; Borg 2000; Bjorkelo et al. 2010; Reckers-Sauciuc and Lowe 2010; Seifert et al. 2013; Kaplan et al. 2010) in an attempt to understand and predict the behavior.

While research on whistle blowing has advanced, questions still remain as to behavioral aspects of the whistle blower (Trompeter et al. 2014). In fact, prior research has focused more on the fraud perpetrator compared to other components such as the whistleblower, investigator, etc. (Free & Murphy, 2015). Other research has looked at discovery and reporting of fraud (DeZoort & Harrison, 2018; Berger et al., 2017) and factors that affect the recipient of a whistleblower tip (e.g., internal auditors) in deciding whether to start the pre-predication process (Kerler et al., 2021). In addition, within whistleblowing, researchers have looked at how prosocial qualities (Dozier & Miceli, 1985), morality and Machiavellianism (Dalton & Radtke, 2013), compensation/rewards for reporting (Brink et al., 2013; Scheetz & Wall, 2019), and retaliation (Young, 2017) can play a role in the whistleblowers’ decision to report the fraud. However, to our knowledge no research examines how the tone of the firm via its code of conduct and how personal traits of the whistleblower such as individuals’ narcissism, altruism, etc., play a role in making the decision to report a fraud, especially when there is reward or financial compensation for those who do decide
to report. Therefore, we build upon this research call and from prior research to examine select whistle blower characteristics and develop a model that may encapsulate the process.

As noted, the process of whistle blowing involves select elements (Near and Miceli 1985), which are similar to the elements necessary for the process of occupational fraud: the fraudster, the act, the organization, and the auditor. These essentials represent opposite sides of the same coin and may guide research focus. For example, Cressey (1950, 1953) notes that there are three crucial elements necessary for a fraudulent activity to take place – *rationalization*, *pressure*, and *opportunity*. Wolfe and Hermanson (2004) additionally introduce the concept of *capability* as a crucial element, and Dorminey et al. (2012) identify a comprehensive model of the fraudster and the fraudulent act that incorporates additional factors from prior research.

[Insert Figure 3.1 Here]

While this model has a focus on the fraud-committing side of the coin, we suggest that many of the same elements are necessary for the fraud-reporting side, too. For example, instead of *pressure*, potential whistle blowers may have a set of *external factors* that affect the individual from the organization and environment to report wrongdoing. External factors such as the tone of the code of conduct or the perceived ethics of co-workers may influence the would-be whistle blower. *Rationalization* to report may be considered as an *internal factor* that influences the whistle blower, and may include characteristics such as altruism, self-perceived ethics, or narcissism; and the *opportunity or capability* to report may be dictated by available reporting hotlines and the capability of the individual to identify and assess potential wrongdoing within the organization.

We therefore believe that these factors and others have the potential to influence the timing of a whistle blowing action within an organization, and we accordingly posit the following model:
Under *External Factors* we examine whether the nature of the Code of Conduct, punitive or positive, has an impact on whistle blowing. Additionally, we examine if the perceived ethics of co-workers and of the company have a bearing on whistle blowing actions. Under *Internal Factors* we examine whether perceived self-ethics, altruism, and narcissism have an effect on whistle blowing. Under *Opportunity / Capability*, we provide the avenue for whistleblowing in the experiment, ceding the development or identification of an opportunity, but we also measure the risk literacy and cognitive ability level of the subjects, providing a measure of capability.

### 2.2 External Factors

**Message Framing**

Communications can be framed in terms of benefits or costs as a way to motivate behavior. Tversky and Kahneman (1981, 1986) note that outcomes framed as positive (gain) often result in risk aversive decisions, and that outcomes framed as negative (loss) often result in risk seeking decisions, with the responses to losses being more extreme. Additionally, Tversky and Kahneman note a *loss aversion* where an impact of a potential loss weighs greater than the impact of a gain.

Research in this area is somewhat mixed. In marketing in an examination of perceived risk as it relates to price, Grewal et al. (1994) find that a positively framed message results in subjects acting in a risk averse manner to secure gains than when the message is framed negatively. Also, in marketing, Block and Keller (1995) note that when subjects process in-depth, a negative frame is more persuasive than a positive frame in a health-related message.

Levin et al. (1998) note, though, that there are different types of valence framing. First, there is the standard risky-choice framing as introduced by Tversky and Kahneman; second, there is attribute framing which relates to the evaluation of characteristics of an object or event; and
third, there is goal framing of messaging, which relates to the persuasiveness of a communication. The two types of frames that may matter in regard to whistle blowing are risky-choice framing and goal framing.

In the standard risky-choice scenario, the frame is a set of options with differing risk levels, the risk preference is affected, and the effect is measured through a comparison of choices. In the goal frame, the consequence is the frame, the impact of persuasion is affected, and the effect is measured through a rate of adoption of the behavior. The difference in outcomes between the two marketing studies may be due to the framing mechanism involved and to which element the subject attend. For example, in the Grewal et al. (1994) study, the belief is that the subject attend to the payoff, while the Block and Keller (1995) study attend to the consequence of the message.

This notion is supported by research. In regard to message framing, Cesario et al. (2013) lay out a framework for predicting which message, positive or negative, will be more persuasive, and the predictors lie at the individual level. Individual more attuned to the message and adopting the behavior are persuaded more by a positive message, while individuals more attuned to the outcome are persuaded more by a negative message.

A common corporate communication is the “corporate code of conduct,” which, too, may be framed accordingly. For example, the code of conduct (CoC) may indicate the company’s desire to have honest employees with great integrity (positive), or conversely, the CoC may indicate that dishonesty or lack of integrity will result in the termination of employment (punitive or negative). With limited cognitive processing, a positive CoC should trigger risk aversion and a negative CoC should trigger risk seeking behavior. With extensive cognitive processing, though, the opposite could be true. It would depend upon the aspect of the subject’s focus, the outcome, or the message. Therefore, following the logic of negative messaging leads to risk seeking behavior, and positive
messaging leads to risk aversive behavior, we can hypothesize those exposed to a negative (positive) code of conduct will report later (earlier). The contrast is, though, that simple loss aversion would suggest that a CoC with a negative or punitive message will have a greater impact on employees, and therefore would encourage potential whistle blowers to act more promptly, else viewed as someone without integrity. If the negative message is more persuasive, then it would lead us to believe the subjects attended more to the outcome and less readily to the message. Since the literature is mixed, this leads us to state our first hypothesis in the null:

**H1:** Subjects exposed to a negative or positive code of conduct will not differ in reporting behavior (earlier or later).

**Ethics of Others**

Most individuals do not work independently but rather work for an organization and within a functional group, and that group develops a general uniformity and normalization of behavior (Greenberg et al. 1997; Baumeister and Leary 1995; Festinger 1950). The normalization of this behavior also impacts decision making by the individual based upon the perception of the group norm (Fleming and Barkhi 2007; Fleming 2008), as the individual attempts to conform. Therefore, in an organizational fraud scenario, an important external factor that may influence an employee as to whether and when to become a tipster would be the perceived ethics of the company in general and the perceived ethics of their co-workers. If they perceive their group to be ethical, then in the process of conformity they will wish to mimic the group. Since group membership is ultimately a self-selection process, conformity and adoption of norms and beliefs reduces potential cognitive dissonance – I want to belong to the group, the group has this belief, and therefore I have this belief. This leads us to our second and third hypotheses:

**H2:** Subjects who perceive a higher (lower) level of ethics of their co-workers will whistle blow earlier (later).
2.3 Internal Factors:

Self-Ethics

Building from above, it can be reasoned that if individuals naturally perceive self-ethics to be high, or if they adopt high self-ethics from the group, they will adopt the ethical path to whistle blow early. This leads us to the hypothesis:

**H3:** Subjects who perceive a higher (lower) level of self-ethics will whistle blow earlier (later).

Altruism

Altruism can be defined as individual behavior that benefits another individual or organization, without an expectation of reward or benefit. Schwartz (1977) presents the idea that altruistic behavior is causal in nature, stemming from a moral obligation to act based on the individual’s personally held beliefs. Leeds (1963) stipulates altruistic behavior to include an act without self-gain, that is voluntary in nature, and that results in good. Researchers also note that whistle blowing is an altruistic, prosocial behavior (e.g., Dozier and Miceli 1985; Bhal and Dadhich 2011). We can reason, then, that an individual with higher altruism will engage more quickly with the prosocial behavior of whistle blowing, affected less by the expectation of reward or benefit, and that individuals with lower altruism may be influenced more by a reward potential and/or may report later.

**H4:** Subjects with a higher (lower) altruism score will whistle blow earlier (later).

Narcissism

Narcissism relates to an inflated sense of self-importance, a need for admiration, and even a certain lack of empathy for others (American Psychiatric Association 2000). At the normal or sub-clinical level, seven sub-constructs of narcissism are measured in the Narcissistic Personality
Inventory (NPI) and include authority, self-sufficiency, superiority, exhibitionism, exploitativeness, vanity, and entitlement (Raskin and Terry 1988). In this study we used the 9-item narcissism scale developed by Jones and Paulhus (2013) which taps into four subconstructs of narcissism: Leadership, exhibitionism, grandiosity, entitlement. Individuals higher on the continuum of narcissism are prone to seeking behaviors that perpetuate perceived self-importance, power, and authority, for which whistle blowing may fulfill the need. At the moment of whistle blowing, the tipster is the individual with the vital information that the organization wants and desires. By being the whistle blower, the individual may have a sense of superiority and expect admiration from those at the pinnacle of the organization. Given these traits, we develop the following hypothesis:

\textbf{H5:} Subjects with a higher (lower) narcissism score will whistle blow earlier (later).

\subsection*{2.4 Opportunity Factor: Capability and Numeracy}

Numeracy is often described as the ability to understand and use numerical information in relation to risk and cognition and is widely studied in medicine (e.g., Reyna et al. 2009; Peters et al. 2007; Lusardi 2012). In this research we view numeracy as a component of \textit{capability}, noting that it may be moderately related, but definitely linked to general intelligence (Lag et al. 2013). In this study we utilize statistical numeracy as a measure of risk, noted by Cockely et al. (2012) to encompass decision-making under risk involving statistical probabilities and probabilistic reasoning.

When to whistle blow may involve a certain amount of risk analysis. The individual must be of sufficient intellect to recognize a fraud, the individual must perform a cost/benefit analysis weighing the various risks of whistle blowing versus doing nothing, and lastly the individual may consider the potential financial reward of being the whistle blower. In our scenario, we provide
the growth of the known fraud, the likelihood of the fraud being discovered by the company from one period to the next, and the potential financial benefit to the whistle blower based on a percentage of the total fraudulent amount. To process this information, a certain amount of numeracy is beneficial. Given these aspects, we hypothesize the following:

**H6:** Subjects with a higher (lower) numeracy score will whistle blow earlier (later).

### 3.0 Research Methodology

#### 3.1 Research Case

Subjects were solicited through Amazon Mechanical Turk (M-Turk). IRB protocols were followed in all regards\(^4\). Approximately one week prior to the experiment subjects completed a short on-line survey that measured altruism with fourteen items, statistical numeracy with the six questions from the Berlin Numeracy Test, and narcissism with nine items. The survey also collected demographic information such as age, gender, work experience, and education level.

To test the research hypotheses a computer-based case was developed whereby participants read a short vignette describing their role as an employee and their knowledge as to an affirmed fraud. In the scenario the current extent of the fraud was described using a fictional currency and the monetary growth of the unchecked fraud of 40% by period. The scenario also indicated that there was a 1 in 5 chance (20%) that the company would discover the fraud on their own during any period. Subjects were also told that if they acted as a whistle blower and the fraud was yet undiscovered, they would receive 20% of the gross fraudulent amount. Subjects were paid a flat $1 for participating in the experiment plus a portion of the reported fraud total. A conversion formula was provided for the subjects to calculate the potential payout. See Appendix 3.1 for the vignette.

\(^4\) IRB Protocol #1911788447
3.2 Design and Variables

The experiment is a 2 x 1 between-subjects, random assignment design. The corporate code of conduct manipulation (punitive rules or positive principles) was also randomly assigned. Each subject read a code of conduct at the start of the experiment in conjunction with the vignette. The punitive rule-based code of conduct uses phrases such as “If you act without integrity, you will be terminated,” while the principle-based code of conduct uses phases such as “We encourage you to act with integrity.” As a manipulation check and as our independent variable, we have subjects score the relative tone of the code of conduct at the end of the experiment. See Appendix 3.2a for the punitive code of conduct and Appendix 3.2b for the positive code of conduct.

In addition to the above treatments, we measure altruism, narcissism, and risk and numerical intelligence using a six-item Berlin Numeracy test (Cokely et al. 2012).

3.3 Participants

A total of 298 subjects participated in part 1 (pre-experiment survey) of the study. There were 166 female and 132 male subjects with a mean age of 40.42 years and an average of 18.77 years of work experience. Of the initial 298, 232 returned for part 2 (the experiment simulation) of the study, for a 77.9% completion rate. Given the study is looking at whistleblower behavior, we chose to target a sample of participants that have diverse backgrounds since nearly anyone can be a whistleblower. We therefore elected to use M-Turk for our sample selection and experimental delivery.

For our analysis we use the subjects who did report, and our dependent variable of interest is the Reporting Period. That is to say, we are interested in characteristics that may influence an individual as to when they elect to become a tipster.
4.0 Results

The results provide interesting insights into when and why someone will act as a whistle blower. First, it is worth noting that out of 232 participants, 194 subjects elected to blow the whistle at some point during the experiment. The thirty-eight subjects who did not blow the whistle were eliminated in various six rounds by the 1-in-5 chance of the fraud discovery by the company. Since we do not know the specific intentions of the thirty-eight eliminated subjects, they are excluded from the analysis. Table 3.1 indicates the number of subjects reporting by round.

[Insert Table 3.1 Here]

4.1 Main Effect Results

Based on univariate analysis, main effect results for our stated hypotheses are mixed. Beginning with the External Factors and hypotheses we note:

H1, the null hypothesis that subjects exposed to a negative (positive) code of conduct will not differ in reporting behavior, could not be rejected, therefore there was no support for framing affecting reporting behavior. H2, subjects who perceive a higher (lower) level of ethics of their co-workers will whistle blow earlier (later), is supported. The coefficient was negative with a p-value of 0.031 (two-tail), which indicates that participants that perceived a higher level of ethics of their co-workers blew the whistle significantly earlier compared to those who had a lower perception.

For External Factors within the model, only the perception of ethics of fellow employees is significant, and subjects who rated their fellow employees as ethical tend to whistle blow earlier.

Main effect results for Internal Factors are also mixed. We find the following:

H3, subjects who perceive a higher (lower) level of self-ethics will whistle blow earlier (later), is not supported. H4, subjects with a higher (lower) altruism score will whistle blow earlier (later),
is not supported, but the beta coefficient was negative as hypothesized. H5, subjects with a higher (lower) narcissism score will whistle blow earlier (later), is not supported.

For Internal Factors within the model, none are significant.

Main effects for the Opportunity / Capability Factor as measured by numeracy, H6, subjects with a higher (lower) numeracy score will whistle blow earlier (later), is not supported.

[Insert Table 3.2 Here]

4.2 Interaction Effects Results

Interaction effects between narcissism and the perceived ethics of other employees is significant with a two-tail p-value of 0.022 and has a positive beta coefficient. This would indicate that if a subject perceives other employees to be ethical, then whistle blowing action will occur later. If, though, the perception is that other employees score lower on ethics, the subject will report earlier.

The interaction effect is interesting. First, the research suggests that self-perceived ethics, perceived ethics of other employees, and personal narcissism levels matter. From a risk perspective, the narcissistic employee will report later, if the perception is that other employees are ethical.

In addition, in a model with only altruism and tone of the code of conduct, the interaction is moderately significant with a two-tail p-value of 0.054 and a negative coefficient. This indicates that individuals that score higher in altruism and are in a firm with a positive code of conduct blow the whistle early.

[Insert Table 3.3 Here]

4.3 Additional Analysis

Additional analysis reveals that males and individuals with higher levels of education significantly delayed whistleblowing compared to females and less educated individuals. This
could be an indication that more educated individuals were not only able to realize the financial benefit of delaying the decision to blow the whistle but also make an educated decision based on the probability of the fraud being detected by another employee and thus losing potential benefits. In addition, with regards to gender, the results are consistent with prior literature showing that males are more risk taking than females. The implications of these specific findings may apply to workplaces that are predominantly male. Furthermore, while higher education is weighted favorably for upper-level positions, it may have some unintended consequences on the employers’ end.

[Insert Table 3.4 Here]

Interestingly, participants who believes that violations to code of conduct will result in employee termination blew the whistle significantly earlier, and those who were presented in the negative code of conduct believed their employment was significantly more likely to be terminated. In other words, firms that utilize a punitive code of conduct may cause employees to believe they are more likely to be terminated for any violations and hence employees will behave more ethically. Mediation analyses reveal that tone of code of conduct had a moderate indirect effect with a one-tail p-value of 0.0515.

[Insert Figure 3.3 Here]

[Insert Table 3.5 Here]

Further analysis was performed on a dichotomous dependent variable for whether participants reported on the first period or not. This analysis sheds light on the characteristics of the most ethical who did not delay whistleblowing at all. Utilizing a logistic regression to investigate main effects we witness that gender had a significant effect on the likelihood of reporting on the first period. Specifically, males were significantly less likely to blow the whistle
in the first period compared to females with a two-tail p-value of 0.015. However, contrary to the initial univariate analysis, the perception of how ethical the surrounding employees are did not have a significant main effect (p-value 0.14, two-tail). In other words, how ethical a subject perceived his/her fellow co-worker did not affect the subject’s decision to blow the whistle in the first period, but surprisingly the perception of self-ethics was significant in that those participants who perceived themselves as ethical were significantly more likely to blow the whistle in the first period with a two-tail p-value of 0.026. In addition, when examining the interaction effects, we find that two interactions were significant. First, the interaction between narcissism and perception of self-ethics was moderately significant and positive (p-value 0.078, two-tail), indicating that those who are more narcissistic and perceive themselves as ethical were more likely to blow the whistle in period one, compared to those who were lower on narcissism and self-ethics. Second, the interaction between narcissism and perception of how ethical the other employees are was significant but negative (p-value 0.019, two-tail), which means that those who were more narcissistic and perceived other employees to be ethical were less likely to blow the whistle in period one compared to those who were lower on narcissism and perceived other employees to be less ethical.

[Insert Table 3.6 Here]

5.0 Summary and conclusions

The high cost of occupational fraud, combined with the fact that most frauds are not discovered through analysis but rather through whistle blower action, highlight the need for continued research in this area, particularly for management and corporate financial executives, audit committees, internal auditors, and external auditors.
This research adds to the literature in two primary aspects. First, a new theoretical structure and model is introduced that describes the behavioral components in whistle blowing, and second, the model is experimentally tested to identify which components may influence whistle blowing outcomes. We find that individual characteristics such as narcissism, self-perceived ethics, and perceived ethics of other employees positively influence whistle blowing activity. We also find that the framing of the content of the code of conduct as either positive or punitive matters. A punitive code of conduct creates the perception that employment is more likely to be terminated, which causes individuals to whistle blow earlier.

There are several limits and weaknesses of this research. The experimental approach lends itself to higher internal validity while sacrificing external validity, and this research falls into that category. The research utilizes a game to test the hypotheses, which may in fact not represent an ecological possibility. Rarely will an employee know and understand the likelihood of discovery of the fraud by the company with certainty, nor will they know and understand the fraud growth. This design choice was determined to be an experimental necessity, though, and one we undertook knowing the limitations and criticisms it may generate.

The research does highlight many areas for future research. Additional personal characteristics may be studied within the framework of the model, and additional nuances of corporate control may be explored as factors to influence whistle blowing. Potential training may be explored as a counter to the negative traits, and their effectiveness may be monitored and measured, too. The research in this area has the potential for both academic and professional impact and may help inform those beyond the accounting arena.
Appendix:

Figure 3.1 – Dorminey et al. (2012) Model
Figure 3.2 – The Whistleblower Triangle
Figure 3.2 – Mediation Analysis

Mediation Diagram:

Tone of CoC → Likelihood of Termination

Path A: -0.77***

Period Reported → Likelihood of Termination

Path B: -0.099*

Path AB (indirect effect): 0.076* (one-tailed)
**TABLE 3.1 Subjects Reporting by Round**

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### TABLE 3.2 Univariate Analysis

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<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.0586)</td>
</tr>
<tr>
<td>_cons</td>
<td>1.495***</td>
<td>1.542***</td>
<td>1.542***</td>
<td>1.535***</td>
<td>1.529***</td>
<td>1.420***</td>
</tr>
<tr>
<td></td>
<td>(0.105)</td>
<td>(0.0744)</td>
<td>(0.0765)</td>
<td>(0.0752)</td>
<td>(0.0752)</td>
<td>(0.113)</td>
</tr>
<tr>
<td>N</td>
<td>194</td>
<td>194</td>
<td>194</td>
<td>194</td>
<td>194</td>
<td>194</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.001</td>
<td>0.024</td>
<td>0.003</td>
<td>0.003</td>
<td>0.001</td>
<td>0.009</td>
</tr>
</tbody>
</table>

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3.2 represents six univariate OLS regression models with the dependent variable (period reported) in the top row and the independent variables in the first column.

Dependent variable: period reported represents the period in which the participant blew the whistle, higher scores represent participants’ decision to delay whistleblowing behavior.

Independent variables: CoC is a dichotomous variable representing the tone of code of conduct presented to the participants (0 = negative tone, 1 = positive tone). Ethical_Emp. Represents how ethical the participant perceived the employees that worked with him were, higher scores represent a perception of more ethical co-workers. Ethical_Me represents the how ethical the participant perceived him/herself. Altruism represents how altruistic a participant is, higher score means more altruistic/pro-social. Narcissism represents the degree of the trait of narcissism within the participant with higher scores reflecting more narcissistic individuals. Berlin_num is the participants score on the berlin numeracy test, which assesses statistical numeracy and risk literacy.
TABLE 3.3 Interaction Effects Analysis

<table>
<thead>
<tr>
<th></th>
<th>(1) Period reported</th>
<th>(2) Period reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narcissism</td>
<td>-0.0236</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.118)</td>
<td></td>
</tr>
<tr>
<td>Ethical_Emp.</td>
<td>-0.141**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0600)</td>
<td></td>
</tr>
<tr>
<td>Narc*Ethemp</td>
<td>0.202**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0873)</td>
<td></td>
</tr>
<tr>
<td>Altruism</td>
<td>0.128</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.164)</td>
<td></td>
</tr>
<tr>
<td>CoC</td>
<td>0.0987</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.150)</td>
<td></td>
</tr>
<tr>
<td>CoC*Altr.</td>
<td>-0.451*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.232)</td>
<td></td>
</tr>
<tr>
<td>_cons</td>
<td>1.544***</td>
<td>1.495***</td>
</tr>
<tr>
<td></td>
<td>(0.0739)</td>
<td>(0.104)</td>
</tr>
<tr>
<td>N</td>
<td>194</td>
<td>194</td>
</tr>
<tr>
<td>R²</td>
<td>0.051</td>
<td>0.024</td>
</tr>
</tbody>
</table>

Standard errors in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01
Table 3.3 represents 2 OLS regression models with the dependent variable (period reported) in the top row and the independent variables in the first column.
Dependent variable: period reported represents the period in which the participant blew the whistle, higher scores represent participants’ decision to delay whistleblowing behavior.
Independent variables: Narcissism represents the degree of the trait of narcissism within the participant with higher scores reflecting more narcissistic individuals. Ethical_Emp. Represents how ethical the participant perceived the employees that worked with him were, higher scores represent a perception of more ethical co-workers. Altruism represents how altruistic a participant is, higher score means more altruistic/pro-social. CoC is a dichotomous variable representing the tone of code of conduct presented to the participants (0 = negative tone, 1 = positive tone).
TABLE 3.4 Additional Analysis – Main Effects

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Period reported</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>0.390***</td>
<td>(0.148)</td>
</tr>
<tr>
<td>Education</td>
<td>0.196**</td>
<td>(0.0990)</td>
</tr>
<tr>
<td>cons</td>
<td>0.983***</td>
<td>(0.218)</td>
</tr>
<tr>
<td>N</td>
<td>194</td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>0.051</td>
<td></td>
</tr>
</tbody>
</table>

Standard errors in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01

Table 3.4 represents 1 OLS regression models with the dependent variable (period reported) in the top row and the independent variables in the first column.

Dependent variable: period reported represents the period in which the participant blew the whistle, higher scores represent participants’ decision to delay whistleblowing behavior.

Independent variables: gender is a dichotomous variable representing gender (0 = female, 1 = male). Education is an ordinal variable representing how educated the participant is with higher scores reflecting a higher degree of education.
**TABLE 3.5 Additional Analysis – Mediation**

<table>
<thead>
<tr>
<th>Model (1)</th>
<th>DV: Emp_Terminate</th>
<th></th>
<th>DV: period reported</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CoC</td>
<td>-0.773***</td>
<td>(0.182)</td>
<td>Emp_Terminate</td>
</tr>
<tr>
<td></td>
<td>_cons</td>
<td>6.384***</td>
<td>(0.127)</td>
<td>_cons</td>
</tr>
<tr>
<td>N</td>
<td>194</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3.5 represents the mediation analysis via SEM. In the first part of the model, we have the dependent variable “Emp_Terminate” which is the participants’ perception of how likely he/she will be terminated if they violate the codes of conduct with higher score representing higher likelihood of termination. The independent variable in the first part is CoC which is a dichotomous variable representing the tone of code of conduct presented to the participants (0 = negative tone, 1 = positive tone). In the second part the dependent variable is period_reported which represents the period in which the participant blew the whistle, higher scores represent participants’ decision to delay whistleblowing behavior.
### Table 3.6 Additional Analysis – Reported in Period 1 versus Did Not Report

<table>
<thead>
<tr>
<th></th>
<th>(1) Period 1</th>
<th>(2) Period 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>-0.702**</td>
<td>-0.825***</td>
</tr>
<tr>
<td></td>
<td>(0.287)</td>
<td>(0.297)</td>
</tr>
<tr>
<td>Narcissism</td>
<td>0.0327</td>
<td>0.0626</td>
</tr>
<tr>
<td></td>
<td>(0.230)</td>
<td>(0.240)</td>
</tr>
<tr>
<td>Ethical_Me</td>
<td>0.305**</td>
<td>0.295**</td>
</tr>
<tr>
<td></td>
<td>(0.137)</td>
<td>(0.139)</td>
</tr>
<tr>
<td>Ethical_Emp.</td>
<td>0.177</td>
<td>0.201</td>
</tr>
<tr>
<td></td>
<td>(0.120)</td>
<td>(0.125)</td>
</tr>
<tr>
<td>Period To Discover</td>
<td>-0.0610*</td>
<td>-0.0637*</td>
</tr>
<tr>
<td></td>
<td>(0.0355)</td>
<td>(0.0351)</td>
</tr>
<tr>
<td>Narc*Ethical_me</td>
<td>0.383*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.217)</td>
<td></td>
</tr>
<tr>
<td>Narc*Ethical_emp</td>
<td></td>
<td>-0.458**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.196)</td>
</tr>
<tr>
<td>_cons</td>
<td>0.818***</td>
<td>0.869***</td>
</tr>
<tr>
<td></td>
<td>(0.199)</td>
<td>(0.207)</td>
</tr>
<tr>
<td>N</td>
<td>232</td>
<td>232</td>
</tr>
</tbody>
</table>

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3.6 presents two logistic regression models. Dependent variable: Period 1 represent whether participants blew the whistle in the first period or not (0 = did not report, 1 = did report).

Independent variables: gender is a dichotomous variable representing gender (0 = female, 1 = male). Ethical_Me represents the how ethical the participant perceived him/herself. Ethical_Emp. Represents how ethical the participant perceived the employees that worked with him were, higher scores represent a perception of more ethical co-workers. Narcissism represents the degree of the trait of narcissism within the participant with higher scores reflecting more narcissistic individuals. Periods To Discover is a continuous variable representing how many periods participants judged the fraud would be discovered in the company if they did not blow the whistle, higher scores mean participants expect the fraud to continue for longer times undiscovered.
Appendix 3.7 – Experiment Vignette

During the course of your work at Erimo Inc., you recently discovered a significant financial “discrepancy” in the recording of sales and the subsequent collection of receivables. You are confident that this discrepancy is the result of fraud or unethical behavior.

You have also recently learned that when there is a financial discrepancy of this type, the individual who first reports the discrepancy is entitled to a 20% reward of the discrepant amount.

You estimate that the current financial discrepancy is 100 Lira, and that the discrepancy is growing at a rate of 40% each period.

You also estimate that each period you do not report the discrepancy, there is a 20% chance that Erimo Inc. will discover the discrepancy by some other means, in which case you will not be entitled to any reward.

Your task is to decide whether or not to report the discrepancy each period.

If you report the 100 Lira discrepancy during Period 1, your reward will be 20 Lira (100 Lira discrepancy x 20% reward). If you do not report the discrepancy this period, there is a 20% likelihood that Erimo will discover the discrepancy by some other means, in which case you will not be entitled to a reward. If the discrepancy is not discovered by some other means, it will grow to 140 Lira in Period 2 (100 * 1.4 to account for 40% growth). You will then have the opportunity to report the discrepancy and earn a reward of 28 Lira (140 Lira x 20% reward), or delay reporting further.

The game will progress period by period until either (1) you report the discrepancy and earn a reward of 20% of the accumulated discrepancy amount, or (2) Erimo Inc. discovers the discrepancy, and you earn no reward.

At the conclusion of this study, you will receive additional compensation based upon the Lira awarded in the game. The conversion is 100 Lira to $1. For example, 20 Lira are worth $0.20.

You have read the Erimo Corporate Code of Conduct, and you are aware of the discrepancy. You will now proceed to Period 1 of the task.
Appendix 3.8a: Punitive Code of Conduct

Erimo Inc.
Corporate Code of Conduct

Last revised and approved by the Erimo Inc. Board of Directors 1/1/2019

Erimo Inc. has a strict code of compliance in which employees must know their responsibilities and raise ethical concerns. We insist on ethical conduct and compliance with the law; and are resolute that business results are never more important than ethical conduct and compliance with Erimo Inc. policies.

Erimo's Leaders must also take the following steps to build an infrastructure to prevent, detect, and correct compliance issues: Identify business compliance risks, provide education on Erimo policies and applicable law, implement control measures, promote an effective ombudsperson internal reporting system, conduct periodic compliance reviews, promptly correct compliance weaknesses, and take appropriate disciplinary action.

➢ If you act without integrity you will be terminated.
➢ You will be retained only if you are honest, fair, and trustworthy.
➢ Failure to obey applicable laws, regulations, and financial rules will result in termination.
➢ You must promptly report any concerns you have regarding violations of this Code. Failure to do so will result in dismissal.
Appendix 3.8b: Positive Code of Conduct

Erimo Inc.
Corporate Code of Conduct

Last revised and approved by the Erimo Inc. Board of Directors 1/1/2019

Erimo Inc. has a culture of compliance in which employees understand their responsibilities and feel comfortable raising ethical concerns. We encourage ethical conduct and compliance with the law; and ensure that business results are never more important than ethical conduct and compliance with Erimo Inc. policies.

Erimo's Leaders must also take the following steps to build an infrastructure to prevent, detect, and correct compliance issues: Identify business compliance risks, provide education on Erimo policies and applicable law, implement control measures, promote an effective ombudsperson internal reporting system, conduct periodic compliance reviews, promptly correct compliance weaknesses, and take appropriate disciplinary action.

➢ We encourage you to act with integrity.
➢ We want you to be honest, fair, and trustworthy.
➢ We want employees to obey applicable laws, regulations, and financial rules.
➢ We encourage you to promptly report any concerns you have regarding violations of this Code.
CHAPTER FOUR: AN EXPERIMENTAL EXAMINATION OF FACTORS IMPACTING TASK SELECTION WHEN EXAMINING OCCUPATIONAL FRAUD

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ABSTRACT

Prior studies in the fraud literature have focused on different components of the fraud triangle. However, little research has been done to better understand those who are tasked with examining a potential fraud. For that reason, we investigate multiple factors that may impact the task selection process for the examination of occupational fraud. Specifically, we look at personal characteristics of the fraud examiner, such as skepticism, narcissism, tolerance for ambiguity, and trust, and how they interact with outside factors, such as the level of detail in a tip, the framing of a possible promotion, or type of supervisor, when the examiner has different types of fraud cases to examine (e.g., internal versus external, single versus collusion).

Key words: narcissism, framing, skepticism, emotional intelligence, fraud examination
1.0 INTRODUCTION

Occupational fraud continues to be a significant cost to organizations and the capital markets. The purpose of this research is to examine preferences to tasks by fraud examiners within the organization. While research has been performed on individuals perpetrating deviant behavior, firm reactions to fraud, market reactions to fraud, and external audit firm reactions to fraud, little research has been conducted relative to the individuals within the organization examining fraud. Building from a perspective similar to that of the Fraud Triangle (e.g., Cressey, 1950, 1953; Albrecht and Albrect, 2004), where the incursion of fraud was necessitated by three factors consisting of opportunity, rationalization, and financial pressure; we utilize a mirrored look from the angle of the fraud investigator. First, what situational factors stemming from the evidence may drive efforts to assess and investigate? Second, what internal factors that may be relevant to the investigative individual may drive an investigative decision? Third, what external factors may drive an investigative decision?

Across three studies we test for evidence of task preference. In experiment one, we examine the impact of the level of detail of the anonymous tip on perceived seriousness and budgetary considerations through the lens of Credibility Theory. In experiment two, we examine the framing of the choice of fraud examination upon which an examiner may work, along with the origination of the potential fraud. In experiment three, we examine the potential impact of supervisor emotional intelligence and the type of examination.

[Insert Figure 1 here]

Participants were from the Middle East region. The participants were participating in a forensic accounting and fraud examination 3-day workshop. The experiment(s) were conducted prior to training. All participants were fluent in English, and the instruments were in English.
Participants self-selected into the training and voluntarily participated in the experiment. IRB approval was obtained for the experiment(s) and is available upon request.

The experimental group comprised forty-one female and thirty-one male subjects, with an average age of 33.41 years and 10.39 years of work experience. Seventeen participants (23.9%) indicated they were internal auditors or the equivalent. Table 1 contains the breakdown of demographic information.

The remainder of the paper proceeds as follows: Section (2) provides the general literature review regarding whistleblowing. Section (3) provides study one with its respective literature review, hypothesis, and results. Section (4) presents study two (following the same format as section 3), and section (5) presents study three and then, lastly, section (5) concludes.

2.0 LITERATURE REVIEW

2.1 Whistleblowing

Whistleblowing makes up an important part of the fraud research. Studies have mostly investigated whistleblower characteristics and incentives that cause individuals to blow the whistle. In addition, research has also looked at characters specific to the firm where the whistleblowing act occurs (Kerler et al., 2021). Specifically, Bjørkelo et al. (2010) looks at the personality of the whistleblower, Dalton & Radtke (2013) look at whistleblower’s morality and level of Machiavellianism, Reckers-Sauciuc and Lowe (2010) examined the tipsters’ mood. On the other, researchers investigating incentives have looked at compensation and financial rewards (Brink et al., 2013; Berger et al., 2017, Scheetz and Wall, 2019). From the firm’s perspective studies have investigated how codes of conducts (Davidson and Stevens, 2013), organizational justice (Seifert et al., 2010) and leadership within the firm (Liu et al., 2015) play a role in employees’ decision to report a potential fraud or not. However, a research gap exists regarding the investigation of fraud.
Therefore, this study looks at how internal auditors’ judgment and decision making in terms of how serious they would rate a potential fraud and how much resources they would allocate.

3.0 STUDY ONE

3.1 Literature Review & Hypothesis Development

Source credibility theory centers around the level of confidence an individual places on a message, based upon the perceived credibility of the source (Hovland and Weiss, 1951; Hovland et al., 1953). Accounting research has supported the effect of the theory on audit committees (DeZoort et al., 2003) and tax professionals (Alexander, 2003), but as noted by Maksymov (2015), the literature of the effect on auditor’s judgment is limited and represents a research gap.

An internal auditor obtains whistleblower tips from various sources both within and without an organization, and source credibility may be a factor impacting judgment, with more creditable sources positively impacting the seriousness of the tip and the resources allocated to a potential examination. Stated in the alternative form, we hypothesize

H1a: The greater (lower) the source credibility, the greater (lesser) the seriousness placed on a whistle blower tip.

H1b: The greater (lower) the source credibility, the greater (lesser) the resources allocated to examine the whistle blower tip.

Work experience has shown to have positive on auditor’s professional judgment (Hussin et al., 2017), and also impact analytical reviews (Cohen et al., 1989). Work experience may allow the professional to discern nuances from whistle blower tips that may yet to be leveraged by a less experienced auditor. Therefore, we hypothesize that

H2a: The greater (lower) the work experience, the greater (lesser) the seriousness placed on a whistle blower tip.
H2b: The greater (lower) the work experience, the greater (lesser) the resources allocated to examine the whistle blower tip.

3.2 Methodology

We discuss below the design, participants, experimental procedures and task, independent variables, and dependent variables for experiment one.

Design

The experiment utilizes a 2 x 1 between-subject design, manipulating the level of tip detail.

Participants

The experimental group comprised forty-one female and thirty-one male subjects, with an average age of 33.61 years and 10.34 years of work experience. Eighteen participants (25.55%) indicated they were internal auditors or the equivalent. Table 1 contains the breakdown of demographic information.

[Insert Table 1 Here]

Sixty-four (64) participants completed study one. Table 2 contains the breakdown of demographic information for study one.

[Insert Table 2 Here]

Experimental Procedure and Task

Participants completed a demographic questionnaire and various psychometric base-line instruments for the experiment(s). For experiment one, subjects read that they worked for a company and are involved with anti-fraud efforts of operation. They were assigned to read one of the following whistle blower transcribed tips:

Less detail:
I’m an employee in Procurement, and I think the company paid several duplicate invoices last month to a consultant for services that were never properly approved or actually performed. If I were to estimate, I would say it was close to $100,000 in total last month.

More detail:

I’m a purchasing agent in the Home Office Procurement Department, and the company paid 8 invoices within the last 29 days, 4 of which were duplicate invoices, to a consultant for services that were never properly approved by Procurement or were actually performed. The total amount of the invoices in question were $99,853 last month.

The participants were asked to rate the seriousness of the tip on a 7-point Likert scale; allocate a percentage of their budget to the examination of the tip (0% to 100%); rate the credibility of the tip on a 7-point Likert scale; and rate the level of detail of the tip on a 7-point Likert scale.

**Independent Variables**

Credibility is operationalized by script detail (fixed factor: less, more). The belief is that greater detail is associated with greater credibility. The manipulation of credibility by script detail was measured by the 7-point Likert scale (1=not at all credible to 7=extremely credible), controlling for total experience. The manipulation appears to be successful (p-value=0.032).

**Control Variables**

Consistent with prior research, the demographic measure of total experience was included as a control variable. We also asked participants if they were an internal auditor or equivalent, and to rate their experience level as it relates to investigating whistle blower tips (1=not experience to 7=very experienced).
Dependent Variables

The dependent variables are *seriousness* of the whistle blower tip (Likert scale, 1= not at all serious to 7=extremely serious) and *allocation* of budget (0% to 100% in 10% increments).

3.3 Results

To test our hypotheses, we performed two OLS regressions with seriousness and budget resources allocated as the dependent variable and script detail, total experience, internal auditor designation, and investigation experience as independent variables (see table 3 for study one analysis).

Our first pair of hypotheses is that the greater the source credibility, via the script detail manipulation, the greater the seriousness (H1a) and budget resources allocated (H1b) toward the examination. For the rating of seriousness results show that the manipulation had a positive effect (coefficient=.286), which means the group that were presented with more detailed script rated the tip as more serious, but the effect was not significant (p-value=0.346, two tailed). Hence, H1a was not supported. However, if the participant was an internal auditor, they rated the seriousness significantly lower than non-internal auditors (coefficient=-0.691, p-value=0.046, two tailed). For the second dependent variable (resources allocated) results show that script detail manipulation did not have a significant effect (coefficient=-0.019, p-value=0.704, two-tailed), which means H1b is also not supported. However, having an internal auditor position was also not significant and instead experience with whistleblowing investigations had a moderate positive effect on resource allocation (coefficient=0.03, p-value=0.079, two tailed), which shows that individuals with more whistleblowing experience allocated more resources to investigate the tip than those with less experience.
Our second pair of hypotheses is that the greater the work experience, then the greater the seriousness (H2a) and budget resources allocated (H2b) toward the examination. Results for seriousness show that as total work experience increased the rating of seriousness also increased (coefficient=0.037, p-value=0.07, two-tailed), indicating that H2a is moderately supported. On the other hand, when we examine resources allocated as the dependent variable, results show a significant main effect for total experience, but the effect was negative (coefficient=-0.01, p-value=0.005, two-tailed). This is in the opposite direction of H2b, therefore H2b is not supported.

Interestingly, though, in revisiting H1a and H1b, if we substitute script detail with either the participants’ own rating of level of detail or credibility measure, we find results supportive of expectations regarding source credibility theory. In this analysis, perceived tip detail level and credibility were significant and in the expected direction for both dependent variables, seriousness rating (perceived tip detail level coefficient=0.488, p-value=0.002, two-tailed and credibility coefficient=0.506, p-value=0.000, two-tailed) and resources allocated (perceived tip detail level coefficient=0.083, p-value=0.002, two-tailed and credibility coefficient=0.047, p-value=0.035, two-tailed). The effect of total experience remained qualitatively the same. This suggests that source credibility is significant as measured, although the script manipulation is not. Further, it appears that total experience plays a significant role in rating tip seriousness and budget allocation judgments. These findings, taken together, suggest partial support for our hypotheses for experiment one.

[Insert Table 3 Here]

4.0 STUDY TWO

4.1 Literature Review & Hypothesis Development

Social Identity Theory (Tajfel and Turner, 1979) suggests that individual align themselves to groups, adopting the group norms and beliefs, and to a certain degree, protecting themselves
and the group from deviant behavior. The behavior of aligning the self with the group is partly motivated by the need to belong to a group (Baumeister and Leary, 1995). This also applies within organizational membership which Asforth and Mael (1989) found that social identity led to increased in-group and organizational support. In addition, Terry et al. (1999) built upon social identity theory by combining it with the theory of planned behavior. Specifically, the authors look at how identifying with a group can cause a difference in judgement and behavior of group members. In accounting literature, Bazerman et al. (1997) argue that it is psychologically impossible for external auditors to maintain independence, which hinders the objectivity of judgments and decisions made. In addition, studies have shown the auditors’ decisions are affected by the extent to which the auditors socially identify themselves with their clients, which could be mitigated by firm rotation rules (Bergner, 2011). Not only that, but studies have also shown that social identity cause auditors to agree more with client’s decisions (Bamber and Iyer, 2007; Bauer, 2015). However, based on research in social affinity, Ames et al. (2015) finds that while there is an in-group bias where individuals tend to favor group members, once an in-group member is perceived to have behaved unethically or against group norms then that group member is actually treated more harshly than out-group members.

From this theory it is reasonable to expect that auditors align themselves to their employer, and therefore the most unappealing behavior would be that of a fraud committed by a fellow employee. A fraud committed by an outsider is one who does not necessarily share the norms of the company, while someone within the company violating norms may create the most dissonance and incongruency in values and beliefs. A fraud examination is a method of potentially alleviating this dissonance, and therefore we hypothesize

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H3: Ceteris paribus, an auditor will choose to examine a company employee over a non-employee.

Research on framing as it relates to judgment and decision making is very extensive. Attribute framing, describing something in either positive or negative terms, can play a role in choice selection, with positive framed choices being more attractive. Rultedge and Harrell (1994) find that framing information to management accountants in a positive or negative way can lead to risk-taking or risk averse decisions in a group setting compared to individuals. Duchon et al. (1989) researched the effect of framing on employees within the engineering industry and find that framing also affected business decisions and perceptions of risk as they relate to R&D financial allocations. In addition, Kerler et al. (2012) examined whether there is an interaction between attribute framing and the importance of a potential project and find support for framing affecting budgeting decisions with positive frame resulting in higher likelihood of project approval, and for the moderating role played by importance of project as results show framing having an effect when a project is less important but not when the project is very important. Furthermore, research has also documented the effect framing has on decision in different fields, such as consumers, gambling and medical (Levin et al., 1988, 1989 and 1996). Prospect Theory (Tversky and Kahneman, 1981) encapsulates framing in that the risky choice is affected by the outcome frame or “prospect.” When given an examination task, a positive frame outcome may be more attractive over a negative frame outcome, but it may be impacted by other factors, such as the target of the examination. In other words, we expect an interaction between the target under examination and potential reward outcome. The reward outcome influences the choice of examined target, such that subjects will select to examine employees when the reward outcome is framed as “the promotion
is yours to win,” and subjects will select to examine non-employees when the reward outcome is framed as “the promotion is yours to lose.”

H4: An auditor will choose to examine a company employee more (less) often over a non-employee when the outcome contingency is framed as a promotion to win (lose).

4.2 Methodology

We discuss below the design, participants, experimental procedures and task, independent variables, and dependent variables for experiment two.

Design

The experiment utilizes a 2 x 1 between-subject design, manipulating the frame of the promotion potential outcome of the participant.

Participants

Forty-six (46) participants completed experiment 2. Table 3 contains the breakdown of demographic information for the participants that completed in study two.

[Insert Table 4 Here]

Experimental Procedure and Task

Participants completed a demographic questionnaire and various psychometric base-line instruments for the experiment(s). For experiment two, subjects read that they worked for a company and are involved with anti-fraud efforts of operation. They were told they had the opportunity to select their next examination assignment from a list of four projects. They were additionally told before choosing the assignment either “Your promotion review is coming up, and it is yours to win,” or “your promotion review is coming up, and it is yours to lose.”

Project selection list:

1. A potential asset misappropriation fraud involving a company employee.
2. A potential asset misappropriation fraud involving a supplier to the company.

3. A potential asset misappropriation fraud involving a company employee and an outside supplier working together.

4. A potential asset misappropriation fraud involving at least two company employees.

Subjects then selected their assignment and were also given the opportunity to parenthetically explain why it was selected. The participants were asked to rate the seriousness of the potential fraud for each project on a 7-point Likert scale and the amount of annual budget percentage they would allocate to each project (0% to 100%).

**Independent Variables**

The manipulated independent variable is the promotion outcome frame of either positive (“yours to win”) or negative (“yours to lose”).

**Control Variables**

Consistent with prior research, the psychometric measure of narcissism was included as a control variable. We also included participants internal auditor designation, if they were an internal auditor or equivalent, and their experience level as it relates to investigating whistle blower tips (1=not experience to 7=very experienced).

**Dependent Variables**

*Internal* is the dependent variable and is operationalized by the project description noting the potential fraud involves an employee or non-employee, which are projects 1 and 2. The belief is that from a social identity perspective, participants will select project one more often than project two. Projects 3 and 4, which represents collusion (internal and external) were added as a choice for exploratory purposes. The dependent variables are *internal* based on the target in the
assignment chosen, *seriousness* of the potential fraud (Likert scale, 1=not at all serious to 7=extremely serious), and *allocation* of budget (0% to 100% in 10% increments).

4.3 Results

To test H3, that subjects will select projects to examine an employee over a non-employee, we conducted a single sample chi-square test. The test was non-significant (p-value=0.22), which means there was no significant difference in choice of projects between single internal and single external. Therefore, H3 was not supported. However, if all 4 projects were included in the chi-square test, then the results were actually significant (p-value < 0.01), which indicates that there was a difference in choice selection between the 4 projects. This is also visible when looking at the histogram in figure 2 below.

[Insert Figure 2 Here]

To test H4, that when the outcome is framed as a “promotion to win” subjects will select projects to examine an employee over a non-employee, we perform a logistic regression analysis with the promotion outcome frame as the independent variable factor. The same analysis was done after adding the control variables (narcissism, internal auditor designation, and whistleblowing investigation experience) and the results were still non-significant. Therefore, H4 is not supported.

Twenty-four participants are included in this analysis.

Furthermore, we ran some additional analysis with the two other dependent variables, *seriousness*, and *allocation*. Since participants rated the seriousness of each project, we computed a new variable, which was generated from all four measures together to represent overall how serious the participants rated the projects all together. The same thing was performed to create the variable for resource allocation. We also created a new dichotomous variable, *collusion*, which divided the projects between single perpetrator with a value of zero and a collusion scenario with
a value of one. An OLS regression was performed with allocation as the dependent variable. The model included collusion and promotion frame as the independent variables with the interaction between the two (N=43). Results show that the interaction was not significant. However, the effect of the manipulation, promotion frame, was significant and positive (coefficient=0.2, p-value=0.017), which means that when a project involved a single perpetrator those in the positive frame allocated significantly more resources than those in the negative frame. However, when the projects involved collusion there was no difference between negative and positive frame groups. Figure 3 below illustrates the difference via a plot.

[Insert Table 5 Here]

[Insert Figure 3 Here]

5.0 STUDY THREE
5.1 Literature Review & Hypothesis Development

Emotional intelligence is defined as “The ability to perceive and express emotion, assimilate emotions in thought, understand and reason with emotion, and regulate emotion in the self and others,” (Mayer & Salovey, 1997, p. 5). In addition, George (2000) suggests that emotional intelligence can contribute to effective leadership in multiple ways. Someone with high emotional intelligence displays empathy for others and is not easily rattled when procedures do not go accordingly. Conversely, someone with low emotional intelligence may have a lack of empathy, and cannot sufficiently control their emotions, particularly when there is a negative deviation from plans or expectations. Research suggests that supervisors with low emotional intelligence can result in low trust between the supervisor and employees, or even employees behaving unethically. (Geng, 2021). From the perspective of whistleblowing, emotional intelligence can also affect whistleblowing intentions (Geng & Fleming, 2021), and while research has specifically looked at the effect of leaders’ emotional intelligence on subordinate’s whistleblowing intentions (Geng,
no research has looked at how the leaders’ emotional intelligence can affect the decisions made by internal auditors in charge of investigating potential fraud cases.

A fraud examiner with a superior that has high emotional intelligence is not likely to change their choice of examination target (employee or non-employee), but if the superior has low emotional intelligence, then the examiner may take this information into account, potentially affecting their decision making. Again, building from Social Identity Theory, someone from within the group violating norms would cause the most dissonance, and therefore might cause the most dissonance with the low-emotional intelligence superior. This leads us to hypothesize

H5: An auditor will choose to examine a non-company employee over an employee when their superior has low emotional intelligence.

5.2 Methodology

We discuss below the design, participants, experimental procedures and task, independent variables, and dependent variables for experiment three.

Design

The experiment utilizes a 2 x 1 between-subject design, manipulating the emotional intelligence of the examiner’s superior.

Participants

Fifty-five (55) participants completed experiment three. Table 4 contains the breakdown of demographic information for study three.

[Insert Table 6 Here]

Experimental Procedure and Task

Participants completed a demographic questionnaire and various psychometric base-line instruments for the experiment(s). For experiment three, subjects read that they worked for a
company and are involved with anti-fraud efforts of operation. They were told they had the opportunity to select their next examination assignment from a list of four projects. They were assigned to read one of the following whistle blower transcribed tips before selecting their project:

High emotional intelligence supervisor:

*Your boss is the type of supervisor who does not get angry easily and he seems to be thoughtful before responding to problems. The boss is also one who understands how emotionally draining a fraud investigation can be, and can provide motivating support when things are not going as planned. The boss can best be described as “solid as a rock.”*

Low emotional intelligence supervisor:

*Your boss is the type of supervisor who gets angry easily and seems to speak before he thinks. The boss is also one who does not understand how emotionally draining a fraud investigation can be and does not provide motivating support when things are not going as planned. The boss can best be described as “a bull in a China shop.”*

Project selection list:

1. A potential asset misappropriation fraud involving a company employee.
2. A potential asset misappropriation fraud involving a supplier to the company.
3. A potential asset misappropriation fraud involving a company employee and an outside supplier working together.
4. A potential asset misappropriation fraud involving at least two company employees.

Subjects then selected their assignment and were also given the opportunity to parenthetically explain why it was selected. The participants were asked to rate the seriousness of the potential fraud for each project on a 7-point Likert scale and the amount of annual budget percentage they would allocate to each project (0% to 100%).

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**Independent Variables**

The manipulated independent variable is the emotional intelligence of the supervisor.

**Control Variables**

Consistent with prior research, the psychometric measure trust was included as a control variable. We also asked participants if they were an internal auditor or equivalent, and to rate their experience level as it relates to investigating whistle blower tips (1=not experience to 7=very experienced).

**Dependent Variables**

*Internal* is the dependent variable and is operationalized by the project description noting the potential fraud involves an employee or non-employee. The belief is that from a social identity perspective, participants will select project one more often than project two, unless their supervisor has low emotional intelligence, which will then reverse the preference. Projects 3 and 4, which represents collusion are added as a choice for exploratory purposes. The dependent variables are *internal* representing the assignment chosen, *seriousness* of the potential fraud (Likert scale, 1=not at all serious to 7=extremely serious), and *allocation* of budget (0% to 100% in 10% increments).

**5.3 Results**

To test our hypotheses, we performed a logistic regression with *internal* as the dichotomous dependent variable representing those who chose an internal project to work on versus an external project. We ran two models, one with only the manipulation as the independent variable and another model with all three control variables (trust, internal auditor designation and whistleblowing investigative experience). In both models the effect of supervisor emotional intelligence was not significant with a p-value of 0.832 and 0.88, respectively. Hence H5 is not
supported, the level of supervisor’s emotional intelligence did not affect the individual’s choice of project between internal versus external perpetrator.

Additional analysis was performed with seriousness and allocation. The same procedure was performed as in study two to create a scale made up of each seriousness and allocation measured for each of the four projects. The scales created both had an alpha that is above 0.7 (0.78 and 0.86, respectively). And also, the variable collusion was also created. An OLS regression was performed with allocation as the dependent variable. In addition, we included the manipulation (supervisor’s emotional intelligence) and collusion as the independent variables, including the interaction between the two. Results show a significant interaction and a significant effect for both independent variables. Specifically, the interaction was negative (coefficient=-0.24, p-value=0.037, two-tailed), and in plotting the interaction (see figure 4.) we notice two things. First, that when there was no collusion, employees with a supervisor that has high emotional intelligence allocated significantly less resources compared to those that had a low emotionally intelligent supervisor. Second, with those under the high emotional intelligence supervisor we notice that if the collusion projects were selected, participants allocated more resources than those that selected non-collusion project, whereas those with a low emotional intelligent supervisor, the subjects did not differ in allocation between single versus collusion projects selected.

[Insert Table 7 Here]

[Insert Figure 4 Here]

6.0 CONCLUSION

This paper utilized three studies that experimentally explores what factors may affect fraud examiners decisions when multiple potential frauds are present. Specifically, we measure the participants’ demographics and personal traits (narcissism, and trust) and we manipulate the level
of details in the tip for study one, the framing of a promotion for study two and the emotional intelligence of the supervisor in study three to see how the factor interplay in the participants’ judgment of how serious the fraud is and how much resources they would allocate to examine the case. Results show that experience and perception of source credibility have an effect on how serious a fraud tip is judged and how much resources to allocate. However, promotion framing, emotional intelligence of the supervisor, and other personality traits do not have an effect in the experiments. Further analysis reveals an interplay between type of fraud selected (single versus collusion) and the manipulation in study two and three.

Future studies can further explore other factors that might affect fraud examiners and can explore whether results differ for a sample of US based auditors. Although the trio of studies utilize a unique and hard to obtain subject pool, it would be interesting to administer the experiment to US based lay people, in an attempt to examine risk preference differences between fraud examiners and internal auditors to the general population.

The current study does suffer from several limitations. First, the sample is not a native English-speaking sample, which might have negatively affected comprehension. Further, participants participated in three studies plus a demographic and personal traits survey, which might have caused fatigue and increased drop-out rate. Lastly, as noted above, this was a hard to obtain subject pool, but there may be cultural differences that add to external validity concerns.
APPENDIX:

Table 1 Participant Demographics

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Table 2 Participant Demographics (Study 1)

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Table 3 Study 1 OLS Regression Analysis

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<td>0.0831***</td>
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Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3 includes 6 OLS regression models.

Dependent variables: Serious is how serious the participants rated the whistleblower tip; higher scores mean more serious rating. Resource is how much of resources, as a percentage, the participants allocated to examine the tip.

Independent variables: Script Detail is the manipulated variable (0 = less detailed, 1 = more detailed). Total experience is work experience in years. Int. Auditor is a dichotomous variable (0 = participant is not an internal auditor, 1 = participant is an internal auditor). WB Experience represents participants’ experience investigating whistleblower tips, higher score means more experienced. Perceived tip detail is how much detail the participants perceived in the tip presented, higher score equals more detailed. Credibility is how credible the participants perceived in the tip presented, higher score equals more credible.
Table 4 Participant Demographics (Study 2)

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### Table 5 Study 2 Analysis

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<tr>
<td>(0 -ve, 1 +ve)</td>
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Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5 includes two logistic regression and 1 OLS regression models.

Dependent variables: Internal is a dichotomous variable showing whether participants selected to examine a project that involved an internal employee or an external party (0 = external, 1 = internal). Allocation is a continuous variable generated based on how much of the resources, as a percentage, the participants allocated to examine the four potential projects. Higher allocation scores represent higher resources being allocated.

Independent variables: Promotion frame is the manipulated variable (0 = negative frame, 1 = positive frame). Narcissism represents the degree of the trait of narcissism within the participant with higher scores reflecting more narcissistic individuals. Int. Auditor is a dichotomous variable (0 = participant is not an internal auditor, 1 = participant is an internal auditor). WB Experience represents participants’ experience investigating whistleblower tips, higher score means more experienced. Collusion is a dichotomous variable based on the type of project selected to examine (0 = fraud project with single fraud perpetrator, 1 = fraud project that involves collusion between two parties)
Table 6 Participant Demographics (Study 3)

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Table 7 Study 3 Analysis

<table>
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<td>20</td>
<td>20</td>
<td>52</td>
</tr>
<tr>
<td>$R^2$</td>
<td></td>
<td>0.110</td>
<td></td>
</tr>
</tbody>
</table>

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7 includes two logistic regression and 1 OLS regression models.

Dependent variables: Internal is a dichotomous variable showing whether participants selected to examine a project that involved an internal employee or an external party (0 = external, 1 = internal). Allocation is a continuous variable generated based on how much of the resources, as a percentage, the participants allocated to examine the four potential projects. Higher allocation scores represent higher resources being allocated.

Independent variables: Supervisor E.I. is the manipulated variable (0 = manager has high emotional intelligence, 1 = manager has low emotional intelligence). Trust is continuous variable representing how trusting the participant is, higher scores represent a more trusting individual. Int. Auditor is a dichotomous variable (0 = participant is not an internal auditor, 1 = participant is an internal auditor). WB Experience represents participants’ experience investigating whistleblower tips, higher score means more experienced. Collusion is a dichotomous variable based on the type of project selected to examine (0 = fraud project with single fraud perpetrator, 1 = fraud project that involves collusion between two parties).
Figure 1. Process for the Internal Auditor / Fraud Division Employee

Research Focus:
1. Source Credibility
2. Framing
3. Emotional Intelligence

- Skepticism
- Narcissism
- Tolerance for Ambiguity
- Trust
- Emotional Intelligence
- Experience
Figure 2. Study 2:
Figure 3. Study 2:
Figure 4. Study 3:
CHAPTER FIVE: CONCLUSION

Fraud has proven to be very costly to organizations and thus is the focus of this dissertation. In this dissertation I study the individual who may commit fraud, I study the individual who may report fraud, and I study the individual who may examine fraud.

I begin with a study regarding individuals who may commit fraud, and I center on how technology can affect potential fraudsters, specifically if technology has an impact on psychological distancing. I find that an individual’s attachment to technology does have a moderating effect and that psychological distance does play a role in ethical behavior. Results show moderate support for attachment/familiarity to technology acting as a moderator where we see individuals that are more familiar with technology were more ethical in a more real (less psychologically distant) group compared to those who less familiar with technology, whereas the two groups did not differ when they were in a less real group. This may be even more important in the future as more companies allow employees to work remotely.

The second study examines the employee tipster through the interplay of external factors (framing of a code of conduct and perception of co-worker ethics) and internal factors (personality traits, perception of self-ethics and demographics) on the decision to blow the whistle when financial incentives are present. Results show that both external and internal factors matter as to whether a potential whistleblower decides to report early or delay reporting to gain additional gains.

The third and last study explores fraud from the internal fraud examiner’s perspective. The study seeks to better understand what factors affect the choice of fraud case to examine. In a series of three experimental studies, results show that perception of how credible the whistleblower tip is, and work experience affected both how the examiner rates the seriousness of the tip and how much of the budget should be allocated to examine the tip. However, results show no support for
a relationship between examiner’s personal traits, such as skepticism, tolerance for ambiguity, trust, narcissism, and risk literacy on the examiners’ preferences on which fraud case to examine. A better understanding of factors that affect fraud examiners can improve the efficiency of future examinations.

This dissertation in total helps expand our practical and theoretical knowledge of behavior as it relates to fraud. It is, though, only a small part of a growing body of literature. Each study highlights my finding and non-findings, and develops a path for continued and future research.
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