THE INFLUENCE OF ORGANIZATIONAL JUSTICE ON THE PERCEIVED LIKELIHOOD OF WHISTLE-BLOWING

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Chair

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THE INFLUENCE OF ORGANIZATIONAL JUSTICE ON THE PERCEIVED

LIKELIHOOD OF WHISTLE-BLOWING

Abstract

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This research effort contributes to the extant accounting literature by examining, in an experimental setting, the perceived likelihood of employees internally reporting fraud in response to fair or unfair whistle-blowing procedures (procedural justice), interactions with management (interactional justice), and outcomes (distributive justice). Whistle-blowing within the organization (internal) versus outside the organization (external) is of interest because it enhances corporate governance by allowing for the non-public resolution of ethical violations (Sarbanes-Oxley 2002; Hooks et al. 1994; Miceli and Near 1992).

Participants in this study included two hundred seventy-three internal auditors who were members of the Institute of Internal Auditors (IIA) and 244 four management accountants who were members of the Institute of Management Accountants (IMA). A positive relationship was predicted and found between fair whistle-blowing procedures and an increase in the perceived likelihood of reporting wrongdoing. The same relationship was found for fair interactions with management during whistle-blowing and fair outcomes (i.e., the cessation of the reported wrongdoing)

The highest perceived likelihood of reporting was posited and found when all whistle-blowing circumstances were fair; and, the converse was predicted and found when all whistle-

blowing circumstances were unfair. In mixed fairness whistle-blowing situations, a higher perceived likelihood of reporting was expected and found when outcomes were fair versus when they were not.

A comparison of the responses of management accountants and internal auditors across the individual justice circumstances unexpectedly revealed that the overall perceived likelihood of reporting did not significantly vary between internal auditors and management accountants. Management accountants indicated a significantly higher likelihood of reporting than internal auditors in only one circumstance — interactionally fair whistle-blowing. Management accountants may have been seeking interactional fairness to allay fears of retribution since they are less likely than internal auditors to be protected by their job role.

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CHAPTER 1

INTRODUCTION

Fraud in the Workplace – Whistle-Blowing as a Deterrent

Enron, WorldCom, Tyco, HealthSouth, Adelphia, and Fannie Mae — these names serve as unfortunate reminders of high-profile fraud cases (Smith 2001; Cohen and Maremont 2002; Solomon and Sandberg 2002; Mollenkamp and Terhune 2003; Connor 2004; Grant and Nuzum 2004). Fraud is a pervasive problem extending beyond a few sensational incidents. According to the KPMG report *Fraud Risk Considerations 2004*, "fraud continues to present organizations in every industry and sector with significant risks" (KPMG Audit Committee Institute 2004, 1). KPMG also reported in the *Fraud Survey 2003* that 75% of participating companies experienced fraud in the previous twelve months (KPMG Forensic United States 2003).

Not only is fraud pervasive, it is costly as well. In the 2004 *Report to the Nation on Occupational Fraud and Abuse*, the Association of Certified Fraud Examiners (ACFE) estimated that the typical U.S. organization loses 6% of its annual revenues to fraud (ACFE 2004). Applied to the U.S. Gross Domestic Product (GDP) for 2003, this percentage translated into approximately $660 billion in total losses (ACFE 2004). The most expensive, but least occurring, type of fraud was financial reporting fraud, with a median loss per incident of $1 million (KPMG Forensic United States 2003, ACFE 2004). The least costly, but most commonly occurring, type of fraud was asset misappropriation, with a median loss per incident of $93,000 (ACFE 2004).

As fraud is widespread and costly, detection is paramount and occurs most often through employee whistle-blowing (i.e., reporting of wrongdoing) within an organization. The ACFE found that employee disclosures resulted in the detection of 24% of the frauds reported by surveyed companies (ACFE 2004). The employee reports were found to be more effective in identifying fraud than were vendor and customer tips, audits (internal or external), other internal controls, notification by police, or accidental discovery (ACFE 2004). Because whistle-blowing is such an effective internal control, it is important for organizations to understand the factors that influence it.

Organizational Fairness (Justice) and Whistle-Blowing

Prior literature has suggested that fair (just) whistle-blowing processes could increase the reporting of wrongdoing within organizations (Near et al. 1993). To date, only one study has attempted to examine the relationship between fairness and whistle-blowing (Trevino and Weaver 2001). The present study extends the stream of literature on fairness and whistle-blowing by testing, in an experimental setting, the likelihood of employees internally reporting fraud when faced with 1) fair or unfair whistle-blowing procedures; 2) fair or unfair interactions with management during the reporting of wrongdoing; and, 3) fair or unfair whistle-blowing complaint resolution.

Whistle-Blowing as an Organizational Citizenship Behavior (OCB)

In the present study, whistle-blowing is characterized as a voluntary (for most employees), pro-social behavior (Dozier and Miceli 1985; Miceli and Near 1985; Trevino and Weaver 2001). Trevino and Weaver (2001) refer to whistle-blowing as an organizational citizenship behavior (OCB) — a subset of pro-social behavior (Organ 1990).[1] Organizational citizenship is voluntary, beneficial, extra-role behavior within an organization (Organ 1990). Organizational fairness (justice) has been shown to be an antecedent to organizational citizenship behavior (Moorman 1991; Bies et al. 1993; Eskew 1993; Greenberg 1993; Moorman et al. 1993; Podsakoff and MacKenzie 1993; Robinson and Morrison 1995; Cohen-Charash and Spector

[1] Ponemon (1994) referred to self-serving, retaliatory reporting as "motivated" whistle-blowing. Of interest in the present study is "unmotivated,"pro-social whistle-blowing.

2001; Colquitt et al. 2001). The present study specifically examines the relationship between organizational fairness (justice) and the OCB of whistle-blowing.

Job Role and Whistle-Blowing

Job role is also examined in this research effort as influencing perceived whistle-blowing because some employees, but not others, are expected to report wrongdoing as a function of their job (Near et al. 1993). For example, the rate of whistle-blowing has been documented to vary from 30-51% for federal employees not in the audit function to 90% for internal audit directors (Near and Miceli 1988; Near et al 1995; Near and Miceli 1996). For employees who are required to report wrongdoing regardless of the circumstances, the fairness of whistle-blowing processes within an organization may have little impact on their decision to whistle-blow. No studies to date have specifically tested the interaction between job role and the fairness of whistle-blowing processes. Thus, this research effort will add to the whistle-blowing literature.

Purpose and Implications of the Study

Organizations with effective mechanisms for reporting wrongdoing should be more adept at deterring financial reporting fraud and asset misappropriation; thus, limiting the frequency and severity of accompanying losses (ACFE 2004). The Sarbanes-Oxley Act of 2002 requires publicly-held corporations to set up whistle-blowing mechanisms to promote the reporting of wrongdoing (such as anonymous hotlines) within the organization. Whistle-blowing within the organization versus outside the organization enhances corporate governance by allowing for the non-public resolution of ethical violations (Miceli and Near 1992; Hooks et al. 1994; Sarbanes-Oxley Act 2002). Therefore, the purpose of this research is to improve the use and effectiveness of whistle-blowing processes.

The results of the present study will have implications for employees (including internal auditors and management accountants), external auditors, audit committees, and managers. Whistle-blowing mechanisms are monitored by internal auditors, utilized by other employees such as management accountants, verified by external auditors, and relied upon by audit committees and managers; thus, all have a vested interest in ensuring the most effective processes possible. The results of this research effort could help organizations to implement processes for reporting wrongdoing that meet the needs of diverse stakeholder groups.

Overview

The remainder of this research effort is divided as follows. Chapter II presents the literature review and research hypotheses. Chapter III reports the experimental methods used to test the hypotheses and research questions. Results of the study are presented in Chapter IV. Finally, Chapter V discusses the implications and limitations of the study, as well as suggested future extensions.

CHAPTER II

LITERATURE REVIEW

This chapter begins with the definition of whistle-blowing and discusses the current state of the accounting literature on whistle-blowing. The discussion then broadens to include factors influencing internal whistle-blowing such as job role and organizational fairness (justice). The linkage between organizational fairness (justice) and the reporting of wrongdoing is then strengthened by discussing whistle-blowing as an organizational citizenship behavior (OCB). Finally, the research hypotheses and questions are presented.

Whistle-Blowing Defined and Prior Accounting Research on Whistle-Blowing

Near and Miceli (1985, 4) define whistle-blowing as: "the disclosure by organization members of illegal, immoral, or illegitimate practices under the control of their employers, to persons or organizations that may be able to effect action." They define an illegal act as any crime which is punishable under law, an immoral act as one that is perceived by the whistle-blower to be wrong, and an illegitimate practice as an action that is interpreted by the whistle-blower to be beyond the organization's authority.

Prior accounting research on whistle-blowing has been diverse. For example, accounting researchers have examined moral reasoning and whistle-blowing (Arnold and Ponemon 1991; Finn and Lampe 1992; Ponemon 1994; Chung et al. 2004), culture and whistle-blowing (Schultz et al. 1993; Patel 2003), whistle-blowing in an audit context (Kaplan 1995), and blowing the whistle on consultants (Ayers and Kaplan 2005). The discussion below augments the summary of extant accounting studies provided in Table 1.

Table 1

Summary of Extant Accounting Literature on Whistle-Blowing

Author	Topic	Type of Study	Major Findings
Arnold and Ponemon 1991	Whistle-Blowing Perceptions and Moral Reasoning	Experiment-Ethical Dilemma Vignettes	Auditors with lower levels of moral reasoning were less inclined to blow the whistle. This result was magnified in the presence of retaliation (i.e., penalty).
Finn and Lampe 1992	Whistle-Blowing as an Extension of an Individual's Moral Judgment	Experiment-Ethical Dilemma Vignettes	A significant positive relationship exists between ethical judgment and the subsequent decision to blow the whistle; however, the relationship is impacted by situation and issue-related variables.[2]

[2] Finn and Lampe (1992) surmised that several issue-contingent variables from the work of Jones (1991) would impact the ability of auditors to recognize a moral issue, make a moral judgment, establish a moral intent, and engage in moral behavior. The issue-contingent variables were the level of agreement on the wrongfulness of a proposed act, the joint function of whether the act would take place and would cause harm, the length of time between the present and when the consequences of an unethical act would occur, and the feeling of nearness to the victims of a wrongful act (Finn and Lampe 1992; Jones 1991). Finn and Lampe (1992) also hypothesized that several situational factors from the work of Trevino (1986) would moderate the whistle-blowing decision. The relevant situational factors were reinforcement or pressure in the workplace, the norms of referent others, obedience to authority, the resolution of moral conflict, and the understanding of others' perspectives (Finn and Lampe 1992; Trevino 1986).

Schultz et al. 1993	Examination of Questionable Acts Across Cultures	Experiment-Ethical Dilemma Vignettes (Administered in U.S., Norway, and France)	A negative relationship exists between whistle-blowing and personal costs. A positive relationship exists between whistle-blowing and the seriousness of the wrongdoing. A positive relationship also exists between whistle-blowing and feelings of personal responsibility for reporting.[3]
Hooks et al. 1994	Synthesis of Prior Whistle-blowing Research and the Internal Control Guidance of the Committee of Sponsoring Organizations of the Treadway Committee (i.e., COSO).	Literature Review and Synthesis	Documentation of many personal, situational, and organizational factors affecting whistle-blowing. [4]

[3] Subjects from Norway considered all three factors (personal costs, seriousness of the wrongdoing, and personal responsibility for reporting), whereas subjects from the U.S. considered only personal responsibility and personal costs. The French subjects were only influenced by personal responsibility.

[4] Hooks et al. (1994) contributed to the general literature on whistle-blowing by documenting numerous personal, situational, and organizational factors that were linked to the propensity to whistle-blow in prior research. Some of the personal factors were as follows: 1) being married (Parmerlee et al. 1982; Soeken and Soeken 1987); 2) having excellent job performance (Glazer and Glazer 1987; Miceli and Near 1988; Miceli et al. 1991; COSO 1992; AICPA 1990); 3) possessing high levels of job satisfaction and commitment (Miceli and Near 1988; Westin 1981; Miceli et al. 1991); 4) having more education (Miceli and Near 1984); 5) reaching a higher organizational rank (Miceli and Near 1988; AICPA 1991); 6) being male (Miceli et al. 1991); 7) having greater years of service (Miceli and Near 1988); 8) possessing a lower tolerance for ambiguity (Pincus 1989, 1990); and, 9) being older (Miceli and Near 1988). The situational factors were as follows: 1) when the seriousness of the wrongdoing increases, whistle-blowers are more likely to identify themselves (Miceli et al. 1988); and, 2) when co-workers are being harmed, wrongdoing is more likely to be reported externally (Miceli and Near 1985; Miceli et al. 1991; AICPA 1988). Hooks et al. also explained the relationship between work/social characteristics and an increased reporting of wrongdoing by documenting the following: 1) when job roles encourage reporting, whistle-blowing increases (Miceli and Near 1984; Miceli et al. 1991; Schultz et al. 1993; Arnold and Ponemon 1991; AICPA 1991); 2) when professional support is high, the reporting of wrongdoing increases (Perrucci et al. 1980; AICPA 1991); and, 3) when society is supportive, whistle-blowing increases (Becker and Fritzsche 1987). Finally, Hooks et al. documented many organizational factors that increase whistle-blowing. Examples of the organizational factors were as follows: 1) a supportive organizational culture and an ethical “tone at the top” (Miceli and Near 1992; COSO 1992; American Institute of Certified Public Accountants (AICPA) 1990); 2) the establishment of a report recipient office and the existence of reporting policies (Miceli and Near 1992; Keenan 1990); 3) a participative management style (Keenan

Ponemon 1994	Synthesis Research Literature on the Ethical Components of the Whistle-Blower's Decision	Literature Review and Synthesis	The individual's ability to frame an ethical problem and develop a strategy for addressing it is "ethical competence." The whistle-blower must then have the perseverance to carry out his or her decision. Also, an unmotivated whistle-blower reports wrongdoing out of moral concern, not for personal gain. [5,6]
Finn 1995	Development of a Model to Promote Internal Whistle-Blowing	Theory Building	Training was recommended to differentiate material whistle-blowing from other immaterial concerns. A proactive and positive stance from management was recommended to promote current and future whistle-blowing.

1988); and, 4) low threatened retaliation (Near and Miceli 1986; Keenan 1988; Miceli et al. 1988; Miceli and Near 1984, 1992; Trevino 1986; Arnold and Ponemon 1991; Schultz et al. 1993).

[5] Unmotivated reporters would be more prevalent than motivated ones because whistle-blowers are normally more altruistic than others in the organization, possess higher moral reasoning capacities, and are able to resist organizational retaliation (Dozier and Miceli 1985).

[6] Ponemon (1994) suggested implementing a reward system as part of an organization's control structure to encourage internal whistle-blowing. He stated that offers of significant monetary rewards or long-term employment contracts could act as an incentive for communicating organizational wrongdoing.

Kaplan 1995	Auditors Reporting Intentions on Discovery of Procedures Prematurely Signed-Off	Experiment- Ethical Dilemma Vignettes (Premature Sign-Off)	The necessity of the procedure and the work history of the person prematurely signing-off were positively related to whistle-blowing. Audit seniors who had appraised more staff were more likely to report the premature sign-off
Kaplan and Whitecotton 2001	Auditors Intentions of Reporting Another Auditor Considering Client Employment-Not Withdrawing from Engagement	Experiment-Ethical Dilemma Vignettes (Auditor Considering Client Employment-Not Withdrawing from Engagement)	Perceived personal responsibility and personal costs were positively and negatively related, respectively, to a senior reporting an audit manager who was considering client employment during an engagement. Professional commitment was not found to influence the whistle-blowing decision.
Patel 2003	Cross Cultural Whistle-Blowing	Experiment-Ethical Dilemma Vignettes (One dilemma within the organization and another involving a government contractor)	Australian professional accountants were more willing to engage in whistle-blowing than Chinese-Malaysian and Indian professional accountants. Austalian professional accountants were also more socially accepting of whistle-blowing than Chinese-Malaysian and Indian professional accountants.

Chung et al. 2004	Audit employee intentions to report internally/externally and in a rule-based versus principles-based environment	Experiment-Ethical Dilemma Vignettes	Individuals were more likely to report within the organization, and within a principles-based environment. Individuals were less likely to report on a more powerful person in the organization.
Ayers and Kaplan 2005	Employees Reporting Intentions with Regard to Consultants	Experiment-Ethical Dilemma Vignettes (Acts by Consultants)	Whistle-blowing that was not anonymous was found to be positively related to perceptions of responsibility, the seriousness of the wrongdoing, and measure of moral equity on the MES scale by Reidenbach and Robins, 1990.

Arnold and Ponemon (1991) examined the whistle-blowing perceptions and moral reasoning of internal auditors using an experimental design. They administered an experimental case based on an incident involving the discovery of a fraud. An instrument measuring moral reasoning (Rest 1986) was also presented to the experimental subjects. Arnold and Ponemon (1991) found that auditors with lower levels of moral reasoning were less inclined to choose whistle-blowing as a means for reporting wrongdoing, and the presence of retaliation (i.e., penalty) made whistle-blowing even more unlikely for the lower-moral-reasoning auditors.

Finn and Lampe (1992) focused on the whistle-blowing decision as an extension of an individual's moral judgment concerning a questionable activity. They theorized that whistle-blowing is a moral behavior following the decision process of Rest (1986). Rest (1986) modeled the moral decision as a four component process: recognizing a moral issue, making a cognitive moral judgment, establishing a moral intent, and engaging in moral behavior. The findings of

Finn and Lampe (1992) were as follows: 1) auditing students were much more supportive of whistle-blowing on unethical acts than were practicing auditors; 2) the auditors that decided to participate in an unethical act (e.g., expense statement padding or under-reporting of time) believed that most of their peers would act similarly; and, 3) a significant positive relationship existed between making the initial ethical judgment and the subsequent decision to blow the whistle, but the relationship was impacted by issue and situation-related variables.

Ponemon (1994) synthesized the research literature on the ethical components of the whistle-blower's decision process. He discussed that an individual must first have sufficient ethical sensitivity to identify a problem such as fraud. He then stated that the individual must then possess the ability to frame the problem once it has been identified and the cognitive capability to develop a strategy for dealing with the problem. Ponemon (1994) described the ability to define the problem and develop a strategy for dealing with it as "ethical competence." He then discussed that the whistle-blower must have the perseverance to carry out the planned strategy.

More recently, Chung et al. (2004) examined the intentions of auditors to report a potential wrongdoing to the managing partner of the audit firm (internal to the audit firm) as compared to the client's board of directors (external to the audit firm) in a rule-based versus principle-based organizational climate. They administered an audit vignette that included background on the hypothetical organizational climate and information about a recent audit assignment. Participants were asked to take the role of auditor. In the vignette, Chung et al. (2004) included an internal control weakness that could allow fraud. The weakness was supposed to be reported to the client's board of directors. However, the audit partner in the vignette refused to take the issue to the board. The study participants, taking the role of auditor, had to decide whether to report the issue to the board on their own or to the managing partner of the firm (Chung et al. 2004).

Chung et al. (2004) manipulated the vignette across a rule-based/principle-based organizational climate. The rule-based manipulation emphasized the need to comply with various rules of the organization, and the principle-based manipulation encouraged individual values and independent thought. They found that individuals in a rule-based climate were less likely to whistle-blow relative to individuals in a principle-based climate.

Another stream of accounting research explored culture and whistle-blowing (Schultz et al. 1993; Patel 2003). Schultz et al. (1993) examined the reporting of questionable acts in both a domestic and international context. They focused on intra-organizational reporting and on acts that were breaches of internal controls and administered vignettes to managers in Norway, the United States, and France.

Schultz et al. (1993) hypothesized that subjects' likelihood of reporting would be related to country, organizational prosperity, and individual characteristics. Individual characteristics examined were the perceptions of responsibility for reporting, seriousness of the irregularity, and the personal costs of reporting. Differences between countries were discovered by Schultz et al. (1993). They found that Norwegian subjects considered all three of the individual characteristics — responsibility, seriousness, and personal costs, while the U.S. subjects focused on responsibility and personal costs. French subjects only considered responsibility. Schultz et al. (1993) did not find that reporting tendencies were influenced by organizational prosperity.

Patel (2003) examined whistle-blowing in a cross-cultural context. He examined cultural influences on the judgments of Australian, Indian, and Chinese-Malaysian accountants regarding whistle-blowing as a form of internal control. He administered a survey instrument using hypothetical whistle-blowing vignettes to a sample of senior auditors and consultants at Big 6 accounting firms in India, Malaysia, and Australia. The vignettes were manipulated across two levels of seriousness of wrongdoing. One vignette involved a matter internal to the organization that was not material and the other involved a primary contractor for the government committing fraud (Patel 2003).

Patel (2003) hypothesized that Australian professional accountants would be more likely to engage in whistle-blowing as an internal control mechanism than Chinese-Malaysian and Indian professional accountants. He also theorized that Australian professional accountants would be more accepting of engaging in whistle-blowing as an internal control mechanism than Chinese-Malaysian and Indian professional accountants. He found support for both hypotheses.

Whistle-blowing has been examined in an audit-specific context (Kaplan 1995). Kaplan (1995) explored auditors' reporting (i.e., whistle-blowing) intentions upon discovery of procedures prematurely signed-off. He discussed that premature sign-off is unethical in the audit profession because it reduces the effectiveness of the audit, and that the reporting of premature sign-offs would be an internal control for an audit firm.

Kaplan (1995) administered vignettes to audit seniors. He found that the necessity of the audit step and the poor work history of the staff member positively impacted whether the audit senior would report a premature sign-off. He considered that the gender of the audit senior might be related to the intention to report but did not find results for this speculation. Kaplan (1995) also found that audit seniors who have appraised more staff auditors were more likely to report the premature sign-off.

More recently, Ayers and Kaplan (2005) explored employees' reporting intentions in response to wrongdoing by consultants. They administered vignettes to graduate business students. They asked the business students to assume the role of a systems analyst employee. The perceived personal cost of reporting was theorized by Ayers and Kaplan (2005) to be negatively associated with employee participants' intentions to report wrongdoing committed by outside consultants. They also predicted that scores on the moral equity, relativism, and contractualism dimensions of the multidimensional ethics scale (MES), developed by Reidenbach and Robin (1990), would be positively associated with employee participants' intentions to report wrongdoing committed by outside consultants.

Ayers and Kaplan (2005) measured employee participants' intentions to report to management both where the employee would be identified and anonymously. They found support for the seriousness, personal responsibility, personal cost, and moral equity dimension hypotheses when the reporting employee was identified. They found support only for the seriousness and personal cost hypotheses when anonymous reporting was measured.

Internal Whistle-Blowing

A disclosure can be made to others within or outside the organization (Miceli and Near 1992). However, internal whistle-blowing is preferred because the employee is able to achieve resolution, and the organization has an opportunity to privately correct ethical violations (Malin 1983; Miceli and Near 1985; 1992). Furthermore, the Sarbanes-Oxley Act of 2002 creates a strong impetus for internally reporting wrongdoing by mandating that publicly-held companies develop anonymous, internal whistle-blowing channels (Sarbanes-Oxley Act 2002).

Most internal whistle-blowers are pro-social, loyal, long-term employees who do not wish to report wrongdoing outside the organization (Miceli and Near 1985; 1992; Dworkin and Baucus 1998).[7] Usually, these employees will only blow the whistle externally if they are unable

[7] Although they are not the norm nor the focus of this study, some whistle-blowers may be motivated by personal gain (Schreiber and Marshall 2006)

to resolve the ethical violation within their organization (Miceli and Near 1985; 1992). These employees care about the viability of the organization and do not want to publicly harm the reputation of their employers (Malin 1983; Miceli and Near 1985; 1992).

Many organizational factors have been shown to increase internal whistle-blowing (Hooks et al. 1994). Examples of the organizational factors are as follows: 1) a supportive organizational culture and an ethical “tone at the top” (American Institute of Certified Public Accountants [AICPA] 1990, Miceli and Near 1992); 2) the establishment of a report recipient office and the existence of reporting policies (Keenan 1990; Miceli and Near 1992); 3) a participative management style (Keenan 1988); and, 4) a low likelihood of retaliation (Miceli and Near 1984, 1992; Near and Miceli 1986; Trevino 1986; Keenan 1988; Miceli et al. 1988; Arnold and Ponemon 1991; Schultz et al. 1993). Low threatened retaliation is of special concern to those reporting wrongdoing within the organization, especially if the whistle-blower has less organizational power than the wrongdoer (Finn 1995; Chung et al. 2004). For example, Chung et al. (2004) examined the intentions of auditor seniors to report a potential wrongdoing by the audit partner to the managing partner of the audit firm. They found that audit seniors were less likely to report because the audit partner was more powerful in the organization.

To reduce retaliation, internal reports of wrongdoing can be directed to an ethics officer or to a member of the audit committee (Ponemon 1994). A proactive and positive stance from management in maintaining an ethical environment and in responding to whistle-blowers has also been theorized to discourage retaliation and to encourage the internal reporting of wrongdoing (Finn 1995). Moreover, the Sarbanes-Oxley Act requires anonymous whistle-blowing channels to be available in public companies to reduce the risk of retaliation and imposes stiff fines and possible jail time on those retaliating against whistle-blowers (Sarbanes-Oxley Act 2002).

Job Role and Internal Whistle-Blowing

In addition to organizational factors, job role can encourage internal whistle-blowing. For instance, the obligations of both the internal and external auditing professions to protect the public interest by reporting wrongdoing are based on job role (Ponemon 1994, Sears 2006). Job role alone, however, does not always guarantee internal whistle-blowing (Dworkin and Baucus 1998). For example, internal auditors have been found to blow the whistle more frequently when they have felt morally compelled to do so and to use external channels when the public was being physically harmed (Miceli et al. 1991).

Employees other than internal auditors within an organization may not be compelled by job role to report wrongdoing (Near and Miceli 1988; Near et al 1995; Near and Miceli 1996). Compared to internal auditors, little guidance is available from the accounting profession for management accountants who wish to blow the whistle (Porter 2003). The professional accounting organizations, such as the Institute of Management Accountants (IMA) and the AICPA, do not address whistle-blowing in their codes of ethics (Porter 2003). In addition to a lack of professional support for whistle-blowing, management accountants often experience pressure from employers to engage in unethical behavior, such as protecting the organization at the expense of the general public (Shafer 2002).

The intensity of the retaliation received for blowing the whistle may also be a function of job role (Near et al. 1993; Porter 2003). A propensity to whistle-blow and a lower incidence of retaliation among internal audit directors as compared to federal and private sector employees has been attributed to better procedures in place for the internal audit directors to report ethical violations and to better training on substantiating wrongdoing (Near et al. 1993). Furthermore, directors of internal audit have been able to acceptably explain that their job is to report wrongdoing, even if it might harm the organization (in the short run) by stopping a profitable but unethical practice (Near et al. 1993).

Management accountants in an organization are not prescribed by job role to report wrongdoing and may face intense retaliation (Porter 2003). In other words, management accountants do not have the same established responsibility to report wrongdoing as do internal auditors (Porter 2003). Management accountants who report wrongdoing may risk severe retaliation such as losing their job and career (Porter 2003).

Job role may also be associated with the effectiveness of whistle-blowers (Near and Miceli 1995; Miceli and Near 2002). Whistle-blowers whose jobs formally require them to report wrongdoing may be perceived as more powerful and effective because they are acting within their authority (Miceli 1995; Miceli and Near 2002). Role-prescribed whistle-blowers may also be perceived as behaving more consistently and with more credibility than those who were not expected to report wrongdoing (Miceli and Near 2002). The possibility has been raised that role-required whistle-blowers draw upon bases of legitimate or expert power, and are thus more effective than those who are not obligated to report wrongdoing (Miceli and Near 2002).

Furthermore, in a study based on archival data collected from US federal agencies and internal auditors, whistle-blowers who believed that reporting wrongdoing was required by their job (i.e., internal auditors) self-indicated higher effectiveness levels than other whistle-blowers who were not role-prescribed to report wrongdoing (Miceli and Near 2002). Therefore, internal auditors may perceive a higher likelihood of whistle-blowing than management accountants because they may believe that they are more effective.

Job role is just one of many factors that can be predictive of whistle-blowing. There are many individual, situational, and organizational factors that can interact to promote internal whistle-blowing (Miceli and Near 1992). One such factor, organizational justice, will be discussed in the next section of this paper.

Organizational Justice

Organizational justice has been offered as a theory that could help promote a proactive and positive environment conducive to internal whistle-blowing (Miceli and Near 1992; Near et al. 1993). Organizational justice is comprised of distributive, procedural, and interactional justice (Colquitt et al. 2001). Distributive, procedural, and interactional justices are defined as the perceived fairness of outcomes, procedures, and interactions with management, respectively (Colquitt et al. 2001).

Distributive justice is derived from equity theory (Adams 1965). Equity theory espouses that individuals perceive the fairness of outcomes by calculating the ratio of inputs (such as education, intelligence, and effort) to outcomes (Adams 1965). In addition to equity, equality and need allocation rules have been developed (Leventhal 1976). Equality refers to equal outcomes for self and others regardless of inputs; and, needs refers to the allocation of resources based upon the relative needs of the individual (Leventhal 1976). The three allocation rules (equity, equality, and need) have been observed to apply to different social circumstances such as work (equity allocation) versus the family (equality and need) (Deutsch 1975).

Procedural justice has been found to exist for individuals in the workplace when they have input (i.e., "voice") during mediation and arbitration procedures (Thibaut and Walker 1975). When individuals have been allowed input, the mediation or arbitration procedure has been perceived as being fair, even if the outcome has not been favorable (Thibaut and Walker

1975; Folger 1977; Lind and Tyler 1988; Folger and Cropanzano 1998). Procedural justice has been broadened to include the consistency of procedures, the freedom from bias in carrying out procedures, accurate information for making procedural decisions, the correction of inaccurate procedural decisions, the conformity of procedures with prevailing standards of ethics, and the consideration of group opinions when carrying out procedures (Leventhal et al. 1980).

Interactional justice focuses on the quality of interpersonal treatment that employees have received when procedures were implemented (Bies and Moag 1986). Interactional justice has an interpersonal component that reflects the degree to which individuals are treated with politeness, dignity, and respect by those executing procedures or determining outcomes (Greenberg 1990a). In addition, providing explanations of the rationale behind the implementation of procedures and the distribution of outcomes has increased perceptions of interactional justice (Greenberg 1990a).

Organizational Justice Perceptions

Organizational justice has been difficult to quantify because it is based on individual perception (Konovsky 2000). Individual justice perception has been theorized to vary with the situation, such as employees being more attuned to fairness concerns when they want to preserve harmony in their relationships (Tripp et al. 1995). Moreover, individuals tend to use a justice heuristic to simplify the many decisions that must be made everyday because humans have a limited ability to encode and use information (Lind et al. 1993; Folger et al. 1992). For example, employees often refer to the perceived fairness of a leader's actions (i.e., the fairness heuristic) when deciding if requests are legitimate (Lind et al. 1993).

Research has demonstrated that cognitive and affective components are involved in justice perceptions (Konovsky 2000). The cognitive component has been presented as the calculations made by the perceiver regarding the objective fairness of a decision (Konovsky

2000). Perceivers might compare how they were treated with how they expected to be treated or with how others were treated (Greenberg 1990b; Konovsky 2000). These comparisons have been referred to as referent cognitions (Folger 1986, 1987). If the perceiver does not receive the expected treatment, they might reduce their effort on future tasks to compensate (Folger 1986, 1987). Cognitions have also been shown to influence affective reactions to subjective justice perceptions (Tyler 1994). The affective component of justice has been documented to consist of positive or negative emotional reactions to actual objective events and has been linked to revenge in organizations (Tyler 1994; Bies and Tripp 1996). Because justice perceptions are difficult to quantify, it is important, in a whistle-blowing context, to inquire directly from employees as to whether they perceive reporting procedures, interactions with management, and whistle-blowing outcomes as fair, and to respond promptly to employee justice concerns.

Organizational Citizenship Behavior

Whistle-blowing has been characterized as prosocial and more narrowly as an organizational citizenship behavior (OCB) (Dozier and Miceli 1985; Trevino and Weaver 2001). Prosocial organizational behavior is a more inclusive construct than OCB (Organ 1990). Prosocial behavior can be required (i.e., in-role) or be voluntary (i.e., extra-role) and is defined as any action in the organization that attempts to help the persons to whom it is directed (Brief and Motowidlo 1986). OCB can only be extra-role and is defined as "behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in aggregate promotes the effective functioning of the organization …the behavior is not an enforceable requirement of the role or the job description … the behavior is a matter of personal choice" (Organ 1988, 4; Organ 1990). For example, the reporting of wrongdoing by an internal auditor would not be considered an OCB because it is a specific job requirement. Conversely, the reporting of wrongdoing by a management accountant would be an OCB because it not a job requirement.

The willingness of people to cooperate in an organization when not required to do so was first described by Barnard (1938). He described five broad categories of extra-role behavior: 1) cooperating with others; 2) protecting the organization; 3) volunteering constructive ideas; 4) self-training; and, 5) maintaining a favorable attitude toward the organization (Katz 1964). These five categories have been narrowed and labeled as OCB (Bateman and Organ 1983). A common listing of OCB used by researchers is altruism, conscientiousness, civic virtue, courtesy, and sportsmanship (Smith et al. 1983; Graham 1986a; Organ 1988; Moorman 1991; Niehoff and Moorman 1993; Podsakoff et al. 2000; Cohen-Charash and Spector 2001).

The OCB of altruism is defined as helping a specific person in face-to-face situations, and conscientiousness represents following the norms of a good worker and doing more than is absolutely necessary (Organ 1988; Schnake et al. 1993; LePine et al. 2002). Civic virtue can be described as participating in the governance of the organization even at great personal cost (Graham 1986b; Podsakoff et al. 2000). Whistle-blowing would be an example of a civic virtue OCB for employees other than internal auditors. Courtesy involves communicating with others before taking action, and sportsmanship can be defined as not complaining about trivial matters (Organ 1988; LePine et al. 2002). Examples of OCB would be making constructive statements about the department, training new people, making suggestions for organizational improvements, and respecting the spirit of rules (Bateman and Organ 1983).

OCB as a Consequence of Organizational Justice

Many studies have examined the relationship between organizational justice and OCB (Moorman 1991; Bies et al. 1993; Eskew 1993; Greenberg 1993; Moorman et al. 1993;

Podsakoff and MacKenzie 1993; Robinson and Morrison 1995; Cohen-Charash and Spector 2001; Colquitt et al. 2001). Prior literature has documented that when employees conclude that they are being treated fairly, they will be more likely to view their relationship with the organization as one of social exchange rather than economic exchange (Organ 1990; Eskew 1993). Social exchange emphasizes the socio-emotional aspects of an employee-employer relationship, especially the norm of reciprocity; whereas economic exchange emphasizes the financial and tangible facets (Gouldner 1960; Blau 1964). A social exchange relationship usually leads to reciprocal OCB (Organ and Konovsky 1989; Eskew 1993; Greenberg 1993). If individuals are treated inequitably, they will shift their focus to a more economic exchange view and only perform actions that they are specifically paid for in some way (Organ and Konovsky 1989).

Whistle-blowing can be characterized as an OCB that is responsive to organizational justice and that is based mostly on social exchange (Miceli and Near 1992). Even though monetary incentives have been used by the federal government to induce whistle-blowing for some time, most employees reporting wrongdoing do so out of a long-term relationship with an organization and a desire to see the ethical violation cease (Miceli and Near 1992)

Justice perceptions as antecedents to OCB, such as whistle-blowing, have been explored both globally and specifically (Moorman 1991; Bies et al. 1993; Moorman et al. 1993; Podsakoff and MacKenzie 1993; Tansky 1993; Robinson and Morrison 1995). For example, individuals have been found to form an overall perception of fairness that is positively related to job satisfaction and organizational commitment; however, this overall perception of justice has not been found to directly account for OCB but to instead affect job satisfaction, which in turn influences OCB (Tansky 1993).

The effects of job satisfaction and procedural justice have been more effectively delineated in a study of employees at a cable television company (Moorman et al. 1993). The study measured the effect of procedural justice perceptions on OCB while controlling for job satisfaction and organizational commitment (Moorman et al. 1993). Procedural justice was found to be related to conscientiousness, sportsmanship, and courtesy (Moorman et al. 1993).

Other research has linked procedural justice and OCB such as the study of 147 individuals who were notified of being laid off from their jobs but still had 30 days to work before being terminated (Bies et al. 1993). It was found that procedural justice was related to OCB during the period before termination (Bies 1993). More recently, a meta-analysis of 190 justice studies found that procedural justice had a significant positive influence on OCB (Cohen-Charash and Spector). Another meta-analysis on 183 justice studies provided additional evidence that procedural justice was related to OCB (Colquitt et al. 2001).

Distributive justice has also been studied as an antecedent to OCB (Robinson and Morrison 1995). The OCB of civic virtue has been found to decline when employer obligations to employees were perceived to have not been met because employees attempt to maintain an equitable balance between their contributions to an organization and what they receive in return (i.e., distributive justice) (Robinson and Morrison 1995). If an organization fails to provide the promised outputs (i.e., fulfilling obligations), employees might withhold discretionary inputs (i.e. OCBs) (Robinson and Morrison 1995). Furthermore, two meta-analyses have examined distributive justice and OCB (Cohen-Charash and Spector 2001; Colquitt et al. 2001). Both meta-analyses found a strong positive relationship between distributive justice and OCB (Cohen-Charash and Spector 2001; Colquitt et al. 2001).

In the Bies et al. 1993 study on terminating employees, perceptions of fair treatment were discovered to be strongly influenced by interactional justice factors such as the adequacy of the explanations given to terminating employees, and whether management treated those individuals with respect, dignity, sensitivity, and compassion. Similarly, from a study of two paint and coatings firms in the Midwest interactional justice has been found to be the key driver behind the OCBs of altruism, courtesy, sportsmanship, and conscientiousness (Moorman 1991). In other words, employees' interactions with their supervisors have been found to communicate more information regarding trust and equity than formal procedures and distributive outcomes (Moorman 1991). The quality of the supervisory/subordinate relationship, often referred to as leader-member exchange (i.e., LMX), has also been discovered to be positively related to altruism, conscientiousness, sportsmanship, courtesy, and civic virtue (Tansky 1993). LMX has been found to have a direct effect on conscientiousness, sportsmanship, and altruism, and an indirect effect on courtesy and civic virtue through job satisfaction (Podsakoff and MacKenzie 1993). More recently, the connection between interactional justice and OCB has been examined in a meta-analysis, and a strong positive relationship has been found (Colquitt et al. 2001).

Internal Whistle-Blowing as an OCB and Consequence of Organizational Justice

Miceli and Near (1992) discuss the need for future research to address the issue of whether the manner in which management responds to a whistle-blower is as important as the existence of formal policies and procedures. They characterize this emphasis on processes and interactions, not just outcomes such as the cessation of wrongdoing, as being reminiscent of the research on procedural and interactional justice. They indicate that future research needs to examine not only the critical effects of whistle-blowing policies and procedures, but also how those procedures are carried out and communicated to others in the organization.

Near et al. (1993) use organizational justice to discuss the lower incidence of retaliation and the higher level of whistle-blowing among internal audit directors as compared to federal and private sector employees protected by whistle-blowing statutes. They theorize that procedural justice is provided more readily to directors of internal audit versus other employees through the existence of job-mandated, formalized reporting procedures. They also hypothesize that directors are able to give explanations for reporting wrongdoing that, according to Bies (1987), increases interactional justice. Furthermore, they explain that increased distributive justice is supplied to directors of internal audit as compared to other employees, through training on recognizing and credibly reporting wrongdoing. A weakness of the Near et al. (1993) study is that the relationship between organizational justice and whistle-blowing was not formally tested —assertions were made based on informal observations of directors of internal audit.

Trevino and Weaver (2001) characterize whistle-blowing as an OCB. Under Organ's (1988; 1990) traditional five dimensions of OCB (altruism, civic virtue, conscientiousness, courtesy, and sportsmanship), whistle-blowing would fall under civic virtue because it includes actions that help to govern the organization, even at great personal cost (Graham 1986b; 1991; Near and Miceli 1987; Podsakoff et al. 2000).

Trevino and Weaver (2001) formally tested the relationship between procedural justice and whistle-blowing. They examined employees' perceptions of overall fair treatment across several organizations, the follow-through for the organizations' ethics policies, and the interaction between overall fair treatment and ethics policy follow-through. They focused on the procedural justice of the ethics policy follow-through and retribution (punishment) toward the wrongdoer. They theorized that if an organization is fair in general and addresses ethical violations, employees will be motivated to avoid unethical behavior and be more willing to report ethical problems.

Trevino and Weaver (2001) proposed that ethics program follow-through will be less important when employees perceive their organizations to be fair in general. The logic for this hypothesis is founded on the concept of reciprocity. They reason that in a fair organization, employees will have the support of the organization and feel valued by the group. In response, employees will engage in less unethical behavior and report more ethical violations, regardless of ethics policy follow-through.

The perceived fair treatment and ethics program follow-through was found to result in less unethical conduct and more reporting of ethical violations (Trevino and Weaver 2001). It was also found that ethics program follow-through has less impact on unethical conduct when employees perceived that their organization was fair in general. However, it was not found that the interaction of fair treatment and ethics program follow-through was a significant predictor of ethical violation reporting. Thus, fair treatment in general and ethics program follow-through act independently with regard to ethical violation reporting (i.e., whistle-blowing) (Trevino and Weaver 2001).

Research Hypotheses and Questions

To meet the requirements of Sarbanes-Oxley 2002, an organization must put a policy in writing to promote anonymous whistle-blowing. The organization must also declare that retaliation against whistle-blowers is prohibited. Prior research indicates that to increase the reporting of wrongdoing, formal whistle-blowing procedures should be consistent and unbiased (i.e., fair) (Miceli and Near 1992; Near et al. 1993; Trevino and Weaver 2001). The effect of fair procedures on whistle-blowing is independent of general fairness in the organization (Trevino and Weaver 2001).

The reporting of wrongdoing is voluntary for most employees and benefits the organization; therefore, it has been characterized as an OCB (Trevino and Weaver 2001). Adding evidence to the argument that procedural fairness should increase whistle-blowing is the stream of literature linking increased procedural justice with increased OCB (Bies et al. 1993; Eskew 1993; Greenberg 1993; Moorman et al. 1993; Podsakoff and MacKenzie 1993; Cohen-Charash and Spector 2001; Colquitt et al. 2001). Whistle-blowing would be classified as a civic virtue type of OCB because it increases organizational governance (Graham 1986a, 1986b, 1991). One study has found a positive relationship between procedural justice and the specific OCB of civic virtue (Robinson and Morrison 1995).

This research effort, similar to prior studies, seeks to examine the relationship between the fairness of whistle-blowing procedures and the perceived likelihood of whistle-blowing. Therefore, the following hypothesis is tested.

> **H1:** Fair reporting procedures will be positively related to the perceived likelihood of internal whistle-blowing.

An organization may have a fair, formal procedure in place for the reporting of wrongdoing. However, it is possible that unfair, informal interactions between the whistle-blower and management can undermine the formal procedure for reporting wrongdoing (Miceli and Near 1992; Near et al. 1993). Threats of retaliation from a supervisor could be of special concern to employees who are contemplating blowing the whistle (Miceli and Near 1992).

Prior research suggests that fair interactions (i.e., interactional justice) between a whistle-blower and a supervisor can increase the reporting of wrongdoing (Miceli and Near 1992; Near et al. 1993). Fair interactions would be described as the supervisor treating the whistle-blower with dignity and respect, as well as not making threats of retaliation (Miceli and Near 1992). Since whistle-blowing has been theorized to be an OCB (Trevino and Weaver 2001), the argument that increased interactional justice should increase the reporting of wrongdoing is strengthened by additional research linking increased interactional justice with increased OCB (Moorman 1991; Bies 1993; Greenberg 1993; Colquitt et al. 2001). No prior research directly tests the relationship between fair interactions and increased whistle-blowing. Therefore, the following hypothesis is posited.

> **H2:** Fair interactions with management will be positively related to the perceived likelihood of internal whistle-blowing.

The logic of equity theory would imply that whistle-blowers who risk retaliation to report wrong-doing would expect the organization to reciprocate by investigating the complaint and stopping the wrongdoing (Adams 1965, Miceli and Near 1992). However, it is possible for an organization to have fair, formal whistle-blowing procedures and fair interactions with management when reporting wrongdoing, but little fairness in the resolution of a whistle-blowing complaint (i.e., unfair distributive justice).

Prior literature has theorized, but not tested, that the fair resolution of a whistle-blowing complaint should increase the reporting of wrongdoing (Miceli and Near 1992; Finn 1995). In fact, Miceli and Near (1992, 299) discussed that "the most powerful reward an organization may be able to offer whistle-blowers is its willingness to correct wrongdoing." Thus, the cessation of the wrongdoing would be the desired "fair" outcome from the whistle-blower's perspective (Miceli and Near 1992).

Additional research has linked increased distributive justice to increased OCB (Robinson and Morrison 1995; Colquitt et al. 2001; Cohen-Charash and Spector 2001). Therefore, if whistle-blowing is an OCB as theorized (Trevino and Weaver 2001) it should show a positive response to increased distributive justice. To test the relationship between distributive justice and whistle-blowing, the following hypothesis is proposed.

> **H3:** Fair outcomes will be positively related to the perceived likelihood of internal whistle-blowing.

It is logical to assume that fair, formal whistle-blowing procedures, fair interactions with management while reporting wrongdoing, and fair resolution of whistle-blowing complaints should result in the highest perceived likelihood of whistle-blowing. Prior research suggests that this logic is accurate (Miceli and Near 1992; Near et al. 1993; Finn 1995). For instance, Near et al. (1993) surmised that whistle-blowers were most satisfied with the complaint process when procedures for reporting and interpersonal dealings were fair and the wrongdoing was terminated.

Conversely, unfair, formal whistle-blowing procedures, unfair interactions with management while reporting wrongdoing, and unfair resolution of whistle-blowing complaints should result in the lowest perceived likelihood of whistle-blowing (Miceli and Near 1992; Near et al. 1993; Finn 1995). In prior research, whistle-blowers were theorized to be least satisfied with the complaint process when procedures for reporting and interpersonal dealings were unfair and the wrongdoing continued (Near et al. 1993). To test the likelihood of perceived whistle-blowing in response to completely fair/completely unfair whistle-blowing procedures, interactions with management while reporting wrongdoing, and whistle-blowing outcomes, the following two hypotheses are proffered:

> **H4:** When fair reporting procedures, fair interactions with management, and fair outcomes are simultaneous, there will be the greatest perceived likelihood of internal whistle-blowing.

> **H5:** When unfair reporting procedures, unfair interactions with management, and unfair outcomes are simultaneous, there will be the lowest perceived likelihood of internal whistle-blowing.

Some organizations may be faced with a combination of fair/unfair whistle-blowing procedures, interactions with management during the reporting of wrongdoing, and outcomes from the whistle-blowing process. Prior research provides little guidance for determining the likelihood of whistle-blowing when mixed justice circumstances prevail. For instance, Near et al. (1993) stated that the most difficult cases to predict were those in which the components of justice were incongruent. Therefore, the following research question is exploratory and based upon the speculation that whistle-blowers value termination of the wrongdoing above all other justice concerns (Miceli and Near 1992).

> **RQ1:** When the fairness of reporting procedures, interactions with management, and outcomes are mixed, will there be a greater perceived likelihood of internal whistle-blowing when outcomes are fair?

Whistle-blowing increases when job roles encourage the reporting of wrongdoing (Hooks et al. 1994). For example internal auditors are obligated through their job role to report wrongdoing and they have been found have a higher level of whistle-blowing and a lower incidence of retaliation than other federal and private sector employees (Ponemon 1994; Near et al. 1993). On the other hand, management accountants in an organization are not required to report wrongdoing and may face intense retaliation if they do blow the whistle (Porter 2003). It is therefore possible that the perceived likelihood of whistle-blowing will vary according to job role and not due to the justice circumstances surrounding the wrongdoing situation (Miceli and Near 2002). To test job role as a driver of the perceived likelihood of whistle-blowing, the following hypothesis is proposed.

> **H6:** In the absence of fairness considerations, internal auditors will perceive a greater likelihood of whistle-blowing than management accountants.

It is possible that job role could interact with the fairness of whistle-blowing procedures, interactions with management while reporting wrongdoing, and whistle-blowing outcomes. It would be expected that internal auditors would find unfair circumstances to be of little detriment to the reporting of wrongdoing because they are required to blow the whistle regardless of the circumstances. Conversely, management accountants may find justice circumstances to be very salient to the decision to whistle-blow because they are not necessarily required to report wrongdoing. To test these suppositions, the following hypothesis and one research question is posited.

> **H7:** The perceived likelihood of whistle-blowing will be the most similar for internal auditors and management accountants when whistle-blowing procedures, interactions with management, and outcomes are simultaneously fair, and the most dissimilar when whistle-blowing procedures, interactions with management, and outcomes are simultaneously unfair.

Table 2 summarizes hypotheses one through seven and research question one.

Table 2

Summary of Hypotheses and Research Questions

Hypothesis	**Variable of Interest**	**Hypothesized Relationship with Perceived Whistle-Blowing Likelihood**
H1	Procedural Justice	Positive
H2	Interactional Justice	Positive
H3	Distributive Justice	Positive
H4	Procedural, Interactional, and Distributive Justice Congruently fair	Positive
H5	Procedural, Interactional, and Distributive Justice Congruently Unfair	Negative
H6	Job Role Without Justice Considerations	More Positive for Internal Auditors than Management Accountants
H7	Job Role With Justice Considerations	Convergent for Internal Auditors and Management Accountants Under Just Circumstances and Not Convergent Under Unjust Circumstances
RQ1	Mixed Justice Considerations	More Positive when Outcomes are Fair

CHAPTER III

RESEARCH METHOD

This section begins by describing the experimental design used to test the hypotheses and research questions. Following is a discussion of how the data were collected including the various manipulations for procedural, interactional, and distributive justice, as well as job role and control variables.

Experimental Design

This research effort employed a 2 x 2 x 2 factorial, quasi-experimental, between-subjects design with an additional control case for a total of nine cases. Factorial levels were provided for fair/unfair whistle-blowing procedures, fair/unfair interactions with management while reporting wrongdoing, and fair/unfair outcomes from the whistle-blowing process. A classification variable, job role, was examined as a moderating independent variable. Two job roles were examined — internal auditors and management accountants. A control case was provided to isolate the effects of the internal auditor/management accountant job role, independent of fairness (i.e., justice) concerns. The nine experimental conditions are discussed in greater detail later in this paper.

Cook and Campbell (1979) described a quasi-experiment as one that entails non-equivalent groups. In the present study, group equivalence could not be guaranteed due to a non-controlled setting (Cook and Campbell 1979). Thus, the design is a quasi-experiment (Cook and Campbell 1979). A quasi-experiment is not as strong in internal validity [i.e., causal inference] as an experiment in a controlled setting (Cook and Campbell 1979). However, a quasi-experiment may still yield some causal evidence if the random assignment of treatments is followed and controls are put in place for correlated omitted variables (Cook and Campbell 1979). A quasi-experiment is appropriate for this research effort because causal inferences are sought regarding the relationship between the components of organizational justice and the perceived likelihood of internal whistle-blowing, but it is not feasible to assess the subjects in a controlled setting.

Rosenthal and Rosnow (1991) characterized a between-subject experiment as one where each research participant receives one treatment condition. A between-subject design has some disadvantages when compared to a within-subjects design (Gay and Airasian 2000). One disadvantage is that it requires a larger sample size than a within-subject design (Gay and Airasian 2000). A between-subject design is also especially dependent upon the random assignment of subjects to the experimental conditions (Gay and Airasian 2000). If randomization is not done properly, the individual characteristics of the subjects may confound the treatment results (Gay and Airasian 2000).

Despite some disadvantages, a between-subject design avoids some of the downfalls of a within-subject design (Gay and Airasian 2000). A within-subject design may result in a learning effect so that participants become more proficient each time the experimental instrument is administered (Harsha and Knapp 1990). A within-subject design may also allow participants to guess the study hypotheses and to intentionally supply a researcher-desired result (i.e., demand effects), especially with ethically sensitive research (Pany and Reckers 1987; Harsha and Knapp 1990). To avoid learning and demand effects, a between-subject design was used for this research effort.

The research design used in the present study emphasized experimental realism. Experimental realism refers to whether the research task is realistic to participants (Ashton 1998). Experimental realism can be deemed effective if participants believe, attend to, and take seriously the research task (Ashton 1998). Mundane realism, the extent to which the experimental task is likely to occur in the real world, is also somewhat present in the experimental design because whistle-blowing situations do occur in the real world (Ashton 1998; Naj 1992).

<u>The Use of Experiments in PriorWhistle-Blowing Research in Accounting</u>

Experiments, in the form of vignettes, have been used before in whistle-blowing research published in the accounting literature (Arnold and Ponemon 1991; Finn and Lampe 1992; Schultz et al. 1993; Kaplan 1995; Kaplan and Whitecotton 2001; Patel 2003; Chung et al. 2004; Ayers and Kaplan 2005). However, an experiment examining organizational justice and whistle-blowing is novel. Only one prior study, Trevino and Weaver (2001), has analyzed organizational justice and whistle-blowing at all and they utilized a survey instrument, not an experiment, to test the relationship between procedural and retributive justice (punishment), respectively, and whistle-blowing. Moreover, the study by Trevino and Weaver (2001) was not published in the accounting literature, but rather, in an ethics journal.

Using an experiment in this research study is even more unique because experiments on organizational issues have been on the decline in recent years (Greenberg and Tomlinson 2004). There has been a shift in the methodology used by organizational scientists away from experimental studies and toward surveys (Greenberg and Tomlinson 2004). The decline in the popularity of experiments has been attributed to the availability of computer programs that perform covariance structure analysis (Amos, EQS, and Lisrel), and the fact that these programs have used data primarily collected through questionnaires (Greenberg and Tomlinson 2004). There has also seemed to be a preoccupation with external validity recently and external validity is not the strength of an experiment as a methodology (Greenberg and Tomlinson 2004). Furthermore, there have been ethical concerns over the use of deception in experiments

(Greenberg and Tomlinson 2004). However, a continued use of experiments when examining organizations remains necessary, especially situated experiments that combine elements of naturalistic variables and manipulated variables (Greenberg and Tomlinson 2004). The present study did combine manipulated variables for organizational justice, with the naturalistic variable of job role.

Experimental Instrument and Manipulated Variables—
Procedural, Interactional, and Distributive Justice

The experimental instrument for this research effort was comprised of vignettes that were presented in the third-person to minimize self-report bias (Rest 1986; Ponemon and Gabhart 1990; Arnold and Ponemon 1991). The example of organizational wrongdoing used in the vignettes involves the probable recording of material false revenues by a media company. The wrongdoing is based on an actual fraud committed by Gemstar-TV Guide (Securities Exchange Commission 2003).

The vignettes incorporating fair whistle-blowing procedures, interactions with management, and outcomes were adapted from the whistle-blowing policies and procedures of Procter and Gamble Corporation (Procter and Gamble 2005). Procter and Gamble is an appropriate example because it received the United Kingdom (UK) Special Award 2004 — "Most Whistle-Blowing Friendly Culture"— sponsored by the UK whistle-blowing charity, Public Concern at Work (Great Place to Work Institute United Kingdom 2004; Public Concern at Work 2004). Vignettes incorporating unfair whistle-blowing procedures, interactions with management, and outcomes were developed to be the converse of the fair conditions.

Prior literature was also used to construct the fair/unfair manipulations in the vignettes. Leventhal (1980) described components of procedural justice as the consistency of procedures and the freedom from bias. Thus, fair whistle-blowing procedures were portrayed as being consistently carried out according to policy, while unfair procedures violated the policy. The policy in the vignette stipulates that reporting is anonymous, and that the company will protect the whistle-blower from retaliation.

Bies and Moag (1986) described interactional justice as treating others with politeness, dignity, and respect as well as providing information such as explanations. Therefore, fair interactions with management during the whistle-blowing process were portrayed in the vignettes as the supervisor explaining the whistle-blowing policy and showing politeness, dignity, and respect to potential whistle-blowers. Unfair interactions with management were portrayed as the supervisor explaining the whistle-blowing process in a non-sincere manner and being threatening to potential whistle-blowers.

Distributive justice is derived from equity theory (Adams 1965). Equity theory espouses that individuals perceive the fairness of outcomes by calculating the ratio of inputs (such as education, intelligence, and effort) to outcomes (Adams 1965). Therefore, a fair outcome from the whistle-blowing process was portrayed in the vignettes as the company honoring the whistle-blower's effort and risk by investigating the complaint and stopping the wrongdoing. An unfair outcome was presented as a failure to investigate and stop the wrongdoing.

To further assess if the justice constructs were captured by the vignette manipulations, the study participants were asked if they perceived the procedures, interactions with management, and outcomes in their assigned vignette to be fair. Analyses of the effect size for each manipulation indicated that the justice constructs were distinct between vignettes, as expected.

The independent manipulated variables of interest in the present study were the fairness of whistle-blowing procedures, interactions with management while reporting wrongdoing, outcomes of the whistle-blowing process (i.e., procedural justice, interactional justice, and distributive justice), and job role. The variables were operationalized, as described above, for fairness/unfairness to form a 2 x 2 x 2 factorial design with eight experimental conditions. An additional vignette was added to isolate the effects of job role without the justice circumstances. Each subject read one of the nine vignettes in the between-subject experimental design. The nine experimental conditions are presented in Table 3 and explained as follows:

<u>Experimental Condition 1</u>: Whistle-blowing procedures are fair, interactions with management when reporting wrongdoing are fair, and the outcome of the whistle-blowing process is fair;

<u>Experimental Condition 2</u>: Whistle-blowing procedures are fair, interactions with management when reporting wrongdoings are unfair, and the outcome of the whistle-blowing process if fair;

<u>Experimental Condition 3</u>: Whistle-blowing procedures are fair, interactions with management when reporting wrongdoing are fair, and the outcome of the whistle-blowing process is unfair;

<u>Experimental Condition 4</u>; Whistle-blowing procedures are fair, interactions with management when reporting wrongdoing are unfair, and the outcome of the whistle-blowing process is unfair;

<u>Experimental Condition 5</u>: Whistle-blowing procedures are unfair, interactions with management when reporting wrongdoing are fair, and the outcome of the whistle-blowing process is fair;

Experimental Condition 6: Whistle-blowing procedures are unfair, interactions with management when reporting wrongdoing are unfair, and the outcome of the whistle-blowing process is fair;

Experimental Condition 7: Whistle-blowing procedures are unfair, interactions with management when reporting wrongdoing are fair, and the outcome of the whistle-blowing process is unfair;

Table 3

Whistle-Blowing Case Cell Matrix
For Both Management Accountants and Internal Auditors
(9 cases total)

Case 1 Fair Procedure Fair Interaction Fair Outcome	**Case 2** Fair Procedure Unfair Interaction Fair Outcome	**Case 3** Fair Procedure Fair Interaction Unfair Outcome	**Case 4** Fair Procedure Unfair Interaction Unfair Outcome	
Case 5 Unfair Procedure Fair Interaction Fair Outcome	**Case 6** Unfair Procedure Unfair Interaction Fair Outcome	**Case 7** Unfair Procedure Fair Interaction Unfair Outcome	**Case 8** Unfair Procedure Unfair Interaction Unfair Outcome	**Case 9** Control Case No fairness Manipulations

Case Comparisons for Hypotheses and Research Question

To test H1, cases 1,2,3,4 will be compared to cases 5,6,7,8.
To test H2, cases 1,3,5,7 will be compared to cases 2,4,6,8.
To test H3, cases 1,2,5,6 will be compared to cases 3,4,7,8.
To test H4, case 1 will be compared to cases 2-8.
To test H5, case 8 will be compared to cases 1-7.
To test H6, case 9 will be compared for internal auditors and management accountants.
To test H7, case 1 and 8 will be compared for internal auditors versus management accountants.
To test RQ1, cases 2, 5, 6 will be compared to cases 3, 4, 7.

Experimental Condition 8: Whistle-blowing procedures are unfair, interactions with management when reporting wrongdoing are unfair, and the outcome of the whistle-blowing process is unfair.

Experimental Condition 9: No manipulations for the fairness of whistle-blowing procedures, interactions with management when reporting wrongdoing, or whistle-blowing outcomes. This condition serves as a base case to isolate the perceptions of whistle-blowing as related to job role. The two job roles of the study participants are management accountants and internal auditors.

The vignettes were worded identically except for the three paragraphs manipulating the fairness of whistle-blowing procedures, interactions with management, and outcomes. This was to allow for consistency of information across subjects reading the different versions of the wrongdoing vignette with the exception of the intended manipulation. The nine vignettes, which formed the experimental conditions in the present study, are shown in Appendix B.

Measured Independent Variable for Job Role

Another independent variable of interest was job role. To better understand the relationship between organizational justice, job role, and whistle-blowing perceptions, the present study compared and contrasted the whistle-blowing perceptions of two sets of subjects — internal auditors and management accountants. The internal auditors were members of the Institute of Internal Auditors (IIA) and the management accountants were members of the Institute of Management Accountants (IMA). These two subject groups were appropriate because whistle-blowing is expected from internal auditors due to their job role (Miceli and Near 1992; Near et al. 1993, Near and Miceli 1995), but this is not necessarily true for management accountants (IMA 2006). Therefore, internal auditors may be less influenced than management accountants by fairness concerns in the whistle-blowing process.

Dependent Variable of Interest

The dependent variable of interest in the present study was the subjects' perceived likelihood of an employee blowing the whistle internally. Each vignette was followed by the dependent variable of interest, operationalized by the question: "In your opinion, what is the likelihood that Alex **will** report the CFO to others in the company?" The participants responded to the question using a nine-point Likert scale anchored on "definitely will not report" and "definitely will report." The Likert scale contained nine points because a larger number of gradations made the assumption of data normality more reasonable (Gibbons 1993). A mid-point anchor was used for a 50% likelihood of reporting. Five manipulation check questions were included on the instrument to assess the attentiveness of the participant to the facts in the vignette. Participants who failed any of the five manipulation checks were excluded from the study.

Previous whistle-blowing research has shown that the demographic factors of marital status, education, gender, age, rank, and tenure may be related to the decision to report wrongdoing (Parmerlee et al. 1982; Miceli and Near 1984; Miceli and Near 1988; Miceli et al. 1991; Dworkin and Baucus 1998). The randomization process in this experiment should have ensured that demographically varied participants were distributed equally across experimental conditions (Cook and Campbell 1979). However, information on participants' marital status, education, gender, age, rank, and tenure was requested on the experimental instrument. This information was examined to verify that the experimental conditions were demographically balanced. If the experimental conditions were found to not be demographically balanced, the variables in question were evaluated for inclusion as controls when testing the hypotheses of the present study. The demographics portion of the experimental instrument is shown in Appendix A for the internal auditors and Appendix B for the management accountants.

Instrument Administration and Samples

The experimental instrument, comprised of nine vignettes, was pre-tested twice in a classroom setting on volunteer, undergraduate accounting students. The results of the student pre-tests were used to refine the experimental instrument. Once refined, the experimental materials were administered to volunteer internal auditors and management accountants attending monthly meetings of the Institute of Internal Auditors (IIA) or the Institute of Management Accountants (IMA), respectively.

The process for obtaining volunteer internal auditors and management accountants was as follows. First, all IIA and IMA chapters were identified from the IIA and IMA websites, respectively. Then, each chapter, in alphabetical order, was contacted through email. The email to each chapter explained that the research effort was a fraud study for the purpose of a dissertation and asked for chapter participation. Neither the IIA nor the IMA chapters were aware that the other group was being asked to participate in the study. The IIA and IMA chapters were not told that the other group was participating so as to not confound the study. All chapters were offered a small donation to encourage their participation as recommended by Larson and Chow (2003).

A representative (usually an officer) from each participating IIA and IMA chapter then provided information regarding the expected number of attendees at the next regularly scheduled lunch or dinner meeting. The number of instruments sent to each chapter was a function of the expected number of meeting attendees. A regularly scheduled meeting was chosen as the distribution point for the instrument because the IIA and IMA chapters are prohibited from releasing the individual mailing information of their members.

In preparation for mailing, the instruments were collated as follows: instructions for self-administration, a cover letter, an implied consent form, one vignette, and a self-addressed, stamped envelope. The self-addressed, post-paid envelope was included to assure anonymity as the instrument was to be returned directly to this researcher via the mail. This researcher placed the collated instruments into the packages for mailing. To the extent possible, the mailing to each chapter included equal numbers of the vignettes. For example, if 36 people were expected to attend a meeting, four sets of instruments with vignettes ordered one through nine were sent in one mailing. A donation ranging in size from $25 to $100 was also included in each chapter mailing. The size of the donation was determined based upon expected meeting attendance. If chapter meeting attendance was expected to be fewer than 50 people, $25 was sent. Likewise, $50 was sent for expected attendance between 50 and 100 people, and $100 was sent for expected attendance of more than 100 people.

The protocol for the administration of the instrument at the IIA or IMA meeting was as follows. A representative from each participating chapter was asked to place the experimental instruments on a table during a regular lunch or evening meeting and to inform meeting attendees that the instrument was available. The representative was not asked to give any instructions because the instrument was intended to be self-administered. In the self-administration instructions, participants were asked not to complete the instrument at the meeting but to take it home and mail it back to this researcher at their convenience in the self-addressed, stamped envelope. Participants were asked not to discuss the instrument with others and to not specifically identify themselves or their employer. Following the guidance of Dillman (1978) and Larson and Chow (2003), a reminder was sent to the IIA or IMA representative, usually within two weeks after the administration of the instrument. The representative was asked to email the members to encourage them to return the instrument if they had not done so already. The reminders were effective in that, after they were sent, several additional surveys were received from chapters whose responses had ceased.

CHAPTER IV

DATA ANALYSIS AND RESULTS

The purpose of this chapter is to present the analyses and results of the study. Experimental instrument response patterns, demographics, and descriptive statistics are presented first. These are followed by tests of the hypotheses utilizing analysis of variance (ANOVA) and simple t-test comparisons. Additional analyses are presented throughout this chapter as needed.

Experimental Instrument Administrations and Response Rate

One thousand three hundred and fifty-two internal auditors who are members of the Institute of Internal Auditors (IIA) and 1,409 management accountants who are members of the Institute of Management Accountants (IMA) were invited to participate in the present study. Table 4 summarizes the dates of the experimental instrument administrations, the participating chapters, and the number of instruments sent. Twenty-six chapters from the IIA participated as did 49 chapters of the IMA. The IIA chapters tended to have larger meeting attendance than the IMA chapters; therefore, fewer mailings were needed to secure an adequate sample of internal auditors. Conversely, more mailings were needed to secure an adequate sample of management accountants because the IMA monthly chapter meetings had fewer attendees.

Of the two thousand seven hundred sixty-one instruments sent out, 693 were returned for a response rate of 25.1%. The response rate of 25% was the same for both the internal auditor and management accountant subject pools. This response rate is similar to the 25% rate found in

Table 4

Instrument Administrations and Response Rate

Administration Date	Chapter City	Chapter State	Internal Auditors	Management Accountants	Total
			(n)	(n)	(n)
02/08/2006	Little Rock	Arkansas	36		36
02/15/2006	San Bernardino	California	60		60
02/15/2006	Anchorage	Alaska	27		27
02/21/2006	San Diego	California	50		50
03/02/2006	San Francisco	California		20	20
03/08/2006	Fort Myers	Florida	25		25
03/08/2006	Spokane	Washington	44		44
03/14/2006	Denver	Colorado	110		110
03/15/2006	Birmingham	Alabama	250		250
03/15/2006	Pasco	Washington	20		20
03/15/2006	Wheaton	Illinois		25	25
03/16/2006	Cincinnati	Ohio		10	10
03/16/2006	Montgomery	Alabama		30	30
03/21/2006	Anaheim	California	80		80
03/21/2006	Boise	Idaho		30	30
03/21/2006	Higganum	Connecticut		30	30
03/21/2006	Louisville	Kentucky		20	20
03/21/2006	Pasco	Washington		22	22
03/21/2006	Tuscaloosa	Alabama		20	20
03/21/2006	Wichita	Kansas		15	15
03/22/2006	Statesboro	Georgia		20	20
03/23/2006	Coventry	Connecticut	40		40
03/23/2006	Hoffman Estates	Illinois		30	30
03/23/2006	Indianapolis	Indiana		25	25
03/25/2006	Altamonte Springs	Florida	41		41
03/28/2006	Heathrow	Florida		50	50
03/28/2006	Los Angeles	California		25	25
03/28/2006	Sacramento	California	75		75
03/31/2006	Palm Beach	Florida	35		35
04/11/2006	Oak Brook	Illinois		25	25
04/11/2006	Spartanburg	South Carolina		72	72
04/12/2006	Louisville	Kentucky	45		45
04/12/2006	Seattle	Washington	70		70
04/13/2006	Elkhart	Indiana	30		30
04/13/2006	Newport News	Virginia		20	20

Table 4 (Continued)

Administration Date	Chapter City	Chapter State	Internal Auditors	Management Accountants	Total
04/17/2006	Springfield	Illinois	24		24
04/18/2006	Albuquerque	New Mexico		35	35
04/18/2006	Canton	Ohio		50	50
04/18/2006	Carthage	Missouri		25	25
04/18/2006	Charlotte	North Carolina		25	25
04/18/2006	Eugene	Oregon		25	25
04/18/2006	Honolulu	Hawaii	10		10
04/18/2006	Long Island	New York		60	60
04/18/2006	Minneapolis/St. Paul	Minnesota		50	50
04/18/2006	Oshkosh	Wisconsin		30	30
04/18/2006	Portland	Oregon		50	50
04/18/2006	Stevens Point	Wisconsin		45	45
04/18/2006	Tulsa	Oklahoma		30	30
04/18/2006	Warren	Michigan		50	50
04/19/2006	Olympia	Washington	30		30
04/19/2006	Rollinsford	New Hampshire		35	35
04/20/2006	Ann Arbor	Michigan		30	30
04/20/2006	Chattanooga	Tennessee		20	20
04/20/2006	Columbus	Georgia	30		30
04/20/2006	Eau Claire	Wisconsin		20	20
04/20/2006	Hartsville	South Carolina		25	25
04/20/2006	Kingsport	Tennessee		30	30
04/20/2006	Kirkland	Washington		25	25
04/20/2006	Lansing	Michigan		15	15
04/20/2006	Pico Rivera	California		20	20
04/20/2006	Roanoke	Virginia		20	20
04/20/2006	Sacramento	California		12	12
04/20/2006	San Fernando	California	60		60
04/20/2006	San Francisco	California	50		50
04/20/2006	Wilmington	North Carolina		30	30
04/21/2006	Davie	Florida	30		30
04/25/2006	Hamilton Square	New Jersey		20	20
04/26/2006	Everett	Washington		20	20
04/26/2006	Jacksonville	Florida		20	20
04/28/2006	Stamford	Connecticut	40		40

Table 4 (Continued)

Administration Date	Chapter City	Chapter State	Internal Auditors	Management Accountants	Total
05/10/2006	Salisbury	Maryland		20	20
05/11/2006	St. Cloud	Minnesota		20	20
05/17/2006	Spokane	Washington		40	40
05/18/2006	Evansville	Indiana	40		40
05/19/2006	Harrisonburg	Virginia		23	23
Total Administered			1352	1409	2761
Useable Responses			273	244	517
Manipulation Fails			51	50	101
Other Fails*			13	62	75
Total Responses Received			337	356	693
Response Rate					25.1%

***Excluded due to job descriptions that did not match those targeted by the study or for missing data. Examples of job descriptions of the excluded respondents included public accounting firm staff member, partner, or owner, attorney, professor, retired, unemployed, or student.**

prior research on management accountants accessed through the IMA (Jones and Hiltebeitel 1995). Of the 693 returned, 517 responses were useable. One hundred and one responses were dropped due to manipulation check failures. Supplemental analyses found that the exclusion of the manipulation check failures did not impact the results of the present study. Seventy-five responses were excluded due to job descriptions that did not match those targeted by the study or for missing data. Examples of job descriptions of the excluded respondents included CPA partner, CPA firm owner, CPA firm staff, professor, retired, unemployed, or student. Additional analyses found that the exclusion of these job descriptions did not change the results of the present study.

A sample size sufficient to provide adequate statistical power was estimated prior to the execution of the present study. Cohen and Cohen (1983) stated that power is the probability of failing to reject the null hypothesis when it is false, and that power is dependent upon the region of rejection of the null hypothesis (i.e., α), the sample size, and the degree of departure from the null hypothesis (i.e., magnitude of the effect). Power increases as α, sample size, and effect increase (Cohen and Cohen 1983). Cohen and Cohen (1983) recommended .8 as the conventional value for power and they provided tables to compute sample size. From Table E.2, using nine variables for the nine experimental conditions, $\alpha = .05$, and a conventional power of .8, the sample size needed was determined to be 16 subjects per experimental condition for each sample (Cohen and Cohen 1983, 527). Therefore, the number of useable responses needed from management accountants was set at 144—calculated as 16 for each of nine experimental conditions. The same was true for internal auditors—144 were needed. The useable sample actually collected was adequate with 273 internal auditors and 244 management accountants.

Non-response bias was assessed in two ways. First, the number of days between the administration of the experimental instrument and the postmark on each returned response was calculated (i.e., number of days to return). If the postmark was illegible, the date the response was received was used and the city of origination was estimated by examining the region indicated within the instrument. Next, the perceived likelihood that Alex would report the fraud that was described in the instrument vignettes was regressed on the number of days taken to return the instrument. The mean number of days to return the instrument was eight with a minimum of zero (postmarked the same day as administered) and a maximum of 58 days. The median number of days to return the instrument was five. The regression was not found to be significant (p-value=.225). Thus, the number of days to return the experimental instrument was not a significant predictor of the perceived likelihood that Alex would report the fraud.

Second, a median split was used to evenly divide the number of days to return the instrument into two categories—early responders and late responders. A one-factor ANOVA was performed and no significant difference (p-value=.534) was found between the early responders and the late responders with regard to the perceived likelihood that Alex would report the fraud described in the experimental instrument vignettes. Once again, the length of time taken to return the instrument was not a significant predictor of the perceived likelihood that Alex would report. No statistical significance was found for demographic differences between early and late responders other than being married (p-value=.008) and working for a medium size organization (p-value=.097). Late responders were more likely to be married or to work for a medium size organization. However, additional analyses regressing days to respond on organization size (small, medium, or large) and marital status revealed no statistically significant relationship.

Demographic Information-Individuals

Demographic information about the study participants is presented in Table 5. Ninety-four out of 273 internal auditors (34%) and 76 out of 244 management accountants (31%) held the Certified Public Accountant (CPA) designation. Eighty-two management accountants (34%) and four internal auditors (1%) held the Certified Management Accountant (CMA) designation; and, 101 internal auditors (37%) and six management accountants (2%) held the Certified Internal Auditor (CIA) designation. A few study participants (6 internal auditors and 1 management accountant) indicated that they held other certifications such as Certified Fraud Examiner (CFE), Certified Information Systems Auditor (CISA), or Certified Financial Manager (CFM). Statistically, independent sample t-tests for α=.05 (used throughout this manuscript) did not reveal a significant difference between internal auditors and management accountants with regard to the CPA designation but differences for the CMA and CIA were notable (p-value<.001 for both). The CMA was the designation of choice for management accountants while the CIA was preferred by internal auditors. With regard to the perceived likelihood of whistle-blowing, participants with the CPA designation were no more likely to report wrongdoing than those with the CMA or CIA certification (p-value=.936)

The most common degree held by both internal auditors and management accountants was the Bachelors Degree (164 internal auditors, 60%, and 142 management accountants, 58%). However, the Masters Degree was also widely held (77 internal auditors, 28%, and 86 management accountants, 36%), probably as a result of the 150-hour requirement to sit for the CPA exam. One person did not provided data on their education level. In Table 5, and throughout this manuscript, data that was not provided by a participant for a specific comparison (pair-wise, not list-wise) was classified as “missing”. Independent sample t-tests did not show

Table 5

Demographic Information-Individuals

	Internal Auditors	Management Accountants	Total
	(n)	(n)	(n)
Certifications:			
CPA	94	76	170
CMA	4	82	86
CIA	101	6	107
CFE/CISA/CFM	6	1	7
None Listed	68	79	147
Highest Education:			
High School	0	0	0
Some College	2	1	3
Associates Degree	6	5	11
Bachelors Degree	164	142	306
Some Graduate School	23	10	33
Masters Degree or Higher	77	86	163
Missing Data	1	0	1
Gender:			
Male	128	126	254
Female	145	117	262
Missing Data	0	1	1
Current Job Level:			
Staff	137	80	217
Supervisor	27	28	55
Manager or Executive	106	135	241
Missing Data	3	1	4
Years in Current Job Position:			
Mean	5.27	7.05	6.11
Median	3.00	5.00	4.00
Standard Deviation	5.54	6.32	5.98
Marital Status:			
Married	193	177	370
Single	78	66	144
Missing Data	2	1	3

Table 5 (Continued)

	Internal Auditors	Management Accountants	Total
Age in Years:			
Mean	43.40	44.61	43.97
Median	45.00	46.00	45.00
Standard Deviation	10.88	9.98	10.47
Salary Range:			
$20,000-$40,000	6	16	22
$40,001-$60,000	74	74	148
$60,001-$80,000	73	55	128
$80,001-$100,000	55	34	89
Over $100,000	40	45	85
Prefer Not to Disclose	19	19	38
Missing Data	6	1	7
Worked in Other Role:			
Yes	56	31	87
No	212	211	423
Missing Data	5	2	7
If Other Role, Length of Time in Years			
Mean	7.85	2.56	6.05
Median	6.00	2.00	3.50
Standard Deviation	7.32	2.24	6.57
Required to Report by Job			
Yes	268	229	497
No	4	13	17
Missing Data	1	2	3
Encountered Non-Reporting:			
Yes	100	56	156
No	170	186	356
Missing Data	3	2	5
Have Reported:			
Yes	152	97	249
No	118	145	263
Missing Data	3	2	5

a significant difference between internal auditors and management accountants for education level.

Regarding gender, males and females were almost equally represented among both the internal auditors and the management accountants. The internal auditor participants were approximately 53% female and the management accountants were 48% female. Independent sample t-tests did not show a significant difference between internal auditors and management accountants for gender.

The current job level of the internal auditors and management accountants was weighted toward the bottom (staff) and top (manager/executive). Few internal auditors or management accountants were supervisors. Specifically, 137 internal auditors (50%) occupied staff positions and 106 (39%) were managers/executives. The internal audit managers/executives often held the title of director. Eighty management accountants (33%) held staff positions and 135 (55%) were managers/executives. The manager/executive level management accountants often had titles of controller, vice-president of finance, or chief financial officer. On average, the internal auditors had spent approximately 5, and the management accountants 7, years in their current job positions. Overall work experience was 19 years on average for internal auditors and 21 years for management accountants. Statistically, independent sample t-tests indicated that the differences between internal auditors and management accountants were significant for the job levels of staff (p-value<.001) and manager (p-value<.001) with internal auditors more likely to occupy a staff position while management accountants were more likely to be managers. Years in position (p-value=.001) and years of work experience (p-value=.026) were also significantly different between internal auditors and management accountants with management accountants possessing a greater number of years in their current position and a greater number of years of work experience overall.

Most of the internal auditors and management accountants were married (193 internal auditors and 177 management accountants, 71% and 73%, respectively), and the average age was 43 for internal auditors and almost 45 for the management accountants. Salaries varied across all levels but were most common in the middle ranges between $40,001 and $100,000. Only 6 internal auditors (2%) and 16 management accountants (7%) were in the lowest range of $20,000-$40,000, and 40 internal auditors (15%) and 45 management accountants (18%) were in the highest range of over $100,000. The middle salary ranges between $40,001 and $100,000 encompassed 202 internal auditors (74%) and 163 management accountants (67%). Some individuals were sensitive to sharing salary information with 19 internal auditors (7%) and 19 management accountants (8%) preferring not to disclose their pay. Independent sample t-tests did not reveal statistically significant differences in salary between internal auditors and management accountants.

Fifty-six internal auditors (21%) and 31 management accountants (13%) indicated that they had worked in the opposite job role (i.e., internal auditors who had worked as management accountants and vice versa). If an internal auditor had worked previously as a management accountant, on average they did so for close to eight years. However, if a management accountant had previously worked as internal auditor, on average they did so for only 2.5 years. From a statistical perspective, independent sample t-tests indicated that the difference between internal auditors and management accountants regarding working in the opposite role, and the length of time worked in that role, was highly significant (p-value=.014 and <.001, respectively). The length of time spent by internal auditors in the opposite role (management accountant) may indicate that, as a result of the Sarbanes-Oxley Act (SOX), more personnel have been diverted into the internal audit function from other accounting areas such as management accounting. To further support this assumption, it was not uncommon for internal auditors to identify their job as a SOX compliance specialist or to indicate that they had not been in that particular job role for very long. Serving in the opposite job role was of interest in the present study because it could have impacted how the study vignettes were interpreted. Specifically, did serving in the opposite job role affect the perceived likelihood of reporting fraud? Those who had worked in the opposite job role were compared to those who had not, through an ANOVA, and the results did not vary between the two groups (p-value=.134).

One question on the experimental instrument asked whether internal auditors were **required** to report wrongdoing as part of the job. The same question was asked of management accountants (i.e., are management accountants **required** to report wrongdoing as part of the job). Unsurprisingly, 268 out of 273 internal auditors (98%) said that they were required to report wrongdoing. It was often indicated by participants that reporting was their job in the normal course of performing internal audits. What is surprising, however, is that 229 out of 244 management accountants (94%) said that they were **required** to report wrongdoing. This stance from management accountants is surprising in that they are not necessarily expected to report wrongdoing according to their job role within an organization (i.e., they are not auditors), nor does the IMA *Statement of Ethical Professional Practice* (2006) state that management accountants **must** report wrongdoing. The *Statement of Ethical Professional Practice* (2006) does provide guidelines for the resolution of ethical conflict but stops far short of **requiring** management accountants to report wrongdoing. The discussion of job role and the perceived likelihood of reporting fraud will be revisited later in this manuscript, when the tests of hypotheses are explained.

Internal auditors were much more likely than management accountants to have encountered someone who should have, but did not, report wrongdoing. One hundred internal auditors (37%) and 56 management accountants (23%) had encountered someone who did not report wrongdoing. This difference was statistically significant (p-value=.001). The main explanation that both internal auditors and management accountants offered as to why individuals did not report wrongdoing was fear of retaliation. Other explanations offered were that people did not want to get involved, did not think the matter was serious, or were actually involved in the wrongdoing. Prior literature has shown the fear of retaliation to be a strong deterrent to reporting wrongdoing (Cruise 2002; Miceli 2004).

The study participants were asked if they had ever reporting wrongdoing. Not surprisingly, many more internal auditors (n=152, 45%) than management accountants (n=97, 27%) indicated that they had reported, usually through internal audit reports in the normal course of their job. This result was statistically significant (p-value=.017). It was apparent, from the responses given, that internal auditors received much job training about what items were normally reportable and had much more exposure to such items than management accountants. For example, many of the internal auditors indicated that they had reported violations of company policy, illegal acts, human resource problems such as sexual harassment, diversion or theft of assets, or misleading/fraudulent financial statements. The responses from the management accountants usually dealt with one or two isolated incidents, such as overstating revenue or theft of assets.

Demographic Information-Organizations

Demographic information about the participants' organizations is presented in Table 6. Size determination (small, medium, or large) was based on the perceptions of each participant and not on quantifiable size indicators, such as sales dollars, in order to help protect the anonymity of the participant's organization. Twenty-seven internal auditors (10%) and 62 management accountants (25%) were from small organizations, and 106 internal auditors (39%) and 84 management accountants (34%) were from medium-sized organizations. Large organizations were represented by 136 internal auditors (50%) and 96 management accountants (39%). Four internal auditors and two management accountants did not indicate an organization size. Statistically significant differences existed between internal auditors and management accountants with regard to size of organizations. Management accountants were much more likely to be employed by small organizations (p-value<.001), and internal auditors were much more likely to work for large organizations (p-value=.017).

Participants' organizations came from a variety of industries. Five internal auditors (2%) and ten management accountants (4%) were from organizations in educational services. A large number of internal auditors and a small number of management accountants, 57 (21%) and nine (4%) respectively, were from organizations in the banking and finance industry. Twenty-two internal auditors (8%) and 19 management accountants (8%) were from the insurance/real estate industry, and 19 internal auditors (7%) and 2 management accountants (1%) were from investment management and consulting. The construction industry accounted for only four internal auditors (1%) and 14 management accountants (6%), and government/non-profit was represented by 72 internal auditors (26%) and 14 management accountants (6%). Fifteen internal

Table 6

Demographic Information- Participant Organizations

	Internal Auditors	**Management Accountants**	**Total**
	(n)	(n)	(n)
Organization Size:			
Small	27	62	89
Medium	106	84	190
Large	136	96	232
Missing Data	4	2	6
Company Industry:			
Education Services	5	10	15
Financial Services:			
Banking/Financing	57	9	66
Insurance/Real Estate	22	19	41
Investment Management and Consulting Services	19	2	21
Construction	4	14	18
Government/Non-Profit	72	14	86
Healthcare Services	15	4	19
Manufacturing:			
Consumer Products	8	22	30
Equipment	0	18	18
Food	0	17	17
High Tech	7	9	16
Manufacturing-Unspecified	0	23	23
Natural Resource Processing	9	11	20
Other Professional and Consumer Services	28	55	83
Retail/Wholesale	2	9	11
Utilities	18	4	22
Missing Data	7	4	11
Does Company Promote			
Ethical Environment:			
Disagree	17	19	36
Neutral	59	46	105
Agree	195	176	371
Missing Data	2	3	5

Table 6 (Continued)

Demographic Information- Participant Organizations

	Internal Auditors	Management Accountants	Total
	(n)	(n)	(n)
Company Region:			
East Coast	7	52	59
Northeast	4	6	10
Northwest	45	28	73
Midwest	72	80	152
West Coast	73	22	95
Southeast	67	52	119
Southwest	4	3	7
Missing Data	1	1	2
Does Company Require Reporting:			
Yes	243	192	435
No	26	48	74
Missing Data	4	4	8

auditors (5%) and 4 management accountants (2%) were from the healthcare services industry. Consumer product manufacturing accounted for eight internal auditors (3%) and 22 management accountants (9%), and equipment manufacturing was represented by zero internal auditors and 18 management accountants (7%). Zero internal auditors and 17 management accountants (7%) were from food manufacturing, and seven internal auditors (3%) and nine management accountants (4%) represented high tech organizations. Zero internal auditors and 23 management accountants (9%) did not specify a type of manufacturing. Natural resource manufacturing was represented by nine internal auditors (3%) and 11 management accountants (5%). Other professional and consumer services accounted for a large number of internal auditors and management accountants with 28 (10%) and 55 (23%), respectively. Two internal auditors (1%) and nine management accountants (4%) were from organizations in the retail/wholesale industries, and 18 internal auditors (7%) and 4 management accountants (2%) were from utilities. Seven internal auditors (3%) and four management accountants (2%) did not indicate an industry for their organization.

Most participants perceived that their employer promoted an ethical work environment. Only seventeen internal auditors (6%) and 19 management accountants (8%) disagreed that their organization promoted an ethical environment. Fifty-nine internal auditors (22%) and 46 management accountants (19%) were neutral about whether their employer promoted an ethical environment, and 195 internal auditors (71%) and 176 management accountants (72%) agreed that their organization promoted an ethical environment. Internal auditors and management accountants were not statistically different with regard to an ethical work environment.

The participants' organizations were located across the United States, including Alaska and Hawaii. The participants chose the region that best represented their organization's location. If more than one region was selected, the postmark on the return envelope from the participant was used to classify the response. Postmarks, where legible, were also used for classification if a response did not indicate a region, or if the region indicated was not congruent with other responses from the same postmark.

Seven internal auditors (3%) and 52 management accountants (21%) indicated that their organization was located on the East Coast, and four internal auditors (1%) and six management accountants (2%) had employers in the Northeast. Forty-five internal auditors (16%) and 28 management accountants (11%) worked for organizations in the Northwest, and the Midwest was well represented with 72 internal auditors (26%) and 80 management accountants (33%). Seventy-three internal auditors (27%) and 22 management accountants (9%) were from organizations on the West Coast, and 67 internal auditors (25%) and 52 management accountants

(21%) were employed in the Southeast. Few participants were from organizations in the Southwest—only 4 internal auditors (1%) and 3 management accountants (1%). A region for one internal auditor and one management accountant was not specified nor could be discerned from the postmark on the returned response.

Many organizations now require the reporting of wrongdoing. Two-hundred forty-three internal auditors (89%) and 192 management accountants (79%) were from organizations that required reporting, and 26 internal auditors (10%) and 48 management accountants (20%) were employed by organizations that did not require reporting. Four internal auditors and four management accountants did not respond to the question about required reporting. Statistically, internal auditors were significantly more likely than management accountants to be required by their employers to report wrongdoing (p-value<.001)

Tests of Hypotheses 1-3

Hypotheses one through three were tested using a custom ANOVA that analyzed the main effects as well as all two-way and three-way interactions. Four and five-way interactions were excluded as they did not change the results of the ANOVA but did introduce heteroscedasticity into the model (p-value.040). Only cases 1-8 in the experimental instrument were used in the ANOVA analysis because case 9 is a control case.

Before the ANOVA was executed, possible control variables were considered. The variables of interest in the present study were fair/unfair whistle-blowing procedures, fair/unfair interactions with management during the reporting of wrongdoing, and fair/unfair outcomes from the whistle-blowing process. Because the experimental instrument was self-administered, there is the possibility that demographic factors may not have been completely randomized between groups. To assess the need for possible control variables, all individual and organizational demographic variables from Tables 5 and 6 (i.e., certifications, education, gender, job level, years in current job, marital status, age, salary, worked in other role, time in other role, encountered non-reporting, required to report by job, have reported, organization size, industry, ethical environment, region, company requires reporting), in addition to the variables of interest, were examined using analysis of covariance (ANCOVA). No interactions were analyzed due to the large number of variables. The only significant control variable found was being female. Therefore, the model used to test the hypotheses of the present study is as follows:

$$\text{LIKELI} = \alpha_0 + \beta_1\text{JOBROLE} + \beta_2\text{PROCFAIR} + \beta_3\text{INTERFAIR} + \beta_4\text{OUTCFAIR} + \beta_5\text{GENDER} + \varepsilon$$

where:

LIKELI	=	perceived likelihood that Alex would report the wrongdoing, Likert scale 1-9 with 1=definitely will not report, 5=likelihood of reporting is 50%, 9=definitely will report;
JOBROLE	=	job role of participant, 1=internal auditor, 0=management accountant;
PROCFAIR	=	fairness of whistle-blowing procedures, 1=fair, 0=unfair;
INTERFAIR	=	fairness of interactions with management during whistle-blowing, 1=fair, 0=unfair;
OUTCFAIR	=	fairness of whistle-blowing outcome, 1=fair, 0=unfair;
GENDER	=	1=female, 0=male.

The correlations between the dependent variable, the variables of interest, and the control variable were examined before the ANOVA was performed. The correlations are presented in Table 7. Strong positive correlations existed between the dependent variable “LIKELI” and the independent variables of interest “PROCFAIR,” “INTERFAIR,” and “OUTCFAIR” (p-values <.001, respectively). A strong positive correlation also existed between the dependent variable “LIKELI” and the control variable “GENDER” (p-value=.025). The independent variable

Table 7-Pearson Correlations

	LIKELI	JOBROLE	PROCFAIR	INERFAIR	OUTCFAIR	GENDER
LIKELI N	1 517					
JOBROLE N	-.102* 517	1 517				
PROCFAIR N	.218** 447	-.079 447	1 447			
INTERFAIR N	.323** 447	-.029 447	-.060 447	1 447		
OUTCFAIR N	.276** 447	-.007 447	-.065 447	-.016 447	1 447	
GENDER N	.099* 516	.050 516	-.086 446	.027 447	.027 446	1 516

** Correlation is significant at the .01 level (2-tailed)
* Correlation is significant at the .05 level (2-tailed)

LIKELI = perceived likelihood that Alex would report the wrongdoing, Likert scale 1-9 with 1=definitely will not report, 5=likelihood of reporting is 50%, 9=definitely will report;
JOBROLE = job role of participant, 1=internal auditor, 0=management accountant;
PROCFAIR = fairness of whistle-blowing procedures, 1=fair, 0=unfair;
INTERFAIR = fairness of interactions with management during whistle-blowing, 1=fair, 0=unfair;
OUTCFAIR = fairness of whistle-blowing outcome, 1=fair, 0=unfair;
GENDER = 1=female, 0=male.

“JOBROLE” was strongly negatively correlated with “LIKELI” (p-value=.020). The interpretation of this negative correlation was that internal auditors had a lower mean perceived likelihood of whistle-blowing than did management accountants.

The results of the ANOVA are presented in Table 8. Before the ANOVA was executed, the assumptions of an ANOVA were addressed. The assumptions of ANOVA are that the dependent variable is normally distributed and that variances are equal for all treatment groups (Hair 1998). Hair (1998, 347) stated that “F tests in ANOVA are robust with regard to these assumptions except in extreme cases.” In the present study, the dependent variable “LIKELI”

Table 8
Analysis of Variance-Testing Hypotheses 1-3

Source	Type III Sum of Squares	Df	Mean Square	F	P-Value	Sig.
Corrected Model	475.806	25	19.032	7.749	.000	***
Intercept	12854.067	1	12854.067	5233.416	.000	***
JOBROLE	4.628	1	4.628	1.884	.171	
PROCFAIR	95.831	1	95.831	39.017	.000	***
INTERFAIR	158.779	1	158.779	64.645	.000	***
OUTCFAIR	124.917	1	124.917	50.859	.000	***
GENDER	20.247	1	20.247	8.243	.004	***
PROCFAIR*INTERFAIR	5.629	1	5.629	2.292	.131	
PROCFAIR*OUTCFAIR	8.712	1	8.712	3.547	.060	*
PROCFAIR*JOBROLE	8.319	1	8.319	3.387	.066	*
PROCFAIR*GENDER	.068	1	.068	.028	.868	
INTERFAIR*OUTCFAIR	1.417	1	1.417	.577	.448	
INTERFAIR*JOBROLE	1.116	1	1.116	.454	.501	
INTERFAIR*GENDER	.176	1	.176	.072	.789	
OUTCFAIR*JOBROLE	18.556	1	18.556	7.555	.006	***
OUTCFAIR*GENDER	1.846	1	1.846	.752	.386	
JOBROLE*GENDER	.481	1	.481	.196	.658	
PROCFAIR*INTERFAIR* OUTCFAIR	1.522	1	1.522	.620	.432	
PROCFAIR*INTERFAIR*JOBROLE	.011	1	.011	.005	.946	
PROCFAIR*INTERFAIR*GENDER	2.711	1	2.711	1.104	.294	
PROCFAIR*OUTCFAIR*JOBROLE	3.170	1	3.170	1.291	.257	
PROCFAIR*OUTCFAIR*GENDER	1.398	1	1.398	.569	.451	
PROCFAIR*JOBROLE*GENDER	2.601	1	2.601	1.059	.304	
INTERFAIR*OUTCFAIR*JOBROLE	13.301	1	13.301	5.415	.020	**
INERFAIR*OUTCFAIR*GENDER	.005	1	.005	.002	.962	
INTEFAIR*JOBROLE*GENDER	3.256	1	3.256	1.325	.250	
FAIROUTC*JOBROLE*GENDER	5.678	1	5.678	2.312	.129	
Error	1031.584	420	2.456			
Total	14922.000	446				
Corrected Total	1507.390	445				

The total sample size was 517; however, the control case (n=70) and one missing observation for gender were excluded from the ANOVA. The effect size was .087, .135, and .107 for PROCFAIR, INTERFAIR, and OUTCFAIR, respectively.

*** significant at the .01 level (2-tailed)
** significant at the .05 level (2-tailed)
* significant at the .10 level (2-tailed)

LIKELI	=	perceived likelihood that Alex would report the wrongdoing, Likert scale 1-9 with 1=definitely will not report, 5=likelihood of reporting is 50%, 9=definitely will report;
JOBROLE	=	job role of participant, 1=internal auditor, 0=management accountant;
PROCFAIR	=	fairness of whistle-blowing procedures, 1=fair, 0=unfair;
INTERFAIR	=	fairness of interactions with management during whistle-blowing, 1=fair, 0=unfair;
OUTCFAIR	=	fairness of whistle-blowing outcome, 1=fair, 0=unfair;
GENDER	=	1=female, 0=male.

was not normally distributed as demonstrated by the Anderson-Darling test for normality (Stephens 1974). The Anderson-Darling test assumes normality as the null hypothesis, but for the present study the p-value was .005, thus rejecting normality. The normality test was run for all nine cases in the experimental instrument, for an N of 517 respondents.

Per Hair (1998), ANOVA is robust to violations of normality; however, additional non-parametric analyses were conducted to assess whether the non-normality of "LIKELI" affected the study results. A Kruskal-Wallis test is a non-parametric alternative to the one-way ANOVA (Aczel 1999, 695). The Kruskal-Wallis test was run on each independent variable (JOBROLE, PROCFAIR, INTERFAIR, OUTCFAIR, and GENDER) and the dependent variable "LIKELI." The results were not different than those of the ANOVA. Further, the variable LIKELI was rank transformed and an ANOVA was run to jointly test all of the independent variables. The rank transformed ANOVA did not yield significantly different results than the parametric ANOVA. Therefore, to prevent the loss of power usually associated with non-parametric tests (Hays 1988, 815), the parametric ANOVA was used to test the hypotheses.

The assumption that variances are equal for all treatment groups was assessed using Levene's Test of Equality of Error Variances (Hair 1998). The null for this test is that the error variances are equal (i.e., homoscedastic). The Levene's test did not reject the null (p-value.132); therefore, the assumption of equal error variances was met.

Given that the ANOVA assumptions were addressed, the results from Table 8 can now be discussed. The results in Table 8 addressed hypotheses one through three. As a reminder, hypotheses one through three are presented below.

> **H1:** Fair reporting procedures will be positively related to the perceived likelihood of internal whistle-blowing.
>
> **H2:** Fair interactions with management will be positively related to the perceived likelihood of internal whistle-blowing.
>
> **H3:** Fair outcomes will be positively related to the perceived likelihood of internal whistle-blowing.

From the ANOVA results in Table 8, the overall model was significant with an F statistic of 7.749 (p-value<.001). The adjusted R-Square (i.e., explained variance) for the overall model was .275 (27.5%). Before the main effects of the ANOVA were interpreted, significant interactions were analyzed. The significant interactions, graphed in figures 1-5 respectively, were "PROCFAIR*OUTCFAIR" (p-value=.060), "PROCFAIR*JOBROLE" (p-value=.066), "OUTCFAIR*JOBROLE" (p-value=.006), and "INTERFAIR*OUTCFAIR*JOBROLE" (p-value=.020). From Figure 1, it can be seen that a higher likelihood of reporting was more related to whistle-blowing outcomes than procedures. In Figure 1, a higher likelihood of whistle-blowing was present when outcomes were unfair than when procedures were unfair. The same was true when outcomes were fair and procedures were fair. From Figures 2 and 3, respectively, it can be inferred that internal auditors were more sensitive to whistle-blowing procedures and outcomes than management accountants. In Figure 2, the internal auditors had a much lower likelihood of whistle-blowing than management accountants when procedures were unfair and a higher likelihood of whistle-blowing than management accountants when procedures were fair. The same was true for outcome fairness as demonstrated in Figure 3 — internal auditors had a much lower likelihood of whistle-blowing than management accountants when outcomes were unfair and a higher likelihood of whistle-blowing than management accountants when outcomes were fair. As demonstrated in Figures 4 and 5, outcome fairness was more important than interactional fairness to both management accountants and internal auditors.

Figure 1
Interaction of Procedures and Outcomes
Estimated Marginal Means of Likelihood

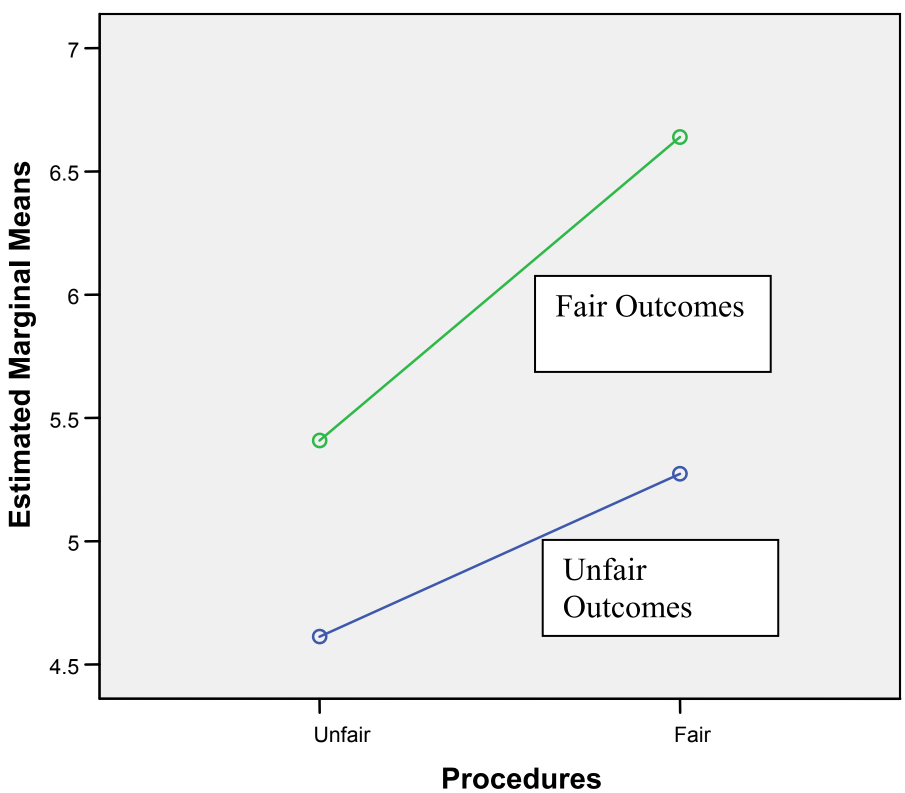


Figure 2
Interaction of Procedures and Job Role
Estimated Marginal Means of Likelihood

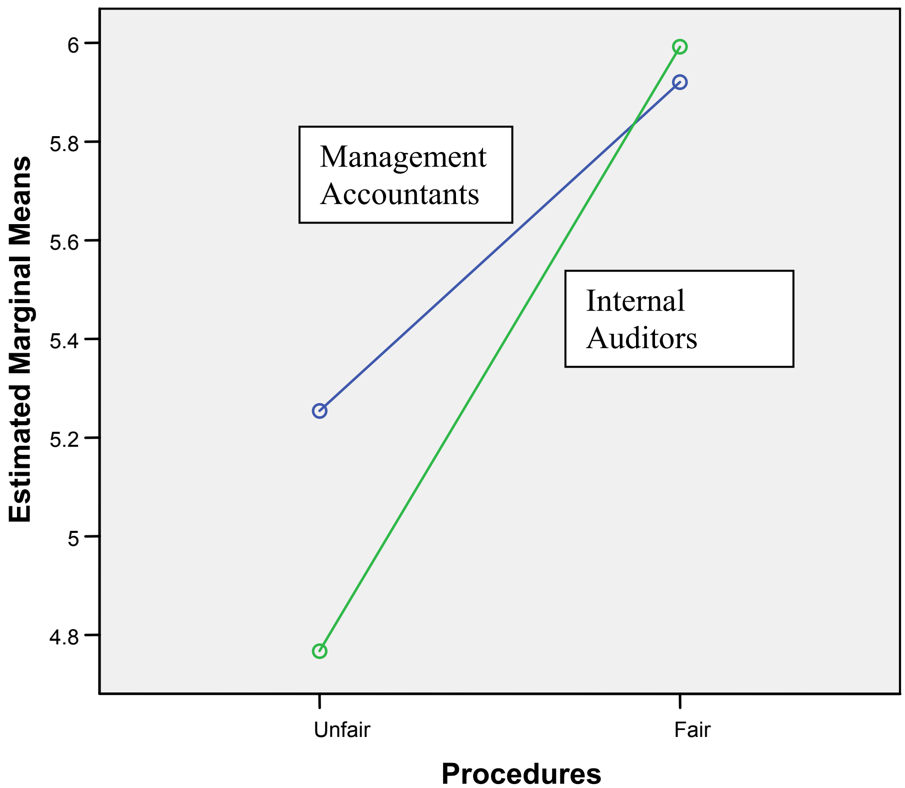


Figure 3
Interaction of Outcomes and Job Role
Estimated Marginal Means of Likelihood

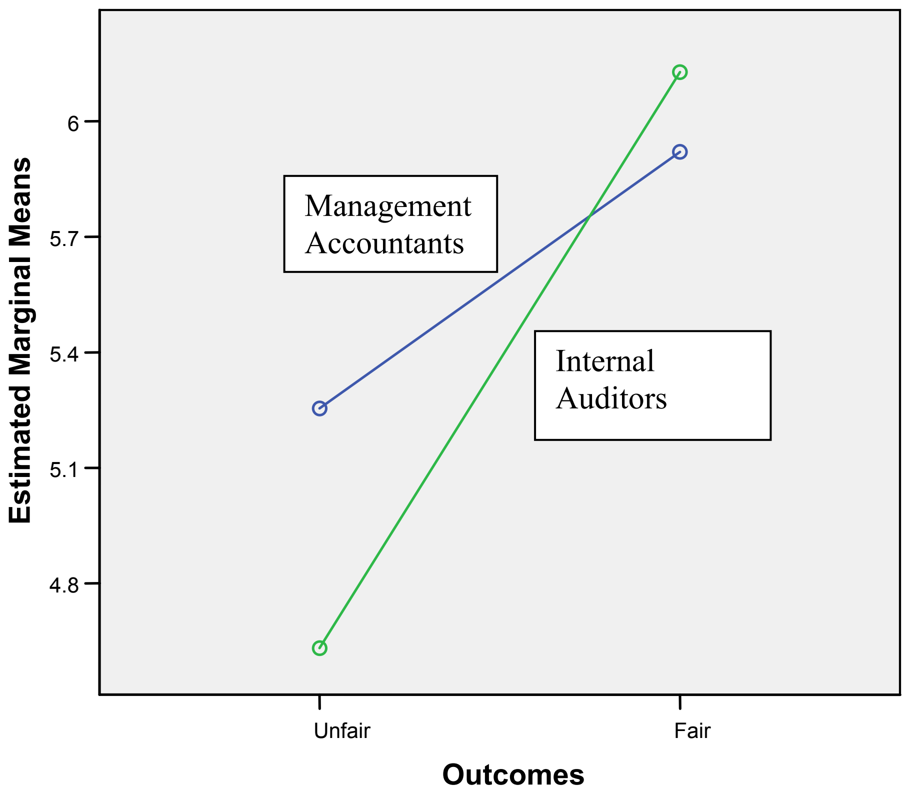


Figure 4
Interactions and Outcomes
Estimated Marginal Means of Likelihood

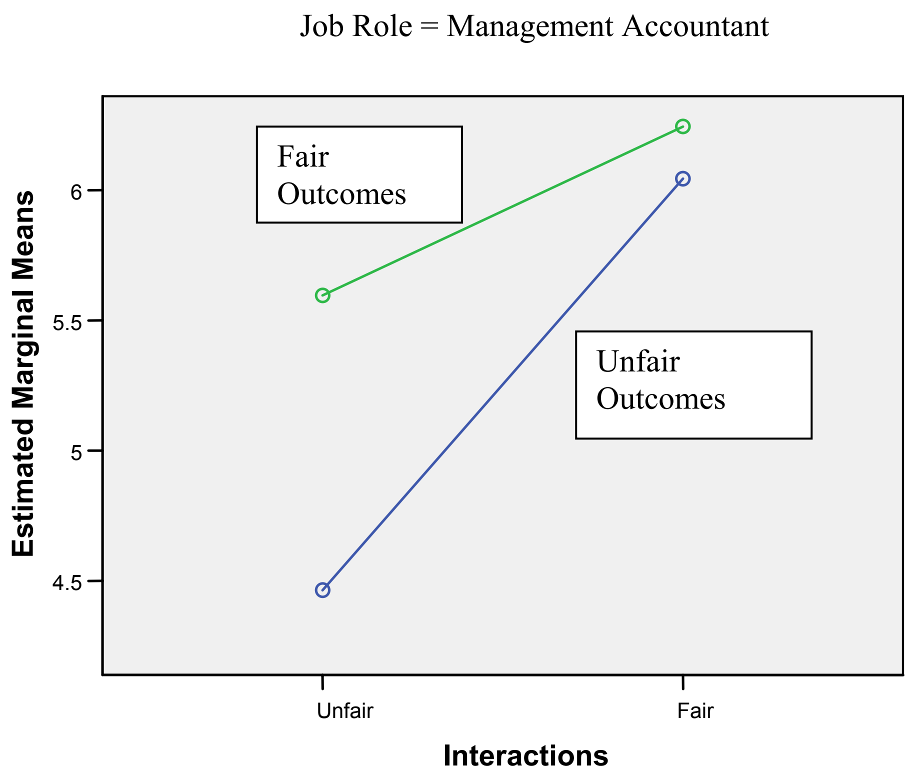
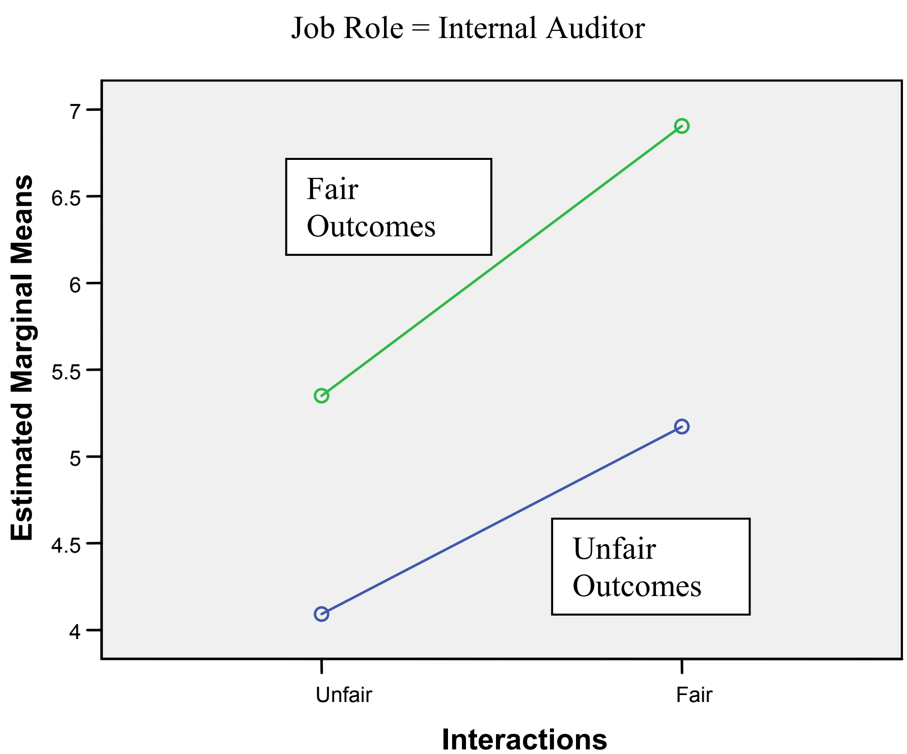


Figure 5
Interactions and Outcomes
Estimated Marginal Means of Likelihood



Following the analyses of the interactions, the main effect ANOVA results were interpreted. Support was found for H1, H2, and H3 with p-values<.001 for "PROCFAIR," "INTERFAIR," and "OUTCFAIR." In other words, fair whistle-blowing procedures had a significant positive relationship with the perceived likelihood of whistle-blowing. The same conclusion was also drawn for fair interactions with management during the reporting of wrongdoing and for fair outcomes resulting from the whistle-blowing process. This result indicated that it is important for organizations to have fair whistle-blowing procedures, respectful interactions between whistle-blowers and management, and to stop wrongdoing when it is reported.

The control variable "GENDER" was significantly and positively related to the perceived likelihood of whistle-blowing for females (p-value=.013). In other words, women were more likely to expect Alex to blow the whistle. Previous literature has not discussed female perceptions of whether a man would blow the whistle. However, previous literature did find more actual whistle-blowing by men than women, which was attributed to men having great power in most organizations (Miceli and Near 1992; Near and Miceli 1995).

The independent variable "JOBROLE" did not have a significant relationship with the likelihood or reporting wrongdoing (p-value=.134). This result was surprising as it was predicted that internal auditors and management accountants would respond very differently to justice circumstances.

Tests of Hypotheses 4-5 and Research Question 1

Hypotheses four and five, as well as research question one are reiterated below:

H4: When fair reporting procedures, fair interactions with management, and fair outcomes are simultaneous, there will be the greatest perceived likelihood of internal whistle-blowing.

> **H5:** When unfair reporting procedures, unfair interactions with management, and unfair outcomes are simultaneous, there will be the lowest perceived likelihood of internal whistle-blowing.
>
> **RQ1:** When the fairness of reporting procedures, interactions with management, and outcomes are mixed, will there be a greater perceived likelihood of internal whistle-blowing when outcomes are fair?

To test H4, an ANOVA was performed (Table 9) that compared case one to cases two through eight. The ANOVA was significant (p-value<.001). Levene's Test of Equality of Error Variances was not significant (p-value=.316), indicating homoscedasticity. Panel A of Table 10 presents the number of respondents, mean, median, standard deviation, minimum, and maximum for each case. For a reminder of the experimental conditions for each case, see Table 3. Planned pairwise analyses utilizing the Dunnett's t-test were performed to compare case one with each of the other cases as shown in Table 10, Panel B. Dunnett's t-test was the appropriate test because it compared all other cases against the case of interest (case one in this instance) as specified in H4 and did not make comparisons among all cases. Case one was, in essence, treated as a control (Dunnett, 1955).

A similar situation was found when testing H5 with an ANOVA. The ANOVA (Table 9) was significant (p-value<.001) and the Levene's Test was not significant (p-value=.316), indicating homoscedasticity. Once again, planned pairwise analyses were performed using the Dunnett's t-test to compare case eight with each of the other cases as presented in Table 10, Panel C. The Dunnett's t-test was appropriate because it performed only the pairwise comparisons specified in H5 and did not make comparisons among all cases (Dunnett 1955).

Table 9

Analysis of Variance for H4 and H5

Source	Type III Sum of Squares	df	Mean Square	F	P-Value	Significance
Between Cases	396.183	7	56.598	22.314	.000	***
Error	1113.499	439	2.536			
Total	1509.682	446				

*** significant at the .01 level (2-tailed)
** significant at the .05 level (2-tailed)
* significant at the .10 level (2-tailed)

Table 10

Case Comparisons-Testing H4 and H5

Panel A						
Case	N	Mean	Median	Std. Deviation	Minimum	Maximum
1	52	7.000	7.000	1.534	3	9
2	56	6.268	7.000	1.555	3	9
3	56	5.911	6.000	1.366	3	9
4	65	4.615	4.000	1.702	1	8
5	59	6.153	7.000	1.638	3	9
6	58	4.655	4.000	1.551	2	8
7	57	5.333	5.000	1.756	2	8
8	44	3.864	4.000	1.579	1	7
Total	447	5.488	5.000	1.840	1	9
Panel B						
Case of Interest	Comparison Case	Mean Difference	Std. Error	Significance		
1	2	.732	.307	.045 **		
	3	1.089	.307	.001***		
	4	2.385	.296	.000***		
	5	.847	.303	.015 **		
	6	2.345	.304	.000***		
	7	1.667	.305	.000***		
	8	3.136	.326	.000***		
Panel C						
Case of Interest	Comparison Case	Mean Difference	Std. Error	Significance		
8	1	-3.136	.326	.000***		
	2	-2.404	.321	.000***		
	3	-2.047	.321	.000***		
	4	-.752	.311	.039 **		
	5	-2.289	.317	.000***		
	6	-.792	.318	.033 **		
	7	-1.470	.320	.000***		

*** significant at the .01 level (1-tailed)
** significant at the .05 level (1-tailed)
* significant at the .10 level (1-tailed)

As Table 10, Panel A, demonstrates, case one had the highest mean level of reporting. Case one was the experimental condition where whistle-blowing procedures, interactions with management, and outcomes were fair. Table 10, Panel B, compares case one with all other cases. Case one was consistently and significantly higher than all of the other cases. Therefore, support was found for H4. This finding indicates that congruently fair whistle-blowing procedures, interactions with management, and outcomes encourage whistle-blowing when wrongdoing is discovered.

Table 10, Panel C, explains the result for the opposite extreme—congruently unfair whistle-blowing procedures, interactions with management, and outcomes. Case eight was the experimental condition where whistle-blowing procedures, interactions with management, and outcomes were simultaneously unfair. In this type of environment, the lowest likelihood of whistle-blowing was expected. The results in Table 10, Panel C, demonstrate that this expectation was met and thus, H5 was supported.

Many organizations may present a "mixed message" with regard to the acceptability of whistle-blowing. Research Question 1 (RQ1) examined the situations (cases 2-7) where the fairness of whistle-blowing procedures, interactions with management during the reporting of wrongdoing, and outcomes from whistle-blowing were not congruent (Table 11). RQ 1 posited that when fairness was not present across all justice variables, situations with fair outcomes would result in a higher likelihood of whistle-blowing than those where outcomes were not fair. RQ1 was tested by comparing cases two, five, and six to cases three, four, and seven in an ANOVA. As shown in Table 11, the result of the ANOVA, with 351 respondents, was significantly positive for a fair outcome versus an unfair outcome (p-value.018). The assumption of homoscedasticity was met for this ANOVA with a non-significant Levene's Test (p-value.220). Therefore, RQ1 was supported.

Table 11

Analysis of Variance for Research Question One

Source	Type III Sum of Squares	df	Mean Square	F	P-Value	Significance
Between Cases	16.605	1	16.605	5.622	.018	**
Error	1030.768	349				
Total	1047.373	350				

*** significant at the .01 level (2-tailed)
** significant at the .05 level (2-tailed)
* significant at the .10 level (2-tailed)

Supplemental analysis was performed to explore the question of whether a fair outcome was the most important factor when the fairness of whistle-blowing procedures, interactions with management, and outcomes were mixed. Separate main effect ANOVAs were executed for management accountants and internal auditors for the mixed justice situations (cases 2-7). Full-factorial ANOVAs were also performed but yielded results no different than the main effect ANOVAs. The main effect ANOVAs yielded Levene tests for heteroscedasticity that were not significant (p-values=.094 and .226, respectively), thus meeting the ANOVA assumption of heteroscedasticity. The overall models in Tables 12 and 13, for management accountants (F-statistic=4.924, p-value=.003) and internal auditors (F-statistic=15.740, p-value<.001), respectively, were significant. The model adjusted R-Squares were .081 for the management accountants and .199 for the internal auditors.

Table 12

Analysis of Variance-Research Question One
Management Accountants Only
Cases 2-7 Only

Source	Type III Sum of Squares	Df	Mean Square	F	P-Value	Sig.
Corrected Model	37.937	3	12.646	4.924	.003	***
Intercept	5499.989	1	5499.989	2141.481	.000	***
PROCFAIR	10.587	1	10.587	4.122	.044	**
INTERFAIR	37.149	1	37.149	14.464	.000	***
OUTCFAIR	14.369	1	14.369	5.595	.019	**
Error	431.476	168	2.568			
Total	6019.000	172				
Corrected Total	469.413	171				

*** significant at the .01 level (2-tailed)
** significant at the .05 level (2-tailed)

Table 13

Analysis of Variance-Research Question One
Internal Auditors Only
Cases 2-7 Only

Source	Type III Sum of Squares	Df	Mean Square	F	P-Value	Sig.
Corrected Model	119.559	3	39.853	15.740	.000	***
Intercept	5032.527	1	5032.527	1987.571	.000	***
PROCFAIR	63.698	1	63.698	25.157	.000	***
INTERFAIR	79.727	1	79.727	31.488	.000	***
OUTCFAIR	90.224	1	90.224	35.634	.000	***
Error	443.100	175	2.532			
Total	5520.000	179				
Corrected Total	562.659	178				

*** significant at the .01 level (2-tailed)
** significant at the .05 level (2-tailed)

From Table 12, for management accountants only (n=172), it can be seen that fair whistle-blowing procedures (PROCFAIR) were positively and significantly associated with the likelihood of whistle-blowing (p-value=.044). Fair interactions (INTERFAIR) and outcomes (OUTCFAIR) were also positive and significant with p-values<.001 and =.019, respectively. From these results it can be concluded that interactional fairness was more important to management accountants than procedural or outcome fairness because the p-value for interactional justice was greater than for the other justice types (<.001 vs. .044 and .019).

The cell means from Table 14, Panel A, add further support that interactional fairness most influenced management accountants versus the other types of fairness. The mean likelihood of whistle-blowing by management accountants when interaction was fair (6.240) was statistically higher (t-tests=9.16 and 7.10, p-values<.001, respectively) than the mean likelihood for procedural fairness (5.980) or outcome fairness (6.029).

Additionally, a stepwise regression indicated that fair interaction was the only variable that significantly influenced management accountants when justice circumstances were mixed (p-value=.005). A stepwise regression was appropriate because it is exploratory in nature. A linear hierarchical analysis was not appropriate because there was no apriori hypothesis indicating that interactional justice should be most influential for management accountants.

Table 14

Comparisons of Means by Job Role-Mixed Justice Situations-Cases 2-7
For RQ1

Panel A	**Management Accountants**							
	Fair	Std. Error	Unfair	Std Error	Difference In Means	Difference Std. Error	Difference P-Value	Difference Sig.
Whistle-Blowing Procedures	5.980	.187	5.369	.201	.611	.301	.044	**
N	93		79					
Whistle-Blowing Interactions	6.240	.191	5.108	.194	1.132	.298	.000	***
N	85		87					
Whistle-Blowing Outcomes	6.029	.194	5.319	.194	.710	.300	.019	**
N	83		89					
Average	6.083	.191	5.265	.196	.818	.300	.021	**
Panel B	**Internal Auditors**							
	Fair	Std. Error	Unfair	Std. Error	Difference in Means	Difference Std Error	Difference P-Value	Difference Sig.
Whistle-Blowing Procedures	6.081	.200	4.573	.183	1.508	.301	.000	***
	84		95					
Whistle-Blowing Interactions	6.140	.194	4.514	.181	1.626	.290	.000	***
	87		92					
Whistle-Blowing Outcomes	6.187	.192	4.467	.183	1.720	.288	.000	***
N	90		89					
Average	6.136	.195	4.518	.182	1.618	.293	.000	***

*** significant at the .01 level (2-tailed)
** significant at the .05 level (2-tailed)

The likelihood of whistle-blowing when fair interaction was present was also significantly higher for management accountants versus internal auditors with means of 6.240 versus 6.140, respectively (t-test=3.41, p-value=.001). This result could suggest that management accountants are very concerned about retaliation and value the support of their manager to guard against retribution (Miceli and Near 1992).

From Table 13, for internal auditors only (n=179), it can be seen that fair whistle-blowing procedures (PROCFAIR) were positively and significantly associated with the likelihood of whistle-blowing (p-value<.001). Fair interactions (INTERFAIR) and outcomes (OUTCFAIR) were also positive and significant with p-values<.001. From these results it can be initially concluded that all three types of fairness were equally important to internal auditors. However, in Table 14, Panel B, additional analyses revealed that outcome fairness resulted in the highest mean likelihood of whistle-blowing for internal auditors (6.187) when compared to procedural fairness (6.081) and interactional fairness (6.140). The mean likelihood of whistle-blowing by internal auditors when outcomes were fair (6.187) was significantly higher (t-test=3.47, p-value=.001) than the mean likelihood for procedural fairness (6.081) and moderately higher (t-test=1.89, p-value=.060) than interactional fairness (6.140).

Additionally, a stepwise regression indicated that a fair outcome was the most significant variable influencing internal auditors when justice circumstances were mixed (p-value<.005). However, either of the other two variables bettered the stepwise regression to p-value<.001, indicating that procedural and interactional justices were very important to internal auditors as well. Once again, a stepwise regression was appropriate because it is exploratory in nature. A linear hierarchical analysis was not appropriate because there was no apriori hypothesis indicating that outcome justice should be most influential for internal auditors. Compared to management accountants, internal auditors were significantly more influenced by outcome justice with a mean likelihood of 6.187 for internal auditors versus 6.029 for management accountants (t-test=5.38, p-value<.001). This result could suggest that internal auditors are more concerned about whether wrongdoing is stopped than management accountants. However, as mentioned earlier, management accountants were most influenced by interactional justice, quite possibly because of fears of retaliation (Miceli and Near 1992). Internal auditors are role prescribed to report, thus they are less likely to be faced with retaliation (Near et al. 1993, Sears 2006).

Tests of Hypotheses 6-7

Hypotheses 6-7 required breaking apart the study data to compare management accountants to internal auditors. As a reminder, Hypotheses 6-7 are presented below.

> **H6:** In the absence of fairness considerations, internal auditors will perceive a greater likelihood of whistle-blowing than management accountants.
>
> **H7:** The perceived likelihood of whistle-blowing will be the most congruent for internal auditors and management accountants when whistle-blowing procedures, interactions with management, and outcomes are simultaneously fair, and the most dissimilar when whistle-blowing procedures, interactions with management, and outcomes are simultaneously unfair.

To test H6, case 9 in Table 15, Panel A and B, is utilized. Case 9 is a control case, without fairness circumstances. Table 15, Panel A includes the full sample of internal auditors and management accountants; whereas, Panel B excludes individuals who had worked in the other job role (i.e., an internal auditor who had worked as a management accountant and vice versa) because it could confound the respondent's response. Excluding the other role respondents in Panel B did not change the results of the analysis. Standard errors for the cases for both internal auditors and management accountants were fairly consistent. The standard errors for cases 1-9, respectively, for the internal auditors were .313, .313, .326, .274, .282, .282, .286, .307, and .249. The standard errors for the management accountants, also for cases 1-9 respectively, were .316, .294, .284, .289, .310, .316, .316, .390, and .299.

The logic for hypothesis six was based upon internal auditors being more likely to whistle-blow than management accountants, regardless of fairness circumstances, because they are role-required to report wrongdoing. However, as Table 15, Panels A and B, demonstrate, management accountants and internal auditors did not significantly differ in their response to the control case. Therefore, H6 is not supported.

Table 15-Case Comparisons Testing H6-H7

Panel A-Full Sample	Internal Auditors		Management Accountants		Total					
Case	N	Mean Likelihood	N	Mean Likelihood	N	Mean Likelihood	Difference	t-statistic	p-value	sig.
1	26	7.462	26	6.538	52	7.000	.924	2.26	.028	**
2	26	6.462	30	6.100	56	6.268	.362	.87	.390	
3	24	5.583	32	6.156	56	5.911	-.573	-1.57	.121	
4	34	4.471	31	4.774	65	4.615	-.303	-.71	.478	
5	32	6.313	27	5.963	59	6.153	.350	.82	.418	
6	32	4.281	26	5.115	58	4.655	-.834	-2.10	.041	**
7	31	4.806	26	5.962	57	5.333	-1.156	-2.60	.012	**
8	27	3.741	17	4.059	44	3.864	-.318	-.65	.522	
9	41	5.024	29	5.690	70	5.300	-.666	-1.54	.129	
Total	273	5.290	244	5.660	517	5.462	-.370	-2.30	.022	**
Panel B-Sample After Excluding Other Role										
1	20	7.500	24	6.500	44	6.955	1.000	2.22	.032	**
2	23	6.435	29	6.138	52	6.269	.297	.670	.504	
3	18	5.889	28	6.143	46	6.043	-.254	-.630	.529	
4	27	4.444	26	4.923	53	4.679	-.479	-.970	.336	
5	25	6.440	22	6.000	47	6.234	.440	.880	.384	
6	24	4.458	23	5.261	47	4.851	-.803	-1.770	.083	*
7	25	4.960	23	5.783	48	5.354	-.823	-1.790	.080	*
8	20	3.650	15	4.133	35	3.857	-.483	-.850	.404	
9	35	5.171	23	5.696	58	5.379	-.525	-1.050	.300	
Total	217	5.390	213	5.690	430	5.540	-.300	-1.690	.092	*

*** significant at the .01 level (2-tailed)
** significant at the .05 level (2-tailed)
* significant at the .10 level (2-tailed)

To further explore why internal auditors were not more likely than management accountants to perceive that Alex would blow the whistle in the absence of fairness considerations, count data was analyzed. The count data was derived from the participants' verbal responses as to why they chose a certain likelihood of blowing the whistle for case nine (the control case). When examining the verbal responses, those with key words regarding materiality and the position of the CFO were tallied. For case nine, internal auditors and management accountants appeared to attend to the same types of detail with 12 internal auditors (29%) mentioning the CFO's position and 6 (15%) referring to materiality. The management accountant responses were similar with 10 participants (34%) listing the CFO's position and 2 (7%) mentioning materiality. This attention to similar types of detail in the absence of other information about justice conditions could be a possible reason for no difference in the likelihood of whistle-blowing between internal auditors and management accountants for case nine.

For the cases other than case 9, Table 15 reveals that cases 1, 6, 7 were significantly different between internal auditors and management accountants. This result possibly resulted from the type of detail that was attended to by the internal auditors vs. the management accountants. Previous analyses (Tables 12-14) demonstrated that interactional fairness was more of a concern to management accountants, while outcome fairness was more of a concern for internal auditors. Internal auditors also attended to procedural and interactional fairness but to a lesser degree. Overall, the internal auditors attended more to all three fairness indicators than did management accountants, as shown in the ANOVAs in Tables 12 and 13. The ANOVAs in Tables 12 and 13 demonstrated that the level of significance (p-values) were similar for all three justice circumstances for internal auditors but not for management accountants. Therefore, it makes sense that in the cases where only interactional justice was fair, management accountants indicated a higher likelihood of whistle-blowing than internal auditors; and, in cases where multiple conditions were fair, internal auditors demonstrated a higher likelihood of whistle-blowing than management accountants. Case1 held to this logic as all three justice conditions were fair and internal auditors were statistically more likely to blow the whistle. In case 7, only interactions were fair and management accountants were statistically more likely than internal auditors to report the fraud in the case. In case 6, only outcome justice was fair (one type, although not the preferred type of justice for management accountants) and once again management accountants were statistically more likely to blow the whistle than internal auditors.

H7 posited that internal auditors and management accountants would be most alike on the mean likelihood of reporting when all whistle-blowing circumstances were fair (i.e., case one), and most divergent when all whistle-blowing circumstances were unfair (i.e., case eight). As demonstrated in Table 15, Panels A and B, internal auditors and management accountants were statistically the most divergent when all justice circumstances were fair (case one) but not statistically divergent when all justice circumstances were unfair. Therefore, H7 was not supported.

The logic behind H7 was that internal auditors would report regardless of fairness circumstances because it was their job; but, management accountants would be most likely to report when all whistle-blowing circumstances were fair. It was posited that management accountants would be much less likely to report than internal auditors when whistle-blowing circumstances were all unfair. However, the surprising results of the present study indicated that multiple fair circumstances were more salient for the internal auditors than the management accountants. Once again, following the logic presented for H6, a possible result for this finding was that internal auditors attended more equally to multiple fair circumstances (as demonstrated in case 1), not just one fair circumstance, as did the management accountants. The lack of results for case 8 could have stemmed from having no fair circumstances and thus being attended to similarly by both internal auditors and management accountants.

Additional analyses were conducted to examine whether the requirement by a participant's company to report wrongdoing impacted the perceived likelihood of whistle-blowing. An ANOVA was conducted on cases 1-9 comparing the responses of participants who were required to report by their present organizations and those who were not. When participants were required to report by their organizations, there were no statistical differences in the perceived likelihood of whistle-blowing between internal auditors and management accountants (F-statistic=2.278, p-value=.132, N=435). The mean likelihood of whistle-blowing was 5.40 for internal auditors and 5.66 for management accountants from organizations that required the reporting of wrongdoing. However, significant differences were found between internal auditors and management accountants when their current employers did not require whistle-blowing (F-statistic=9.721, p-value=.003, N=74). The mean perceived likelihood of whistle-blowing was 5.60 for management accountants and 4.27 for internal auditors. Internal auditors were thus found to be very sensitive to whether whistle-blowing is required by an employer.

CHAPTER V

CONCLUSIONS

The purpose of this chapter is to present an overview of the study, including its limitations. A discussion of the results, their implications, and suggestions for future research in this are also presented.

Overview

Whistle-blowing has long been recognized as a valuable internal control (Committee of Sponsoring Organizations 1992; Sarbanes-Oxley Act 2002). In 1992, the Committee of Sponsoring Organizations of the Treadway Commission (COSO) recommended that whistle-blowing procedures be included as part of the internal control framework for organizations. In 2002, with the passage of the Sarbanes-Oxley Act, whistle-blowing mechanisms are now required for public companies.

Academics in accounting have also studied whistle-blowing as an internal control (Hooks et al. 1994; Finn 1995; Chung et al 2004). The internal control guidance of COSO has been synthesized with prior whistle-blowing research and employees have been encouraged to look at whistle-blowing as an obligation attached to the privilege of employment (Hooks et al. 1994; Finn 1995). It has also been found that individuals are more likely to whistle-blow inside the organization than externally, and due to retaliation concerns, a less powerful employee is not likely to report on a more powerful wrongdoer (Chung et al. 2004). However, if management's response to whistle-blowing is proactive and positive, it may encourage an ethical environment and the future reporting of wrongdoing (Finn 1995).

The question then arises as to how to provide a proactive and positive organizational response to whistle-blowing? Organizational justice has been offered as a theory that could be useful in promoting whistle-blowing within organizations (Near et al. 1993; Trevino and Weaver 2001). However, prior accounting research has not pursued organizational justice as a factor influencing whistle-blowing, thus leaving a gap in the literature. Therefore, from a theoretical perspective, the present study contributes to the literature by examining the perceived likelihood of internally reporting fraud in response to fair or unfair whistle-blowing procedures (procedural justice), fair or unfair interactions with management during the reporting of the wrongdoing (interactional justice), and whether the wrongdoing ceases or not after it is reported (distributive justice).

From a practical perspective, another contribution of the present study is to assist organizations in understanding how justice circumstances may affect the propensity to whistle-blow. If improving whistle-blowing fairness conditions might increase the reporting of wrongdoing, organizations may be more able to detect fraud and limit the accompanying losses. Furthermore, many organizations are investing funds to develop whistle-blowing procedures as required by the Sarbanes-Oxley Act of 2002 [e.g., anonymous hotlines] (Burns 2004). Improved whistle-blowing justice circumstances may encourage the usage of these new procedures (Near et al. 1993; Trevino and Weaver 2001).

Additionally, the present study discusses how job role may impact the propensity to whistle-blow within the organization. No academic studies to date examine management accountants and whistle-blowing and few address internal auditors and the reporting of fraud. The present study contributes to this underserved research stream.

Discussion of Participants, Methods, and Results

Two hundred seventy-three internal auditors who were members of the Institute of Internal Auditors (IIA) and 244 four management accountants who were members of the Institute of Management Accountants (IMA) participated in the present study. The study was funded by the IMA.

Of the two thousand seven hundred sixty-one instruments sent out, 693 were returned for a response rate of 25.1%. This response rate is similar to the 25% rate found in prior research. Of the 693 returned, 101 responses were dropped due to manipulation check failures and 75 were excluded due to job descriptions that did not match those of interest in the present study. Supplemental analyses found that the exclusion of the manipulation check failures and job description mismatches did not impact the results of the present study.

A variety of demographic information on the participants and their organizations was collected and assessed for possible inclusion as control variables. Through various analyses, being female was the only control variable that was necessary. Being female had a positive, significant relationship with the perceived likelihood that Alex would blow the whistle.
This result could be interpreted in two ways. First of all, it may indicate that the women participants chose for Alex what they would do in the same situation. If this were the case, counter to previous literature, it may indicate that females are achieving higher positions in their organizations and may now feel that they have sufficient power to risk blowing the whistle. Or, consistent with prior literature, the women participants may have thought that Alex would blow the whistle because he was a male with sufficient power in the organization (Miceli and Near 1992; Near and Miceli 1995).

Previous literature attributed an increased likelihood of whistle-blowing to being male because men usually held higher positions of power in organizations. However, females have certainly taken center stage as whistle-blowers in several large scandals (Time 2002). It may be time to revisit the research on whistle-blowing and gender as more women assume positions of influence in organizations. With an increase in positions of power over the last several years, women may be reporting more than men now. Another possible explanation for female whistle-blowing has been proffered by Helen Fisher, an anthropologist and author, in Businessweek (Gutner, 2002). Fisher believes that women may be natural whistle-blowers because they do not utilize hierarchies in play as children, like boys do. Instead, girls play in leaderless groups and they are less likely to play by the rules if they do not think they are right. Therefore, as adults, women may be more sensitive to fraud because they are outside of the male hierarchy in most organizations and they cannot turn a blind eye to the situation because they believe the rules allowing the situation are not right. These theories of why women might whistle-blow more than men should be examined in future research.

The main variables of interest in the present study were the fairness of whistle-blowing procedures, the fairness of interactions with management during the reporting of wrongdoing, and, the fairness of whistle-blowing outcomes. Job role was also of interest and was assessed as a classification variable. The fairness variables were manipulated through a hypothetical vignette for a 2x2x2 factorial design with eight cases. An extra case was added as a control. Analysis of variance (ANOVA) was used to statistically analyze the variables.

The results of the present study were that a positive relationship was found between fair whistle-blowing procedures and an increase in the perceived likelihood of reporting wrongdoing. The same relationship was found for fair interactions with management during whistle-blowing and fair outcomes (i.e., the cessation of the reported wrongdoing). The highest perceived likelihood of reporting was found when all whistle-blowing circumstances were fair. The lowest perceived likelihood of reporting was found when all whistle-blowing circumstances were unfair. When the justice of whistle-blowing circumstances was mixed, a higher perceived likelihood of reporting was found when outcomes were fair than when they were not. Ancillary analysis revealed that management accountants' perceived likelihood of reporting was most influenced by interactional fairness; but, internal auditors were most influenced by fair outcomes, and, to a lesser degree, procedural and interactional fairness.

When comparing the responses of management accountants and internal auditors across the individual justice circumstances (cases one through eight) and in comparison with the control situation (case nine), it was found that the perceived likelihood of reporting did not vary between the two groups. It was reasoned that this unexpected result could be due to the details attended to in the cases by management accountants and internal auditors. Count data indicated that both management accountants and internal auditors attended to details concerning materiality and the job position of the fraud perpetrator when information about the fairness of whistle-blowing circumstances was not available.

It was posited that internal auditors and management accountants would be most alike on the mean perceived likelihood of reporting when all whistle-blowing circumstances were fair and most divergent when all whistle-blowing circumstances were unfair. However, the results did not support this supposition. Internal auditors and management accountants were most divergent when all justice circumstances were fair. One possible explanation for this finding was that once again, the perceptions of internal auditors and management accountants were more influenced by certain fair whistle-blowing circumstances. Management accountants were most concerned with interactional fairness, while internal auditors attended primarily to outcome fairness but also considered procedural and interactional fairness.

The lower level of reporting by management accountants when all whistle-blowing circumstances were fair could have been because the internal auditors processed all three fair circumstances and the management accountants did not. This result could be due the training that internal auditors receive regarding what to look for in whistle-blowing and ethics programs. Near et al. (1993) alluded to the advanced training that internal auditors receive that allows them to be more credible when making whistle-blowing complaints.

Contrary to what was expected, management accountants indicated a higher perceived likelihood of reporting than internal auditors in only one circumstance — interactional fairness. It is likely that management accountants were influenced by fears of retribution since they are less likely than internal auditors to be protected by their job role. Fears of retribution could have made managerial support more important than any other justice circumstance to managerial accountants.

Limitations

A discussion of limitations is important to place the study's results in the proper perspective as limitations affect the generalizability and implications of the results. One of the limitations of the present study is a lack of generalizability due to a quasi-experimental design. The results of the study may not be generalizable outside of management accountants and internal auditors who are committed enough to attend monthly meetings.

With any study, there is the possibility of a correlated omitted variable. This was of special concern in the present study because the instrument was self-administered. To combat this potential problem, many variables were considered as possible controls. Only one, being female, was found to be needed as a control variable.

Although third-party perception research is common (Rest 1986; Ponemon and Gabhart 1990; Arnold and Ponemon 1991), another limitation of the present study was that participants assessed hypothetical vignettes and indicated their perceptions of what another person would do in a given scenario. It is possible that the participants would not act in the same manner as they indicated for Alex if they were faced with an actual situation.

It is also possible that respondents chose the socially desirable response to the vignettes or that early/late response bias was present. However, the anonymity of the respondents was maintained in order to minimize social desirability response bias and analyses of early and late responders did not indicate that early/late response bias was a problem.

Implications and Suggestions for Future Research

The present study contributes to the accounting literature by examining the relationship between fair/unfair whistle-blowing procedures, fair/unfair interactions with management, and fair/unfair outcomes and the perceived likelihood of whistle-blowing. Previous accounting literature has not explored this relationship and only one study in another field has attempted to test fairness circumstances and whistle-blowing (Trevino and Weaver 2001). However, this study was not comprehensive.

The present study provides support for organizations to set up unbiased whistle-blowing procedures and to treat whistle-blowers with respect. The study also indicates that organizations should respond to stop wrongdoing when it is reported. If organizations follow these recommendations, they should expect a higher likelihood that any wrongdoing would be reported. The present study demonstrates that having whistle-blowing procedures written down just to satisfy the requirements of the Sarbanes-Oxley Act of 2002 is not enough.

Further research on whistle-blowing could be useful to the accounting profession and to organizations. Issues unresolved in the present study are how internal auditors would interpret vignettes with an internal auditor as the actor. Additional research could also examine in greater detail the relationship between females and the likelihood of whistle-blowing. It would also be of interest to explore why management accountants are most influenced by fair interactions versus internal auditors who are most influenced by fair outcomes.

Many other avenues exist for future research on the relationship between organizational justice and whistle-blowing as an OCB. For example, this research effort could be extended to add in retributive justice (punishment) as an additional manipulation instead of just distributive, procedural and interactional justice. Ambrose (2002) and McLean Parks (1997) describe retribution as the fourth arm of justice. Trevino and Weaver (2001) found a positive relationship between retribution and the reporting of wrongdoing but they did not examine distributive, procedural, interactional, and retributive justice simultaneously. Therefore, there is a gap in the literature that could be filled by examining the four justice types in a single study.

Finally, another future extension could be to examine perceived organizational support and supervisory trust as mediating variables between procedural and interactional justice, respectively, and whistle-blowing (Moorman et al. 1998; Konovsky and Pugh 1994). Moorman et al. (1998) found that that the relationship between procedural justice and the OCBs of interpersonal helping, personal industry, and loyal boosterism was fully mediated by perceived organizational support. Konovsky and Pugh (1994) discovered that an employee’s trust in a supervisor mediated the relationship between procedural justice and the OCBs of altruism, conscientiousness, sportsmanship, courtesy, and civic virtue. Whistle-blowing has been described as an OCB (Trevino and Weaver 2001); therefore, perceived organizational support and supervisory trust might be mediators between procedural and interactional justice, respectively, and whistle-blowing.

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APPENDIX A

EXPERIMENTAL INSTRUMENT FOR PRE-TEST STUDENTS AND INTERNAL AUDITORS-SAMPLE I

The demographic questions are only presented for vignette 1 because they are the same for all nine vignettes. Each participant receives only one vignette.

Case 1

Star Corporation has employed Alex Miller for the past four years as a senior accountant. Star is a publicly traded corporation that develops, licenses, and advertises an on-screen television guide technology. This technology allows consumers to navigate through and select television programs. The company generates revenue by licensing the technology to third parties and selling advertising that is displayed while consumers use the on-screen guide. The media industry is growing and the company is doing well financially. Alex enjoys his job and has received above-average annual performance reviews. Alex reports to the Accounting Manager and the Accounting Manager reports to the CFO.

Alex's job responsibilities include recording revenues earned from licensing contracts. In the first quarter of the current fiscal year, Alex discovered an entry in the general ledger for $200,000 of sales revenue that he did not record. Alex investigated the entry and found that it was input by the CFO. When Alex inquired as to the nature of the entry, the CFO responded that he recorded it for a contract that was in negotiation, and that the revenue was necessary to meet the earnings forecast for the quarter. The CFO also told Alex that the contract would be completed soon, and would subsequently be backdated to the date the revenue was recorded.

It is now the third quarter of the fiscal year and Alex has still not received the contract. Alex recently asked the CFO about the situation and was told that the contract negotiation had fallen through. The CFO said that he will reverse the revenue off the ledger in the fourth quarter, when sales are estimated to peak. Alex is very concerned about the misreporting of revenues on the company's quarterly financial statements. Alex is considering whether to report the actions of the CFO within the corporation.

Star Corporation's policy encourages employees to report ethical violations to the appropriate person in any of the following areas: direct management, higher-level management, accounting, internal audit, human resources, legal, security, or the board of directors. Employees may also anonymously report wrongdoing by calling a toll free number to an "alert line." The policy states that there are no recording devices associated with the "alert line." Furthermore, the company prohibits retaliation against those who report wrongdoing. Alex is aware of a situation where a colleague recently reported a wrongdoing using the "alert line." The colleague was satisfied that her anonymity was preserved.

Alex's supervisor, the Accounting Manager, has covered Star Corporation's policy on reporting wrongdoing with Alex and other members of the department. Alex's supervisor has been very supportive of the policy. In fact, Alex's supervisor recently recommended an employee for Star Corporation's citizenship award because the employee had discovered a theft of inventory and reported the situation.

Star Corporation has had several recent instances of ethical violations. A few months ago, Alex's friend reported some employees for charging personal mileage to the company. As a result of the friend's complaint, the company promptly investigated and stopped the practice of charging personal mileage.

In your opinion, what is the likelihood that Alex **will** report the CFO to an appropriate person within the corporation?

1	2	3	4	5	6	7	8	9
Definitely Will **NOT** Report				Likelihood of Reporting is **50%**				Definitely **WILL** Report

Case 1

Please indicate TRUE (T) if the following statements are consistent with the facts stated in the case. Please indicate FALSE (F) if you do not recall the information in the statement as part of the case or if the statement is inconsistent with the facts stated in the case.

1. Alex believes that revenues are overstated.	T	F
2. The company's alert line is anonymous.	T	F
3. Alex's supervisor was supportive of the employee who reported the theft of inventory.	T	F
4. The company investigated the ethical violation of charging personal mileage.	T	F
5. The company stopped the ethical violation of charging personal mileage.	T	F

6. Please indicate your agreement with the following statement.

Star Corporation's procedures regarding the reporting of wrongdoing are fair.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

7. Please indicate your agreement with the following statement.

Alex's supervisor treats those who report ethics violations fairly.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

8. Please indicate your agreement with the following statement.

Star Corporation resolves ethical violations fairly.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

9. Do you believe that Alex trusts his supervisor? Yes ______ No _______

10. Do you believe that Alex has trust in his company? Yes ______ No _______

11. Do you believe that Alex's company is supportive and caring in general? Yes ______ No _______

Demographic data:

12. Do you hold any of the following designations? (Check all that apply)
    _____ CPA _____ CMA _____ CIA

13. Highest level of education completed:

High School	_____
Some College	_____
Associates Degree	_____
Bachelors Degree	_____
Some Graduate School	_____
Masters Degree or Higher	_____

14. Gender: _______Female ______Male

15. Current Job Title: ____________________

16. Current Job Level ______Staff ________Supervisor ____________Manager

17. Years of experience in current position ______________

18. Years of overall work experience __________________

19. Marital Status _______Married _________Single

20. Salary Range:

$20,000-$40,000	_____
$40,001-$60,000	_____
$60,001-$80,000	_____
$80,001-$100,000	_____
Over $100,000	_____
Prefer not to disclose	_____

21. Age (in years) ____________

22. Have you ever worked as a management accountant? _____________
    If so, for how long? ______________________

23. Are internal auditors required to report wrongdoing as part of their job? ___ yes ___ no

24. What specific types of wrongdoing are internal auditors required to report as part of their job (if any)?____
____

Company data:

25. Company Size (Place an x by one description only)

Small _________ Medium _________ Large ___________

26. What is your company's industry? _________________________

27. Is your company (Place an x by only one description)

Flexible, Quick to Adapt, and Non-Hierarchical? _____
Somewhat Flexible, Somewhat Quick to Adapt, and Somewhat Hierarchical? _____
Not Very Flexible, Not Very Quick to Adapt, and Hierarchical? _____

28. Please indicate your agreement with the following statement:

My company promotes and encourages an ethical environment.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

29. What region of the country is your company?

East Coast	_____	West Coast	_____
Northeast	_____	Southeast	_____
Northwest	_____	Southwest	_____
Midwest	_____		

30. Does your company require you to report wrongdoing? ___ Yes ____No

31. Have you encountered instances where individuals did not report wrongdoing? ___ Yes ____No

32. If you answered yes to question 30, why didn't those individuals report the wrongdoing?
____
____

33. Have you ever reported wrongdoing? ___ Yes ____No

34. If you answered yes to question 32, what was the nature of the wrongdoing?______________
____

Case 2

Star Corporation has employed Alex Miller for the past four years as a senior accountant. Star is a publicly traded corporation that develops, licenses, and advertises an on-screen television guide technology. This technology allows consumers to navigate through and select television programs. The company generates revenue by licensing the technology to third parties and selling advertising that is displayed while consumers use the on-screen guide. The media industry is growing and the company is doing well financially. Alex enjoys his job and has received above-average annual performance reviews. Alex reports to the Accounting Manager and the Accounting Manager reports to the CFO.

Alex's job responsibilities include recording revenues earned from licensing contracts. In the first quarter of the current fiscal year, Alex discovered an entry in the general ledger for $200,000 of sales revenue that he did not record. Alex investigated the entry and found that it was input by the CFO. When Alex inquired as to the nature of the entry, the CFO responded that he recorded it for a contract that was in negotiation, and that the revenue was necessary to meet the earnings forecast for the quarter. The CFO also told Alex that the contract would be completed soon, and would subsequently be backdated to the date the revenue was recorded.

It is now the third quarter of the fiscal year and Alex has still not received the contract. Alex recently asked the CFO about the situation and was told that the contract negotiation had fallen through. The CFO said that he will reverse the revenue off the ledger in the fourth quarter, when sales are estimated to peak. Alex is very concerned about the misreporting of revenues on the company's quarterly financial statements. Alex is considering whether to report the actions of the CFO within the corporation.

Star Corporation's policy encourages employees to report ethical violations to the appropriate person in any of the following areas: direct management, higher-level management, accounting, internal audit, human resources, legal, security, or the board of directors. Employees may also anonymously report wrongdoing by calling a toll free number to an "alert line." The policy states that there are no recording devices associated with the "alert line." Furthermore, the company prohibits retaliation against those who report wrongdoing. Alex is aware of a situation where a colleague recently reported a wrongdoing using the "alert line." The colleague was satisfied that her anonymity was preserved.

Alex's supervisor, the Accounting Manager, has covered Star Corporation's policy on reporting wrongdoing with Alex and other members of the department. Alex's supervisor, however, has stated that he disagrees with the policy because it encourages employees to "spy" on each other. Alex is aware that his supervisor recently gave a low performance evaluation to an employee for not being a "team player." This employee had discovered a theft of inventory and reported the situation shortly before the performance evaluation.

Star Corporation has had several recent instances of ethical violations. A few months ago, Alex's friend reported some employees for charging personal mileage to the company. As a result of the friend's complaint, the company promptly investigated and stopped the practice of charging personal mileage.

In your opinion, what is the likelihood that Alex **will** report the CFO to an appropriate person within the corporation?

1	2	3	4	5	6	7	8	9
Definitely Will **NOT** Report				Likelihood of Reporting is **50%**				Definitely **WILL** Report

Case 3

Star Corporation has employed Alex Miller for the past four years as a senior accountant. Star is a publicly traded corporation that develops, licenses, and advertises an on-screen television guide technology. This technology allows consumers to navigate through and select television programs. The company generates revenue by licensing the technology to third parties and selling advertising that is displayed while consumers use the on-screen guide. The media industry is growing and the company is doing well financially. Alex enjoys his job and has received above-average annual performance reviews. Alex reports to the Accounting Manager and the Accounting Manager reports to the CFO.

Alex's job responsibilities include recording revenues earned from licensing contracts. In the first quarter of the current fiscal year, Alex discovered an entry in the general ledger for $200,000 of sales revenue that he did not record. Alex investigated the entry and found that it was input by the CFO. When Alex inquired as to the nature of the entry, the CFO responded that he recorded it for a contract that was in negotiation, and that the revenue was necessary to meet the earnings forecast for the quarter. The CFO also told Alex that the contract would be completed soon, and would subsequently be backdated to the date the revenue was recorded.

It is now the third quarter of the fiscal year and Alex has still not received the contract. Alex recently asked the CFO about the situation and was told that the contract negotiation had fallen through. The CFO said that he will reverse the revenue off the ledger in the fourth quarter, when sales are estimated to peak. Alex is very concerned about the misreporting of revenues on the company's quarterly financial statements. Alex is considering whether to report the actions of the CFO within the corporation.

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Alex's supervisor, the Accounting Manager, has covered Star Corporation's policy on reporting wrongdoing with Alex and other members of the department. Alex's supervisor has been very supportive of the policy. In fact, Alex's supervisor recently recommended an employee for Star Corporation's citizenship award because the employee had discovered a theft of inventory and reported the situation.

Star Corporation has had several recent instances of ethical violations. A few months ago, Alex's friend reported some employees for charging personal mileage to the company. However, the company did not investigate or stop employees from charging personal mileage. As a result, these employees may be still charging personal mileage to the company.

In your opinion, what is the likelihood that Alex **will** report the CFO to an appropriate person within the corporation?

1	2	3	4	5	6	7	8	9
Definitely Will **NOT** Report				Likelihood of Reporting is **50%**				Definitely **WILL** Report

Case 4

Star Corporation has employed Alex Miller for the past four years as a senior accountant. Star is a publicly traded corporation that develops, licenses, and advertises an on-screen television guide technology. This technology allows consumers to navigate through and select television programs. The company generates revenue by licensing the technology to third parties and selling advertising that is displayed while consumers use the on-screen guide. The media industry is growing and the company is doing well financially. Alex enjoys his job and has received above-average annual performance reviews. Alex reports to the Accounting Manager and the Accounting Manager reports to the CFO.

Alex's job responsibilities include recording revenues earned from licensing contracts. In the first quarter of the current fiscal year, Alex discovered an entry in the general ledger for $200,000 of sales revenue that he did not record. Alex investigated the entry and found that it was input by the CFO. When Alex inquired as to the nature of the entry, the CFO responded that he recorded it for a contract that was in negotiation, and that the revenue was necessary to meet the earnings forecast for the quarter. The CFO also told Alex that the contract would be completed soon, and would subsequently be backdated to the date the revenue was recorded.

It is now the third quarter of the fiscal year and Alex has still not received the contract. Alex recently asked the CFO about the situation and was told that the contract negotiation had fallen through. The CFO said that he will reverse the revenue off the ledger in the fourth quarter, when sales are estimated to peak. Alex is very concerned about the misreporting of revenues on the company's quarterly financial statements. Alex is considering whether to report the actions of the CFO within the corporation.

Star Corporation's policy encourages employees to report ethical violations to the appropriate person in any of the following areas: direct management, higher-level management, accounting, internal audit, human resources, legal, security, or the board of directors. Employees may also anonymously report wrongdoing by calling a toll free number to an "alert line." The policy states that there are no recording devices associated with the "alert line." Furthermore, the company prohibits retaliation against those who report wrongdoing. Alex is aware of a situation where a colleague recently reported a wrongdoing using the "alert line." The colleague was satisfied that her anonymity was preserved.

Alex's supervisor, the Accounting Manager, has covered Star Corporation's policy on reporting wrongdoing with Alex and other members of the department. Alex's supervisor, however, has stated that he disagrees with the policy because it encourages employees to "spy" on each other. Alex is aware that his supervisor recently gave a low performance evaluation to an employee for not being a "team player." This employee had discovered a theft of inventory and reported the situation shortly before the performance evaluation.

Star Corporation has had several recent instances of ethical violations. A few months ago, Alex's friend reported some employees for charging personal mileage to the company. However, the company did not investigate or stop employees from charging personal mileage. As a result, these employees may be still charging personal mileage to the company.

In your opinion, what is the likelihood that Alex **will** report the CFO to an appropriate person within the corporation?

1	2	3	4	5	6	7	8	9
Definitely Will **NOT** Report				Likelihood of Reporting is **50%**				Definitely **WILL** Report

Case 5

Star Corporation has employed Alex Miller for the past four years as a senior accountant. Star is a publicly traded corporation that develops, licenses, and advertises an on-screen television guide technology. This technology allows consumers to navigate through and select television programs. The company generates revenue by licensing the technology to third parties and selling advertising that is displayed while consumers use the on-screen guide. The media industry is growing and the company is doing well financially. Alex enjoys his job and has received above-average annual performance reviews. Alex reports to the Accounting Manager and the Accounting Manager reports to the CFO.

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It is now the third quarter of the fiscal year and Alex has still not received the contract. Alex recently asked the CFO about the situation and was told that the contract negotiation had fallen through. The CFO said that he will reverse the revenue off the ledger in the fourth quarter, when sales are estimated to peak. Alex is very concerned about the misreporting of revenues on the company's quarterly financial statements. Alex is considering whether to report the actions of the CFO within the corporation.

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Alex's supervisor, the Accounting Manager, has covered Star Corporation's policy on reporting wrongdoing with Alex and other members of the department. Alex's supervisor has been very supportive of the policy. In fact, Alex's supervisor recently recommended an employee for Star Corporation's citizenship award because the employee had discovered a theft of inventory and reported the situation.

Star Corporation has had several recent instances of ethical violations. A few months ago, Alex's friend reported some employees for charging personal mileage to the company. As a result of the friend's complaint, the company promptly investigated and stopped the practice of charging personal mileage.

In your opinion, what is the likelihood that Alex **will** report the CFO to an appropriate person within the corporation?

1	2	3	4	5	6	7	8	9
Definitely Will **NOT** Report				Likelihood of Reporting is **50%**				Definitely **WILL** Report

Case 6

Star Corporation has employed Alex Miller for the past four years as a senior accountant. Star is a publicly traded corporation that develops, licenses, and advertises an on-screen television guide technology. This technology allows consumers to navigate through and select television programs. The company generates revenue by licensing the technology to third parties and selling advertising that is displayed while consumers use the on-screen guide. The media industry is growing and the company is doing well financially. Alex enjoys his job and has received above-average annual performance reviews. Alex reports to the Accounting Manager and the Accounting Manager reports to the CFO.

Alex's job responsibilities include recording revenues earned from licensing contracts. In the first quarter of the current fiscal year, Alex discovered an entry in the general ledger for $200,000 of sales revenue that he did not record. Alex investigated the entry and found that it was input by the CFO. When Alex inquired as to the nature of the entry, the CFO responded that he recorded it for a contract that was in negotiation, and that the revenue was necessary to meet the earnings forecast for the quarter. The CFO also told Alex that the contract would be completed soon, and would subsequently be backdated to the date the revenue was recorded.

It is now the third quarter of the fiscal year and Alex has still not received the contract. Alex recently asked the CFO about the situation and was told that the contract negotiation had fallen through. The CFO said that he will reverse the revenue off the ledger in the fourth quarter, when sales are estimated to peak. Alex is very concerned about the misreporting of revenues on the company's quarterly financial statements. Alex is considering whether to report the actions of the CFO within the corporation.

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Alex's supervisor, the Accounting Manager, has covered Star Corporation's policy on reporting wrongdoing with Alex and other members of the department. Alex's supervisor, however, has stated that he disagrees with the policy because it encourages employees to "spy" on each other. Alex is aware that his supervisor recently gave a low performance evaluation to an employee for not being a "team player." This employee had discovered a theft of inventory and reported the situation shortly before the performance evaluation.

Star Corporation has had several recent instances of ethical violations. A few months ago, Alex's friend reported some employees for charging personal mileage to the company. As a result of the friend's complaint, the company promptly investigated and stopped the practice of charging personal mileage.

In your opinion, what is the likelihood that Alex **will** report the CFO to an appropriate person within the corporation?

1	2	3	4	5	6	7	8	9
Definitely Will **NOT** Report				Likelihood of Reporting is **50%**				Definitely **WILL** Report

Case 7

Star Corporation has employed Alex Miller for the past four years as a senior accountant. Star is a publicly traded corporation that develops, licenses, and advertises an on-screen television guide technology. This technology allows consumers to navigate through and select television programs. The company generates revenue by licensing the technology to third parties and selling advertising that is displayed while consumers use the on-screen guide. The media industry is growing and the company is doing well financially. Alex enjoys his job and has received above-average annual performance reviews. Alex reports to the Accounting Manager and the Accounting Manager reports to the CFO.

Alex's job responsibilities include recording revenues earned from licensing contracts. In the first quarter of the current fiscal year, Alex discovered an entry in the general ledger for $200,000 of sales revenue that he did not record. Alex investigated the entry and found that it was input by the CFO. When Alex inquired as to the nature of the entry, the CFO responded that he recorded it for a contract that was in negotiation, and that the revenue was necessary to meet the earnings forecast for the quarter. The CFO also told Alex that the contract would be completed soon, and would subsequently be backdated to the date the revenue was recorded.

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Star Corporation has had several recent instances of ethical violations. A few months ago, Alex's friend reported some employees for charging personal mileage to the company. However, the company did not investigate or stop employees from charging personal mileage. As a result, these employees may be still charging personal mileage to the company.

In your opinion, what is the likelihood that Alex **will** report the CFO to an appropriate person within the corporation?

1	2	3	4	5	6	7	8	9
Definitely Will **NOT** Report				Likelihood of Reporting is **50%**				Definitely **WILL** Report

Case 8

Star Corporation has employed Alex Miller for the past four years as a senior accountant. Star is a publicly traded corporation that develops, licenses, and advertises an on-screen television guide technology. This technology allows consumers to navigate through and select television programs. The company generates revenue by licensing the technology to third parties and selling advertising that is displayed while consumers use the on-screen guide. The media industry is growing and the company is doing well financially. Alex enjoys his job and has received above-average annual performance reviews. Alex reports to the Accounting Manager and the Accounting Manager reports to the CFO.

Alex's job responsibilities include recording revenues earned from licensing contracts. In the first quarter of the current fiscal year, Alex discovered an entry in the general ledger for $200,000 of sales revenue that he did not record. Alex investigated the entry and found that it was input by the CFO. When Alex inquired as to the nature of the entry, the CFO responded that he recorded it for a contract that was in negotiation, and that the revenue was necessary to meet the earnings forecast for the quarter. The CFO also told Alex that the contract would be completed soon, and would subsequently be backdated to the date the revenue was recorded.

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Star Corporation has had several recent instances of ethical violations. A few months ago, Alex's friend reported some employees for charging personal mileage to the company. However, the company did not investigate or stop employees from charging personal mileage. As a result, these employees may be still charging personal mileage to the company.

In your opinion, what is the likelihood that Alex **will** report the CFO to an appropriate person within the corporation?

1	2	3	4	5	6	7	8	9
Definitely Will **NOT** Report				Likelihood of Reporting is **50%**				Definitely **WILL** Report

Case 9

Star Corporation has employed Alex Miller for the past four years as a senior accountant. Star is a publicly traded corporation that develops, licenses, and advertises an on-screen television guide technology. This technology allows consumers to navigate through and select television programs. The company generates revenue by licensing the technology to third parties and selling advertising that is displayed while consumers use the on-screen guide. The media industry is growing and the company is doing well financially. Alex enjoys his job and has received above-average annual performance reviews. Alex reports to the Accounting Manager and the Accounting Manager reports to the CFO.

Alex's job responsibilities include recording revenues earned from licensing contracts. In the first quarter of the current fiscal year, Alex discovered an entry in the general ledger for $200,000 of sales revenue that he did not record. Alex investigated the entry and found that it was input by the CFO. When Alex inquired as to the nature of the entry, the CFO responded that he recorded it for a contract that was in negotiation, and that the revenue was necessary to meet the earnings forecast for the quarter. The CFO also told Alex that the contract would be completed soon, and would subsequently be backdated to the date the revenue was recorded.

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In your opinion, what is the likelihood that Alex **will** report the CFO to an appropriate person within the corporation?

1	2	3	4	5	6	7	8	9
Definitely Will **NOT** Report				Likelihood of Reporting is **50%**				Definitely **WILL** Report

APPENDIX B

DEMOGRAPHIC SHEET FOR MANAGEMENT ACCOUNTANTS-SAMPLE II
THE VIGNETTES REMAIN THE SAME AS THE PRE-TEST AND SAMPLE I
Each Participant Receives One Vignette

Case 1

Please indicate TRUE (T) if the following statements are consistent with the facts stated in the case. Please indicate FALSE (F) if you do not recall the information in the statement as part of the case or if the statement is inconsistent with the facts stated in the case.

1. Alex believes that revenues are overstated. T F

2. The company's alert line is anonymous. T F

3. Alex's supervisor was supportive of the employee who reported the theft of inventory. T F

4. The company investigated the ethical violation of charging personal mileage. T F

5. The company stopped the ethical violation of charging personal mileage. T F

6. Please indicate your agreement with the following statement.

Star Corporation's procedures regarding the reporting of wrongdoing are fair.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

7. Please indicate your agreement with the following statement.

Alex's supervisor treats those who report ethics violations fairly.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

8. Please indicate your agreement with the following statement.

Star Corporation resolves ethical violations fairly.

1 Strongly Disagree	2	3	4	5	6	7 Strongly Agree

9. Do you believe that Alex trusts his supervisor? Yes ______ No _______

10. Do you believe that Alex has trust in his company? Yes ______ No _______

11. Do you believe that Alex's company is supportive and caring in general? Yes ______ No _______

Demographic data:

12. Do you hold any of the following designations? (Check all that apply)
_____ CPA _____ CMA _____ CIA

13. Highest level of education completed:
    - High School _____
    - Some College _____
    - Associates Degree _____
    - Bachelors Degree _____
    - Some Graduate School _____
    - Masters Degree or Higher _____

14. Gender: _______Female ______Male

15. Current Job Title: ____________________

16. Current Job Level ______Staff ________Supervisor ____________Manager

17. Years of experience in current position ______________

18. Years of overall work experience __________________

19. Marital Status _______Married _________Single

20. Salary Range: $20,000-$40,000 _____
$40,001-$60,000 _____
$60,001-$80,000 _____
$80,001-$100,000 _____
Over $100,000 _____
Prefer not to disclose _____

21. Age (in years) ____________

22. Have you ever worked as an internal auditor? _____________
If so, for how long? ______________________

23. Are management accountants required to report wrongdoing as part of their job?
___ yes ___ no

24. What specific types of wrongdoing are management accountants required to report as part of their job (if any)?

____

____

<u>Company data:</u>

25. Company Size (Place an x by one description only)

Small _________ Medium _________ Large ___________

26. What is your company's industry? _________________________

27. Is your company (Place an x by only one description)

Flexible, Quick to Adapt, and Non-Hierarchical? _____
Somewhat Flexible, Somewhat Quick to Adapt, and Somewhat Hierarchical? _____
Not Very Flexible, Not Very Quick to Adapt, and Hierarchical? _____

28. Please indicate your agreement with the following statement:

My company promotes and encourages an ethical environment.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

29. What region of the country is your company?

East Coast	_____	West Coast	_____
Northeast	_____	Southeast	_____
Northwest	_____	Southwest	_____
Midwest	_____		

30. Does your company require you to report wrongdoing? ___ Yes ____No

31. Have you encountered instances where individuals did not report wrongdoing? ___ Yes ____No

32. If you answered yes to question 30, why didn't those individuals report the wrongdoing?

____

____

33. Have you ever reported wrongdoing? ___ Yes ____No

34. If you answered yes to question 32, what was the nature of the wrongdoing?

____

____