

**An Examination of the Effect of Type of Fraud and the
Anonymous Reporting Channel Administrator on Reporting Intentions for Fraud**

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Summary

The Sarbanes-Oxley Act of 2002 (SOX) (Sec. 301) explicitly requires that every public company establish procedures for the confidential, anonymous reporting by employees of concerns regarding questionable accounting, internal control, or auditing matters. Yet, the Act leaves great flexibility to companies in their implementation of this requirement. In this paper we report the results of an empirical study that addresses respondent reporting intentions relating to two forms of anonymous reporting channels (internally vs. externally (outsourced) administered) across two types of fraudulent acts (misappropriation of assets vs. fraudulent financial reporting).

Our results indicate that respondents are significantly more likely to report (1) a misappropriation of assets situation as contrasted to fraudulent financial reporting and (2) under an internally rather than externally staffed reporting channel. Thus, our results are not consistent with a belief that an externally administered hotline will increase the likelihood of reporting. Our findings have implications for audit committees, management, and (internal and external) auditors who must oversee and evaluate the operating effectiveness of controls.

Key words: misappropriation of assets, fraudulent financial reporting, reporting intentions, anonymous reporting channel.

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Under the Sarbanes-Oxley Act of 2002 (SOX) (Sec. 301), audit committees of public companies are responsible for establishing and overseeing procedures for employees to confidentially and anonymously report concerns regarding questionable accounting, internal control, or auditing matters. This regulatory requirement is consistent with the belief that the availability of an anonymous channel to report questionable accounting matters can enhance an organization's internal control by fostering communication and bringing financial statement fraud to light as early as possible (Hooks et al., 1994; Ponemon, 1994; Schultz and Hooks, 1998; Schultz et al., 1993).

Anonymous reporting channels may be particularly useful in encouraging the reporting of wrongdoing by organizational members because anonymity should minimize personal "costs" of reporting, such as retaliation and other potential penalties. A benefit of such channels is that employees often discover financial statement fraud before other monitors (e.g., internal auditors, external auditors, and/or regulators) and, consequently, often have the ability to inform the organization earlier than others (Moberly, 2006). In this regard, the *2006 Report to the Nation* issued by the Association of Certified Fraud Examiners (ACFE) reports the results of a survey of their members indicating that "tips" (e.g., information learned through employees and non-employees) identified more frauds than any other method. Furthermore the ACFE suggests that anonymous reporting channels are a key component of effective anti-fraud programs that results in earlier detection of fraud as compared to systems lacking such channels (p. 28, 35). Research examining employees' use of anonymous reporting channels (e.g., hotlines) and/or

factors contributing to its use is limited (Ayers and Kaplan, 2005; Kaplan and Schultz, 2007; Moberly, 2006). Given the potential importance of anonymous reporting hotlines to the overall effectiveness of an organization's internal control system, further research is warranted. The results of such research should be informative to audit committees responsible for the oversight of these channels, as well as internal and external auditors who should consider these channels in the context of their assessment of internal control.

In this paper we report the results of an experimental study that provides evidence on two issues related to one's decision to report financial statement fraud using an anonymous reporting channel. First, we examine whether one's reporting intention is associated with the type of fraudulent act. The AICPA Professional Standards (AICPA 2007, AU 316), as well as major components of the occupational fraud and abuse framework outlined by Wells (2005, 42),¹ distinguish between two types of fraudulent acts—misappropriation of assets and fraudulent financial reporting. We contend that, controlling for magnitude and certainty of the fraud, participants will be more likely to report an act involving misappropriation of assets than an act involving fraudulent financial reporting. We base this hypothesis on previous research documenting that individuals' reporting intentions are positively associated with perceptions of the seriousness of the questionable act (Ayers and Kaplan, 2005; King, 1997; Schultz et al., 1993; Singer et al., 1998), perceptions about one's responsibility to report (Schultz et al., 1993; Ayers and Kaplan, 2005) and discussions in the literature suggesting that the expected remedy also plays a role (Gundlach et al., 2003; Kaplan and Schultz, 2007; Miceli and Near, 2002; Near and Miceli, 1995).

¹ Wells (2005) refers to asset misappropriation, fraudulent statements, and corruption, a category not included by the AICPA or in our study. Examples of corruption are conflicts of interests, bribery, illegal gratuities and economic extortion.

Second, we examine whether one's reporting intention is associated with whether the anonymous reporting channel is administered within the organization (with features typical of an internally operated channel) or by an external provider (with features typical of a channel that has been outsourced to an external company). Under the Sarbanes-Oxley Act, audit committees are given discretion to select either an internally or externally administered anonymous reporting channel. However, the Association of Certified Fraud Examiners (2005 54), as well third party providers of anonymous reporting hotlines (e.g., Global Compliance 2007; The Network 2006) suggest that an external system is preferable because it eliminates many of the drawbacks of an internal approach.² For example, an externally operated system eliminates the practice of one employee in essence calling another employee, a situation suggested as discouraging a potential whistleblower to report an incident (Malone and Childs 2003). Based on views contained in the professional literature, we predict that participants will be more likely to report a fraudulent act when the anonymous reporting channel is administered externally compared to when the anonymous reporting channel is administered internally.

We report the results of an experimental study using evening MBA students as participants. Participants received background information about a company and a single scenario describing the discovery by an employee of a fraudulent act of another employee. In response, participants, assuming they were facing the situation described in the scenario, provided a response representing their intention to report the act using the anonymous telephone hotline and responses on their perceptions related to the act and its

² Our distinction of "internal" and "external" is in reference the administrator of an anonymous reporting channel. However, in the context of previous whistle blowing literature (Miceli and Near, 1992), both represent an internal reporting channel because both are under the authority and control of the organization. Generally, an "external" reporting channel refers to one that is completely independent and outside the authority and control of the organization (e.g., media and/or regulators).

reporting. We use a between participant research design in which participants were randomly assigned to a cell composed of one of the two levels of type of fraudulent act (misappropriation of assets or fraudulent financial reporting) and anonymous reporting channel administrator (internal or external). An ancillary study provides additional evidence about the effect of whether an internal or external reporting channel administrator operates the anonymous hotline.

In the next section of the paper we develop hypotheses about the type of fraud and the anonymous reporting channel administrator. This is followed by discussion of our research method and results. The final section of the paper addresses the study's implications as well as its limitations.

HYPOTHESES DEVELOPMENT

In this section we develop hypotheses about the expected relation between the type of fraudulent act, the anonymous reporting hotline administrator, and reporting intentions to the anonymous reporting hotline after the discovery of fraud.

Type of Fraudulent Act

Near et al. (2004, 222) point out that while archival and survey based research has examined various antecedents to reporting wrongful behavior, generally the type of the wrongdoing has not been considered. The authors contend that the type of wrongdoing has received little attention because data collection is difficult and because theoretical frameworks do not include wrongdoing type as a predictor variable and consequently do not provide a scheme to classify different kinds of wrongful and/or illegal behaviors.

Near et al. (2004, 219) analyze survey data of employees from a large military base and

find evidence that the type of wrongdoing is an important variable in decisions to report wrongdoing and “should be examined in future research.”

Near et al.’s (2004) findings are consistent with previous experimental research examining individuals’ reporting intentions for wrongful behaviors. In this regard, Schultz et al. (1993) develop and test a model in which the perceived seriousness of a questionable act is positively associated with reporting intentions. The experiment included six different questionable acts and the authors found that individuals’ perceived seriousness and perceived responsibility to report differed significantly across the acts, and that both perceived seriousness and perceived responsibility were each significantly associated with reporting intentions. However, the six different questionable acts also varied in terms of the amounts involved and the set of complicating facts. King (1997) found that nurses’ intentions to report an incident of wrongdoing were significantly stronger when the severity of the effect to the patient was high compared to when the severity to the patient was low. More recently, Ayers and Kaplan (2005) find that perceived seriousness of a questionable act by consultants to an organization were significantly and positively associated with reporting intentions.

Whistle-blowing literature also suggests that individuals’ perceptions about an organization’s expected response to wrongdoing will influence decisions to report the wrongdoing (Near and Miceli, 1995, 1996; Near et al., 2004; Kaplan and Schultz, 2007). In this regard, Near and Miceli (1996, p. 510) characterize whistle-blowing, as distinguished from “informing,” as involving an “attempt to terminate the current wrongdoing or prevent future wrongdoing of a similar type.” Empirical evidence on the extent to which perceptions about expected remedies influence reporting intentions is

limited. In an analysis of the reasons organizational wrongdoing was not reported by observers, the two most common reasons were nothing could or would be done, although this varied across the types of wrongdoing (Near et al., 2004, Table 5). This suggests that the type of wrongdoing will influence perceptions about the organization's response, which may influence one's intentions to report the wrongdoing.

We expect that, other things equal, intentions to use an anonymous reporting channel will differ across the two types of fraudulent financial reporting acts (e.g., misappropriation of assets and fraudulent financial reporting). The auditing literature, including professional standards, distinguishes between misappropriation of assets and fraudulent financial reporting. Misappropriation of assets ordinarily involves employees taking company assets (often cash or inventory items) to directly enrich themselves. Fraudulent financial reporting, often referred to as "cooking the books" involves misreporting financial results and financial position, most frequently by overstating income.

While an anonymous reporting channel is intended to reduce or eliminate personal costs of reporting to an employee, we do not expect all wrongdoing to be reported. Overall, we expect that individuals will exhibit stronger intentions to report using an anonymous hotline an incident involving misappropriation of assets as opposed to an incident involving fraudulent financial reporting. In contrast to fraudulent financial reporting which typically involves intentionally recording transactions erroneously, misappropriation of assets typically involves the loss of real resources. It may be the case that the actual loss may be perceived to be more serious than intentionally recording transactions erroneously. In addition, organizations would presumably have a strong

interest in taking actions to stop misappropriation of assets. However, one may be uncertain about the extent to which organizations may be expected to stop fraudulent financial reporting, especially if the actions appear to benefit the organization (e.g., earnings targets are met), at least in the short run. This discussion leads to the following hypothesis:

Hypothesis 1: Intentions to report using an anonymous reporting hotline will be stronger for a fraudulent act involving misappropriation of assets compared to a fraudulent act involving fraudulent financial reporting.

Anonymous Reporting Channel

Although SOX requires audit committees of public companies to establish and oversee a confidential, anonymous reporting channel for employees to report concerns regarding questionable accounting, internal control, or auditing matters, the law and subsequent guidance issued by the Securities and Exchange Commission (SEC) allow wide discretion in how audit committees choose to satisfy this requirement.³ Indeed, the SEC (2003) suggests that public companies covered by SOX “should be provided with flexibility to develop and utilize procedures appropriate for their circumstances.” Consequently, audit committees are permitted to establish and oversee an anonymous reporting channel that is administered and operated internally (e.g., within and by the public company) or externally (e.g. outsourced to a third party provider).⁴

The Association of Certified Fraud Examiners (2005 54-55) implicitly advocates the use of a third party provider to operate an anonymous telephone hotline by identifying

³ For examples of the ways companies have implemented this requirement one may use a term such as “hotline ‘questionable accounting or auditing matters’” to search the internet.

⁴ The Network, Inc. is a major such third party. See <http://www.tnwinc.com> for details on such a company.

several important advantages commonly offered by such providers. These advantages are as follows:

- 24 hour availability.
- Less employee fear that a call will be traced.
- Consistent, professional handling of calls.
- Less employee fear that management will “cover-up” the issues.

Collectively, these advantages suggest that an anonymous telephone hotline operated by a third party provider would be “better” than one operated by a source within the public company. However, there is presently very little empirical evidence available to evaluate whether these advantages translate into a “better” system. Our research focuses on one dimension of “better,” the extent to which individuals’ intentions to report a fraudulent act are influenced by whether the anonymous telephone hotline is operated internally or externally. The advantages identified above suggest that the personal costs of reporting should be minimized (e.g., less likely that the call will be traced) and prospects of corrective actions occurring should be greater (e.g. less likely that management will “cover up” the issues). Thus, these advantages imply that intentions to report a fraudulent act will be higher for an anonymous telephone hotline administered by an external source. This discussion leads to the following hypothesis:

Hypothesis 2: Intentions to report a fraudulent act using an anonymous reporting hotline will be stronger when administered by a source external to the company compared to when administered by a source internal to the company.

METHOD

Below we discuss the design, participants, task, independent and dependent variables for the experiment.

Design

The experiment utilizes a 2 x 2 between-subjects design. The design fully crosses the types of fraud (misappropriation of assets or fraudulent financial reporting) and anonymous reporting channel administrator (internal or external).

Participants

Participants were evening MBA students from a major university.⁵ A total of 103 participants completed the instrument. Twelve participants who failed the manipulation check (as discussed further in the results section) were removed, leaving 91 participants for the analysis. Table 1 summarizes background information about these participants. As shown, participants' mean age was over 30 years old and their mean years of work experience was over 8 years. Sixty-two percent of the respondents were male. On average, they had been employees with large firms (mean over 43,000 employees). Finally, 37% of the participants reported that they had discovered a person of greater authority engaging in a questionable or wrongful behavior. Neither analyses of variance (applied to age, years of work experience, number of employees in company) nor chi square analyses (applied to gender and whether the individual had discovered questionable or wrongful behavior) revealed any statistically significant differences among the groups.

⁵ Several recent studies have used MBA students to examine reporting intentions for questionable acts. Kaplan and Schultz (2007) used evening MBA students as participants in their study examining the use of an anonymous reporting channel to report questionable events. Ayers and Kaplan (2005) used day MBA students to address employee reporting intentions relating to wrongdoing by consultants.

[Insert Table 1 about here.]

Task

Participants were given an experimental instrument describing APEX Inc., a hypothetical manufacturer of consumable materials. Background information about the company indicated that it had produced steady operating results, but had recently performed at slightly below the industry average. Further, the information indicated that the company's chief executive officer and the board of directors had agree to set more aggressive financial performance goals and that the company needed to outperform the industry average in the coming year.

The instrument then informed participants that the company had established an anonymous telephone hotline for reporting questionable behavior, overseen by the audit committee. The next portion of the instrument manipulated details between subjects on the hotline (the "anonymous reporting channel"—discussed below under independent variables), followed by a scenario describing an organizational member engaging a fraudulent act (also discussed below under independent variables) that was discovered by another employee. In response to the scenario, participants were asked to provide intentions to use the hotline to report the fraudulent act. Participants also provided responses to a series of statements about their perceptions of the fraudulent act, potential consequences to the employee and the organization if the fraudulent act is reported, and a manipulation check question. Lastly, participants provided information about their backgrounds.

Independent Variables

Type of Fraudulent Act. The type of fraudulent act variable was operationalized at two levels—misappropriation of assets and fraudulent financial reporting. As indicated earlier, each respondent replied to only one of these cases. Although it was impossible to make the cases identical on all other dimensions, we attempted to make them as comparable as possible. On a particularly salient dimension, both cases controlled the financial consequences of the fraud by stating that it involved approximately \$800,000 affecting earnings per share by approximately \$0.02. Similarly, each case controlled for the certainty of fraud by stating that the organizational member discovering the fraud is “almost certain” that fraud had been committed. This language was used because individuals may often not be entirely certain that fraud has been committed.

The misappropriation of assets case involved a false billing scheme by creating a shell company (Wells 2005, 102-109). A false billing scheme was selected because it represents one of the most frequent schemes to misappropriate assets (the most frequent for manufacturing companies) and because it often involves substantial amounts of cash (Association of Certified Fraud Examiners 2006, 19-23). Specifically, the case involves the company being billed for services not received by a fictitious entity (the shell company). The assistant purchasing manager in the case discovered the scheme when he realized that the vendor’s post office box address was identical to that of the purchasing manager. The assistant purchasing manager determined that approximately \$800,000 in expenditures for services not received but paid to the shell company had occurred,

reducing earnings per share by \$0.02 per share, which exactly met financial analysts' expectations.

The fraudulent financial reporting case involved improper asset valuation, a frequent method of fraudulent financial reporting (Association of Certified Fraud Examiners 2006, 19-23). In this case, a divisional financial accountant discovered that \$800,000 of expenses had been capitalized by his supervisor, the controller of the division, a "very skilled CPA." The misrecording increased earnings per share by \$0.02, which exactly met financial analysts' expectations.⁶

Anonymous Reporting Channel Administrator. Features of the anonymous reporting channel were manipulated between subjects. While an anonymous reporting channel might take on various forms (e.g., web-based, telephone, fax, written correspondence), we selected the telephone as it is commonly used in practice. The two levels represent a typical internal and a typical external anonymous telephone hotline, and consequently, by design the two levels differed across multiple features. Differences between the two levels involved the entity responsible for operating the hotline, the hotline's available hours of operation, and follow-up procedures. For convenience, we refer to these two levels simply as internal and external. As required by SOX, both levels indicate that the audit committee was responsible for overseeing the anonymous hotline, and the hotline's description as "Confidential, anonymous telephone reporting" was held constant across both levels.

⁶ While the two types of fraudulent events have an equivalent impact on earnings per share (EPS), \$.02, they generally affect EPS in opposite directions due to the nature of those events. Misappropriation of assets involves the theft of assets which decreases EPS. Fraudulent financial reporting ordinarily, although not in all circumstances, overstates EPS.

Under the internal level, the reporting channel was managed by the human resources department. The department was responsible for staffing and training telephone hotline representatives who answer the calls and the human resource manager was responsible for deciding upon the necessity of further investigation, and if so, forwarding information to top management and the company's ethics committee. The internal level also indicated that the hotline was only available during normal business hours, every day of the year, except for three holidays. The Association of Certified Fraud Examiners contends that internally administered anonymous reporting hotlines may have limited hours of availability (2005, 56).

Under the external level, the reporting channel was managed by a third party provider, Ethics Line, Inc. Ethics Line, Inc. was described as one of the nation's largest independent third party companies that administer ethics hotlines. Hotline representatives of Ethics Line, Inc. are described as "properly trained", and are available 24 hours a day, every day, and never have access to the telephone number of the caller. Ethics Line, Inc., reports calls to the company's chief ethics officer, to top management and/or the audit committee. Subsequently, the company's chief ethics officer reviews all reported cases to determine that the issues raised have been properly considered and provide a summarized report to the audit committee.

Dependent Measures

In response to the scenario describing an employee discovering a fraudulent act, participants were asked to indicate an intention to report the act using an anonymous reporting channel. Specifically, participants were asked: "If you were in [name of the individual aware of questionable behavior] position, how likely is it that you would report

this instance of questionable behavior using the company’s reporting hotline?”

Participants responded using an eleven point scale anchored by 0 (“extremely unlikely”) and 10 (“extremely likely”). This measure of intention is similar to previous research (Ayers and Kaplan, 2005; Kaplan, 1995; Kaplan and Whitecotton, 2001; Schultz et al., 1993). This measure, which we refer to as the reporting intention measure, is used for testing hypotheses one and two.

After providing a reporting intention, participants responded to a series of ten statements about their perceptions of the fraudulent act, and the potential consequences to the employee and the organization if the fraudulent act is reported. Analysis of these measures is intended to supplement and inform the analysis of reporting intentions.

These statements are summarized in Table 2.

[Insert Table 2 about here]

RESULTS

Manipulation Check

We included a manipulation check question to determine whether participants attended to who administered the anonymous reporting channel. Specifically, participants were asked: “The anonymous hotline is administered by:” and selected either “APEX ‘s human resource department” or “ Ethics Line, Inc.” Recall that the human resource department administered the anonymous hotline under the internal level and Ethics Line, Inc., administered the anonymous hotline under the external level. As indicated previously, twelve participants incorrectly answered the measure and were dropped from the statistical analysis. However, our results are qualitatively similar when responses from all participants are analyzed.

Tests of Hypotheses

Analysis-of-variance (ANOVA) is used for testing the proposed hypotheses. The type of fraudulent act and the anonymous reporting channel administrator were independent variables. Hypotheses one and two relate to each of these two independent variables, respectively. Statistical results are presented in Table 3 Panel A and descriptive statistics are presented in Table 3 Panel B. As shown in Table 3 Panel A, the main effect of each of the two independent variables is significant ($p < .05$). As shown in Panel B, respondents' mean reporting intention is higher for the misappropriation of assets act (8.43) than the fraudulent financial reporting act (6.66). These means are in the expected direction. Overall, these results provide support for hypothesis one. As shown in Panel B, respondents' mean reporting intention is higher for the internal reporting channel (8.08) than the external reporting channel (6.98). These are not in the expected direction, and consequently, do not provide support for hypothesis two.

[Insert Table 3 about here]

Additional Analysis

The research instrument included a series of statements about respondents' perceptions of the fraudulent act, and the potential consequences to the employee and the organization if the fraudulent act is reported. These statements and related analysis is intended to help us better understand the reporting intention results discussed above. Table 2 presents summaries of the statements and mean responses for each statement by fraudulent act —misappropriation of assets and fraudulent financial reporting. As shown, for several statements the mean response differed significantly ($p < .05$) across the two acts. First, the misappropriation of assets act is judged more negatively (e.g., mean

judgments about the morality of the act and the consensus that the act was unethical are more unfavorable) than the fraudulent financial reporting act. Secondly, participants' judged their responsibility to report the act using the anonymous hotline to be higher for the misappropriation of assets act. Third, participants judged that the organization's response to be more substantial for the misappropriation of assets act (e.g., mean judgments about the act being thoroughly investigating and corrective actions being taken were higher) compared to the fraudulent financial reporting act. No significant differences among these series of statements were found between the two levels of reporting channel administrator.

Ancillary Study

Our results showing that reporting intentions were stronger under an internal reporting channel led us to perform an ancillary study. The original study included internally and externally administered anonymous reporting channels based on typical features, and consequently, the two levels differed from one another in several ways. As indicated earlier, the internal channel was only available during normal business hours, and not available at all during several holidays, as contrasted to the external channel which was available 24/365. In addition, in the internal channel, the human resources manager decided what action, if any, to take. In the external channel, all calls were forwarded to the company's ethics officer and management or the audit committee, as appropriate.

Given the unexpected results reported above, we conducted an ancillary study in an effort to better understand the source of this difference. In the ancillary study we created a new internal reporting channel which, except for the administrator (e.g., the

human resource department) was identical to the external channel. Given a smaller number of available evening MBA students, we limited the study to the fraudulent financial reporting situation.

Twenty-nine of the 37 evening MBA students replied properly to the manipulation check for reporting channel administer. Participants in the ancillary study did not differ significantly from the participants in the original study along any of the variables reported in Table 1. Using these 29 subjects, the results again show that reporting intentions were stronger for the internal reporting channel compared to the external reporting channel with means of 8.31 vs. 7.15 ($p < .059$). Similar to the original study, an analysis of the ten statements about respondents' perceptions of the fraudulent act, and the potential consequences to the employee and the organization if the fraudulent act revealed no significant differences between the two levels of reporting channel administrator.

DISCUSSION

This study provides evidence on two issues related to employees' use of an anonymous reporting channel upon discovery of a fraudulent act. Understanding factors that influence employees' use of an anonymous reporting when discovering a fraudulent act is particularly important for audit committees, internal auditors and external auditors. Under SOX, audit committees are charged with the responsibility to provide oversight for an anonymous reporting channel. Internal and external auditors, who have a responsibility to monitor and assess the firm's control environment, also have an interest in understanding the factors contributing the one's intentions to communicate knowledge

of a fraudulent act as soon as practicable. While prior research has examined different questionable acts, this the first study of which we are aware that controls for the financial impacts of and uncertainty about the occurrence across two different kinds of fraudulent acts. This study is also the first of which we are aware that examines whether reporting intentions are influenced by the channel administrator (e.g., internal vs. external).

Our findings indicate our respondents' reporting intentions were significantly stronger for a fraudulent act involving the misappropriation of assets compared to a fraudulent act involving fraudulent financial reporting. This finding suggests that compared to the misappropriation of assets, organizations are less likely to learn about a fraudulent act involving fraudulent financial reporting from employees using an anonymous reporting channel. Consequently, this suggests that other monitoring systems such as internal and external auditors are likely to play an especially important role in the discovery of fraudulent financial reporting and that managements of companies may need to consider the extent to which it is feasible to identify additional, complementary controls that would prevent and/or detect fraudulent financial reporting.

Our results on reporting intentions under internally versus externally administered anonymous reporting channels were unexpected. Based on professional literature, we expected reporting intentions to be stronger when the anonymous reporting channel was administered by an external third party provider. The results from our original and ancillary studies provide consistent results showing reporting intentions are stronger when the anonymous reporting channel is administered internally. While unexpected, our speculation is that this may reflect participants' impression that reporting to an externally administered channel, even one hired by the organization, is to some extent

somewhat akin to going outside the organization and individuals may be reluctant to “get a third party involved.”⁷ We encourage further research to explore this possibility.

Tentatively, our finding that reporting intentions are higher for an internally administered reporting channel suggests that the espoused advantages for an externally administered anonymous reporting channel may be overstated, at least with respect to one’s intention to use the anonymous reporting channel. Our results do not speak to other potential benefits of an externally administered anonymous reporting channel such as better follow up of calls. However, we suggest that further research should be conducted to provide evidence to assess these other potential benefits of an externally administered anonymous reporting channel.

The results of this study must be viewed in light of its limitations. First, using an experimental approach, with participants responding to a hypothetical incident, is not the same as discovering a fraudulent act in their actual work environment. For example, the limited information included in each case may result in reporting intentions that are primarily thought driven. Emotional factors such as fear and anger, that may play a part in actual setting, are likely to play a diminished role in an experimental setting. However, Miceli and Near (1984) advocate the use of experimental approaches as a complement to survey and archival approaches. Previous research (Ayers and Kaplan, 2005; Kaplan and Schultz, 2007; King, 1997; Schultz et al., 1993) has used experimental methods to explore reporting intentions for wrongful acts within an organizational

⁷ Previous research has addressed the reporting of wrongful acts to individuals or groups outside (or external to) the organization such as to the media or regulators. That research shows that employees generally prefer to initially report wrongful acts to internally and report to outsiders reluctantly (Dworkin and Baucus, 1998; Miceli and Near, 1992). However, previous research does not distinguish between a company sponsored anonymous reporting channel is administered by personal internal to the company or external to the company.

setting. An experimental approach is particularly well suited to the current study where the focus is on understanding potential differences in reporting intentions across two important factors. In this regard, an experimental approach with carefully constructed cases strengthens internal validity.

A second limitation relates to our use of evening MBA students as participants. Evening MBA students are working professionals who may confront questionable and/or wrongful behavior in their work environment. Indeed, Table 1 reveals that 36% of the respondents had discovered a person of greater authority engaging in questionable or wrongful behavior. While we believe our participants are representative of employees who might discover a fraudulent act at work, we have no direct evidence to support this.

Lastly, our study relied upon only one scenario to represent each type of fraud, misappropriation of assets and fraudulent financial reporting. While we selected a “common” or “typical” example for each type of fraud and held constant other features about the fraud, it may be the case that reporting intentions are sensitive to amounts involved and/or the particular nature of the fraudulent act. While we have no reason to question the generalizability of our findings to other fraudulent acts, this is left to further research.

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TABLE 1
Demographic Information

Hotline	Total n=91
Age	
Mean	30.7
Std. Dev.	4.9
Gender	
Female	38%
Male	62%
Years of Work Experience	
Mean	8.6
Std. Dev.	5.2
Number of Employees in Company	
Mean	43,802
Std. Dev.	70,724
Have you discovered a person of greater authority engaging in questionable or wrongful behavior?	
Yes	37%
No	63%

TABLE 2
Analysis of Respondent Attitude Questions for Type of Fraudulent Act

	Misappropriation of Assets ^a	Fraudulent Financial Reporting	Significance Level ^b
1. Act is morally wrong.	8.53	7.39	.000
2. Act seriousness.	8.09	7.73	.181
3. Act is unethical (general consensus).	7.68	6.55	.003
4. Act fairness.	4.05	3.77	.596
5. Personal cost of reporting.	6.36	6.30	.886
6. Responsibility to inform.	7.87	7.23	.049
7. Company will discover act by itself.	5.57	5.40	.688
8. Anonymity will be protected.	6.45	6.36	.849
9. Act will be thoroughly investigated.	7.19	5.82	.000
10. Corrective actions will be taken.	7.02	5.55	.000

^a Participants provided their assessment using a 9-point scale with endpoints labeled “Very (Low, Small, Unlikely or Unfair)” and “Very (High, Large, Likely or Fair).”

^b Significant p-values are in bold.

TABLE 3
Analysis of Type of Fraudulent Act and Anonymous Reporting Channel Administrator

Panel A: ANOVA			
Source	Mean Square	F-value	p-value ^b
Type of Fraudulent Act	74.34	12.27	.001
Anonymous Reporting Channel Administrator	32.51	5.37	.023^c
Type of Fraudulent Act x Anonymous Reporting Channel Administrator	1.16	.192	.662
Error	6.06		

Panel B: Means (Std Dev)			
Type of Fraudulent Act	Anonymous Reporting Channel Administrator		Mean (std. dev.) n
	Internal	External	
Misappropriation of Assets	9.13 (1.99) n=24	7.70 (2.53) n=23	8.43 (2.36) n=47
Fraudulent Financial Reporting	7.08 (2.90) n=25	6.11 (2.28) n=19	6.66 (2.67) n=44
Mean	8.08 (2.68) n=49	6.98 (2.53) n=42	7.63 (2.60) n=91

^a Participants provided their assessment using an 11-point scale with endpoints labeled “Extremely Unlikely” and “Extremely Likely” to “If you were in James’ position, how likely is it that you would report this instance of questionable behavior using the company’s reporting hotline?”

^b Significant p-values are in bold.

^c The means are not in the expected pattern.