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An Empirical Evaluation of Graham's Model of Principled Organizational Dissent in the Whistleblower Context Post-SOX

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I. INTRODUCTION

Corporate fraud continues to be a widespread issue as evidenced by estimates that 74 percent of employees surveyed in KPMG's 2008-2009 Integrity Survey report witnessing or having personal knowledge of corporate fraud and misconduct (KPMG, 2008, p. 1). The prevalence and seriousness of misconduct has remained relatively constant between 2000 and 2008 (KPMG, 2008, p. 11) despite the enactment of the Sarbanes-Oxley Act of 2002 ("SOX"). Additionally, respondents to PriceWaterhouseCoopers' 2011 Global Economic Crime Survey report expecting an increase in corporate fraud in the next twelve months (PriceWaterhouseCoopers, 2011, p. 26). Organizations that experience corporate fraud or wrongdoing report damage to employee morale, to the firm's reputation, and to business relations as a result (PriceWaterhouseCoopers, 2011, p. 21). Forty-six percent of employees that witness corporate misconduct indicate that the misconduct they observed could cause "a significant loss of public trust if discovered" (KPMG, 2008, p. 2).

Given the continued pervasiveness of corporate fraud, the substantial costs associated with an act of fraudulent financial reporting, and the widespread knowledge of these incidents by employees, examining whistleblowing intentions by employees in the

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financial reporting context is important (Kaplan et al., 2009a, p. 16). An effective whistleblowing system enhances communication within the organization and can lead to early detection of financial statement fraud (Hooks et al., 1994; Kaplan et al., 2009b; Ponemon, 1994; Schultz and Hooks, 1998; Schultz et al., 1993). While financial statement fraud is the least common type of corporate fraud committed, it is the most costly (ACFE, 2010, p. 4). An effective whistleblowing system that employees feel comfortable using can assist in detecting and deterring corporate fraud given that 13 percent of employees in the accounting and finance functions, 12 percent of employees in the general management and administration function, and nine percent of employees in the technology function report witnessing the falsification or manipulation of financial reporting information (KPMG, 2008, pp. 4-5).

Employee whistleblowing has been recognized as an important mechanism in deterring and detecting corporate fraud. In the United States, federal laws have been enacted to promote employee whistleblowing by requiring the implementation by audit committees of publicly-traded companies of anonymous, confidential employee reporting channels (Sarbanes-Oxley Act, Section 301, 15 U.S.C.A. 78j-1(m)(4)), by prohibiting retaliation by publicly-traded companies against employees that report corporate wrongdoing (Sarbanes-Oxley Act, Section 806, 18 U.S.C.A. 1514A), and by making available a financial award to whistleblowers that voluntarily provide original information to the Securities and Exchange Commission leading to a successful enforcement action under U.S. securities laws with monetary sanctions exceeding

$1,000,000 (Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, Section 21F).

While industry surveys (KPMG, 2006; PriceWaterhouseCoopers, 2005, 2011) and academic research (Brennan and Kelly, 2007; Miceli and Near 1992; Taylor and Curtis, 2009) establishes that formal procedures for reporting wrongdoing encourages whistleblowing, it nevertheless remains a voluntary act by employees (Bhal and Dadhich, 2011). Ultimately, the effectiveness of a whistleblowing system depends on the willingness of employees to report their discovery of wrongful conduct (Kaplan et al., 2009b). Understanding factors that promote reporting of acts of corporate fraud by employees is important to improve the effectiveness of whistleblowing hotlines.

The principled organizational dissent literature has been used to analyze the decision making process relating to the intention to report observed acts of fraud. The model has been used in numerous studies on whistleblowing in the accounting area to evaluate the likelihood that an observer of wrongdoing would report it to a corporation's employee reporting hotline (Elias, 2008; Kaplan and Whitecotton, 2001; Schultz et al., 1993; Zhuang et al., 2005). Principled organizational dissent is defined as an effort by employees to protest and/or change the organization because of their objection to current policy or practices (Graham, 1986). Graham's Model of Principled Organizational Dissent identifies three factors that influence an individual's decision to report wrongdoing — the perceived seriousness of the wrongful act, the perceived responsibility to report, and the perceived personal cost of reporting. Under the model, the perception of the seriousness of the act and the perceived personal responsibility of the observer to report are positively related, and the perceived personal cost of reporting are negatively related, to the intention to report (Graham, 1986; Zhuang et al., 2005). Figure 1 depicts the model.

In prior whistleblowing studies employing Graham's Model of Principled Organizational Dissent, the perceived seriousness of the wrongdoing, the perceived personal responsibility of the observer to report, and the perceived personal costs of reporting were treated as separate, independent factors that directly influence the employee's intention to report (Elias, 2008; Kaplan and Whitecotton, 2001; Schultz et al., 1993; Zhuang et al., 2005). In our study, we examine whether the perceived seriousness of the wrongful act indirectly influences an observer's intention to report by increasing/decreasing the employee's perceived personal responsibility to report. We also empirically examine the impact of an individual's personal ethical beliefs and beliefs about his/her job duties on his/her perceived responsibility to report.

The third component of Graham's Model of Principled Organizational Dissent is the perceived personal cost of reporting by the employee-observer of the wrongdoing. Numerous academicians have hypothesized that employees are reluctant to blow the whistle on acts of corporate wrongdoing because of the potential personal costs of doing so. In our study, we examine the impact of the perceived risk of the discovery of the identity of the employee-whistleblower by management on the perceived personal cost of reporting. We also examine the impact of the federal protection against retaliation granted to employee-whistleblowers by SOX on the perceived personal cost of reporting and the likelihood that an employee that observes an act of corporate wrongdoing will whistleblow.

This study makes several contributions to the whistleblowing literature. First, we provide evidence that only two components of Graham's Model of Principled Organizational Dissent directly influence the intention to report: the perceived responsibility to report and the perceived personal cost of reporting. While the perceived seriousness of the observed act of wrongdoing influences the intention to whistleblow, our results suggests that it does so indirectly through perceived responsibility and may have no direct effect on whistleblowing intention. Second, we empirically establish that individuals that are idealistic as measured by the personal idealism scale developed in Forsyth (1980), and that feel that their job duties include a responsibility to report, feel a greater responsibility or duty to report an act of corporate wrongdoing. Third, our study provides evidence that SOX's protection of employees against retaliation for whistleblowing directly increases the likelihood that an employee will report an act of corporate wrongdoing. Finally, our study provides evidence that the factors that influence the decision to whistleblow differs based on whether the employee is required to provide his/her name to the reporting hotline.

As Carcello et al. (2011, p. 25) observed, "notwithstanding the important role that whistleblowers play in uncovering corporate fraud…this area…is just beginning to be examined by accounting researchers." The existence of an effective whistleblowing system should encourage employees to internally report acts of corporate wrongdoing to the employee hotline. Internal reporting of corporate wrongdoing provides an organization the opportunity to investigate and correct the wrongdoing and to avoid the negative consequences of external whistleblowing (Barnett et al., 1993). Understanding factors that encourage employees to voluntarily report corporate wrongdoing to the reporting channel mandated by SOX is critical to increasing the effectiveness of the hotline in deterring and detecting corporate fraud.

II. BACKGROUND AND HYPOTHESES DEVELOPMENT

Background

Whistleblowing has most often been defined as the disclosure by organizational members, former or current, of illegal, immoral or illegitimate practices under the control of their employers to persons and organizations that may be able to effect action (Dasgupta and Kesharwani, 2010; King, 2001; Near and Miceli, 1985; Zhuang et al., 2005). It has also been defined as the reporting of an illegal or immoral act to a person with the ability to take corrective action (Grant, 2002; Miceli, Near and Schwenk, 1991b). Whistleblowing becomes a form of upward control when an employee reports the wrongdoing of a higher-ranking employee in an attempt to stop the current wrongdoing or prevent future wrongdoing of a similar type (King, 2001).

The components of an act of whistleblowing are (1) the whistleblower, (2) the wrongful or questionable act that is being reported, (3) the person or organization that is committing or has committed the wrongful or questionable act, and (4) the party who receives the complaint or report of wrongdoing (Dworkin and Near, 1997; Near and Miceli, 1985, 1986; Rocha and Kleiner, 2005). The goal of an effective whistleblowing system is to encourage observers of fraud to report the wrongful act thereby increasing the risk to wrongdoers of engaging in illegal, immoral or illegitimate acts. Industry surveys and academic research demonstrate that reporting hotlines aid in the prevention and detection of unethical behavior (Taylor and Curtis, 2009, p. 22).

For whistleblowing to be an effective internal control mechanism, the observer of the wrongful act must chose to report it and the report must be properly and effectively handled (Lee and Pope, 2011; Near and Miceli, 1995). As discussed above, the act of reporting a wrongful act within the organization is a voluntary act of the employee. In order for the anonymous, confidential reporting hotline mandated by the Sarbanes-Oxley Act of 2002 to be effective, employees must be willing to voluntarily report acts of corporate fraud. Therefore, it is necessary to gain a better understanding of factors that influence the decision of an employee to report an observed act of corporate fraud. We examine this question within the context of Graham's Model of Principled Organizational Dissent.

Perceived Seriousness of the Wrongful Act

Principled organizational dissent has been used to explain the effort by an employee to object to an act or situation in the workplace due to his/her conscientious objection (Graham, 1986). Schultz et al. (1993) argues that principled organizational dissent provides an explanation for an individual's decision to report an unethical act that violates a standard of justice, honesty or economy. Near and Miceli (1985, p.4) associate whistleblowing with illegal acts, acts perceived by the whistleblower as being morally wrong, and illegitimate practices that are beyond the organization's authority (Bhal and Dadhich, 2011). As discussed above, under Graham's Model of Principled Organizational Dissent the likelihood of reporting an illegal or unethical act within the organization increases with the employee's perceived seriousness of the act and the perceived personal responsibility to report. On the other hand, the perceived personal cost of reporting decreases the likelihood of reporting.

The perceived seriousness of a wrongful act depends on its objective characteristics, including its monetary impact, the potential to cause harm, the possible negative outcomes, and the number of people that can be impacted by the act (Graham, 1986). This is consistent with Near and Miceli's (1985) observation that wrongdoing is more likely to be reported if it exposes the public, fellow co-workers, or the organization to danger. Likewise, when the act is viewed as being clearly illegal, immoral or illegitimate an observer of the wrongdoing is more likely to report it or whistleblow (Near and Miceli, 1985).

Graham (1986) also contends that the perceived seriousness of an act by an observer is influenced by the individual's tendency to exaggerate or minimize the severity of the act. Miceli and Near (1984) and Near and Miceli (1985) agree that the perceptions of seriousness play an important role in the decision on whether or not to report.

The preceding discussion leads to the following hypothesis:

H1: *An employee that has observed a wrongful act is more (less) likely to report it the more (less) serious that s/he perceives the wrongful act to be.*

Perceived Responsibility to Report the Wrongful Act

The second component of Graham's (1986) model is the employee-observer's feeling that he/she has a responsibility to report the wrongful act. Responsibility to report may be related to the employee's job assignment, a personal sense of social responsibility, and the extent to which the employee has been exposed to the wrongdoing (Graham, 1986; Rosenblatt, 1997; Zhuang et al., 2005). It is expected that an act perceived as having serious consequences may result in increased feelings of responsibility to report (Taylor and Curtis, 2009, p. 26). While Graham's Model of Principled Organizational Dissent as depicted in Schultz et al. (1993, p. 79) assumes a direct linear relationship between the seriousness of the act and the likelihood of reporting (Figure 1), the literature supports the argument that the perceived seriousness of the wrongful act should also increase the perceived responsibility of the employee-observer to report (Taylor and Curtis, 2009, p. 26). An employee that perceives that a fraudulent act could have serious consequences to the organization and its stakeholders is likely to feel a heightened responsibility to report the wrongful act. Therefore, the perceived seriousness of the wrongful act may have both a direct impact on the likelihood of reporting and an indirect impact by also affecting the employee-observer's feelings about his/her responsibility to report.

Based on a survey of internal auditors, Miceli et al. (1991b) established that the willingness of internal auditors to report an unethical act is related to a feeling of moral compulsion to do so. Other individual factors that may influence an individual's perceived responsibility to report are one's religious values (Miceli and Near, 1992) and moral standards (Brabeck, 1984; Fritzsche and Becker, 1984; Miceli et al., 1991a, 1991b). A meta-analysis of 26 studies dealing with whistleblowing demonstrated that whistleblowers tend to have good job performance and higher moral reasoning when compared to observers of wrongdoing that do not whistleblow (Mesmer-Magnus and Viswesvaran, 2005). In the context of peer reporting, a positive relationship was found between the judgment that reporting of wrongdoing by peers was ethical and the intention to report unethical peer behavior (Barnett et al., 1996).

The early whistleblowing literature argues that there is a relationship between the moral or ethical compass of an individual and their feeling of responsibility to report wrongdoing (Miceli et al., 1991b and Miceli and Near, 1994). Individuals with higher standards of justice, social responsibility, and modes of moral reasoning may feel a higher sense of responsibility for the correction of wrongdoing (Miceli et al., 1991b). Individuals who are highly idealistic believe strongly in absolute moral principles in evaluating issues of morality and have an overriding concern for the welfare of others (Barnett et al., 1996). Highly idealistic individuals judge unethical behavior more harshly and have a greater ethic of caring (Barnett et al., 1996; Forsyth, 1980, 1981, 1985; Forsyth et al., 1988). The heightened moral judgment and caring of highly idealistic individuals should cause them to feel a greater responsibility to report acts of corporate fraud that they observe in the workplace. The survey data in Miceli et al. (1991b) also indicated that the willingness of internal auditors to report an unethical act is related to the role responsibility or job duties of the individual.

The preceding discussion leads to the following hypothesis:

H2: *An employee that has observed a wrongful act is more (less) likely to feel personally responsible to report it the more (less) serious that s/he perceives the wrongful act to be.*

H3: *A highly idealistic individual will feel a greater personal responsibility to report a wrongful act that s/he has observed than a less idealistic individual.*

H4: *An employee that feels that his/her job duty includes reporting a wrongful act that s/he has observed is more likely to feel personally responsible to report the wrongful act.*

H5: *An employee that has a higher (lower) perceived responsibility to report a wrongful act is more (less) likely to report the wrongful act.*

Perceived Personal Cost of Reporting the Wrongful Act

The final component of Graham's Model of Principled Organizational Dissent is the perceived personal cost of reporting. Graham (1986) argues that the employee-observer of corporate wrongdoing may resist reporting due to the risk of reprisal from others in the organization. The perceived personal costs of employee-whistleblowers include the fear of adverse job action, being ostracized by co-workers, and damage to their career associated with being a whistleblower (Delikat, 2007; Graham, 1986; Gundlach et al., 2008; Rosenblatt, 1997; Zhuang et al., 2005). Employer retaliation against a whistleblower may include intimidation, defamation of character, job loss, demotion, and negative impact on one's career (Keil et al., 2010). Reprisal is reported to occur in 17% to 38% of whistleblowing cases (Miceli et al., 1999; Rehg et al., 2008).

It has been argued time and again that the perceived risk of the negative personal consequences resulting from whistleblowing will discourage the observer of wrongdoing from reporting (Dozier and Miceli, 1985; Miceli and Near, 1992). Although academicians frequently hypothesize a negative relationship between the potential personal cost of reporting and the likelihood of reporting, most studies have failed to establish such a relationship (Keil, et al., 2010; Near and Jensen, 1983; Miceli, 1984; Miceli and Near, 1985; Near and Miceli, 1986; Miceli et al., 1991a).

An employee that observes an act of corporate fraud may be concerned about his/her identity remaining unknown should he/she decide to report the wrongful act (Kaplan et al., 2009b). An employee that perceives a greater likelihood of his/her identity being discovered by management is more likely to be concerned about the personal costs of reporting. The anonymous, confidential channel for reporting acts of accounting and auditing wrongdoing mandated by SOX was intended to increase an employee's willingness to report acts of wrongdoing by reducing the likelihood that the whistleblower's identity is discovered by management (SEC, 2003, p. 24). In addition, Section 806 of the Sarbanes-Oxley Act prohibits a publicly-traded company from "discharging, demoting, suspending, threatening, harassing, or in any other manner discriminating against an employee in the terms and conditions of employment" that has reported an act of corporate wrongdoing. An employee that has suffered adverse job action due to whistleblowing may seek recourse against her/his employer for compensatory damages, reinstatement with seniority, back pay with interest, and special damages sustained as a result, including litigation costs, expert witness fees, and attorney's fees (18 USCA 1514A). The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 provides whistleblowers even greater protections from adverse job action.

Academicians argue that reducing the personal cost of reporting should increase the willingness of employees that observe wrongdoing to report it (Ayers and Kaplan, 2005; Kaplan et al., 2009a; Kaplan and Schultz, 2007; Moberly, 2006; Ponemon, 1994). Bame-Aldred et al. (2007, p. 115) established that employees were less likely to report corporate wrongdoing when a threat of management retaliation exists and that the protection afforded employees against retaliation by Section 806 of SOX increases the likelihood of reporting. The legal protections afforded by Section 806 of SOX to employees should decrease the perceived personal costs of reporting and increase the likelihood of reporting.

The preceding discussion leads to the following hypothesis:

H6: *The greater the perceived risk that management will discover the identity of the employee-whistleblower, the greater the perceived personal cost of reporting.*

H7: *The greater the perceived risk of adverse job action if management discovers the identity of the employee-whistleblower, the greater the perceived personal cost of reporting by the employee.*

H8: *The greater the influence of the protections afforded employees by Section 806 of the Sarbanes-Oxley Act on an employee's intention to report an act of corporate fraud, the less the employee's perceived personal cost of reporting.*

H9: *The greater the influence of the protections afforded by Section 806 of the Sarbanes-Oxley Act on an employee's intention to report an act of corporate fraud, the more likely it is that an employee will report the wrongful act.*

H10: *The greater the perceived personal costs of reporting an act of corporate wrongdoing, the less likely an employee will report the wrongful act.*

Figure 2 is a diagram of our hypothesized model.

[Insert Figure 2 – Hypothesized Model about here]

II. METHODOLOGY

Participants

Undergraduate accounting students taking a senior level accounting course at a major university in the southeastern part of the U.S. were recruited to participate in the study. They were selected as proxies for in-house accountants. A total of 137 surveys were collected, of which 124 usable responses were retained. Thirteen responses were removed because participants failed to correctly respond to questions regarding whether the whistleblower was required to provide his/her name when reporting to the hotline. Table 1 sets forth the demographics of the participants in our study.

[**Insert Table 1 about here]**

Materials and Procedure

Participants were provided with materials containing general instructions and background information about a hypothetical company that experienced financial reporting fraud. The case was developed based on an incident reported in the press and an examination of documents generated in litigation. In addition, the President of an independent oil and gas company was consulted to confirm that the method for determining and reporting oil and gas reserves as stated in the case was representative of a method that would be used in practice. Finally, once the case was written several graduate accounting students provided feedback regarding any unclear, vague or ambiguous items.

The hypothetical company in the case was a publicly-traded, independent oil and gas company. Accounting Standards Codification 932 requires publicly-traded companies with significant oil and gas activities to disclose the quantity of proved oil and gas reserves as part of their financial statements. These disclosures are also required in SEC filings. The case contained a description of the reporting requirements.

In the case, the company employs two in-house reservoir engineers to assist in estimating its proved oil and gas reserves. In addition, the company hired an engineering firm with expertise in evaluating oil and gas reserves. The President and CEO of the company, a reservoir engineer, determines the company's reported oil and gas reserves for financial reporting purposes after evaluating the analysis of the internal reservoir engineers and outside consultants. A senior accountant of the company learns that the oil and gas reserves as stated in its financial statements are significantly greater than estimated by the company's internal reservoir engineers and outside consultants.

The case was administered using an online survey instrument accessed by participants through a hyperlink provided in an electronic mail communication. The electronic mail message was sent by the instructor of a course in which participants were enrolled and invited them to voluntarily take part in the survey. Students that participated were given nominal extra credit. If the students elected to participate, the link brought them to a landing page introducing the study. Students were randomly assigned to two conditions as further discussed below.

Participants were asked to read the hypothetical scenario at their own pace. After the participants completed reading the case, they were asked to indicate the likelihood that the senior accountant would report the overstatement of oil and gas reserves ("Likelihood to Report") using an eleven-point Likert scale with end points of "never" (0) and "always" (10). Participants were also asked to answer questions on the seriousness of the incident ("Seriousness"), their personal costs of reporting ("Personal Costs"), and their responsibility to report ("Responsibility"). All questions were measured using a nine-point Likert scale with end points of "low" (1) and "high" (9). After participants completed this portion of the instrument, they were asked to respond to additional questions that included demographic information, manipulation checks, and other variables of interest. Once participants were done reading the case and providing responses to a section of the survey, they were not allowed to return to the case or previous sections of the instrument.

Prior research indicates that an individual's desire to maintain a positive self-image may result in a self-evaluation that is more favorable than an evaluation of others (Brown, 1986; Duck et al., 1995; Gunter and Thorson, 1992). A third-person perspective is used in this study in an effort to obtain forthright responses from participants. The instrument in this study examines intention to whistleblow on the basis that behavioral intentions are related to actual behavior (Fishbein and Ajzen, 1975; Victor et al., 1993).

Research Constructs

The Likelihood to Report, Seriousness, Responsibility, and Personal Cost variables were single-item measures used in prior published studies (Elias, 2008; Kaplan and Whitecotton, 2001; Kaplan, et al., 2009a, 2009b; Schultz et al., 1993; Zhuang et al., 2005). Extant research has focused on the impact of Seriousness, Responsibility, and Personal Cost on the intention of an observer of the wrongdoer to report (Likelihood). We expand on prior research by examining certain dimensions of the Responsibility and Personal Cost variables previously hypothesized but never empirically examined.

Specifically, we evaluate whether an observer's perceived seriousness of a wrongful act (Seriousness) impacts the observer's perceived responsibility to report (Responsibility). We also examine whether an employee's level of personal idealism ("Personal Idealism") and their role responsibility at work ("Job to Report") are related to Responsibility (H3 and H4, respectively). We also evaluate factors that may influence an employee's perceived personal cost of reporting (Personal Cost). We examine whether the perceived risk of the discovery of the whistleblower's identity by management ("Identity Discovery"), the perceived threat of adverse job action against the whistleblower ("Job Action"), and protections afforded by Section 806 of the Sarbanes-Oxley Act to employees against retaliation or adverse job action for reporting a wrongful act effect Personal Cost (H6, H7, and H8, respectively).

Personal Idealism was measured using five questions of the idealism subscale developed in Forsyth (1980). Job to Report used a 5-item scale that we developed in a pilot test. See Table 2 for questions included to measure the Personal Idealism and Job to Report with Cronbach's alpha and Eigen-values for each. Identity Discovery and Job Action variables were measured as single-item constructs. SOX was measured by asking the participant to identify on a nine-point Likert scale the influence of SOX's prohibition against retaliation and adverse job action against an employee-whistleblower on his/her intention to report.

[Insert Table 2 about here]

Finally, Harmon's single-factor test suggested by Podsakoff and Organ (1986) was used as a test for common method variance. A factor analysis of all variables results in a solution that accounts for 64.5% of the total variance with the first factor accounting for just 28.5% of the variance. Because the first factor did not account for the majority of variance, there was no general factor, thus reducing the potential concern of common method variance in our study (Podsakoff and Organ, 1986).

Design: Name vs. No Name Conditions

To evaluate the impact of Graham's Model on whistleblowing intention both in the situation in which the whistleblower is required to provide his/her name and not required to provide his/her name to the reporting hotline, a single factor, two level, between-subjects design with disclosure/non-disclosure of the whistleblower's name was used in this study. The participant was assigned either to a group in which his/her name is not provided to the SOX-mandated reporting hotline (Group 1) or to a group where his/her name is required to be provided to the hotline when reporting (Group 2). In both conditions, the participant was told that (1) the Sarbanes-Oxley Act requires that the company's audit committee provide a method for employees to anonymously and confidentially report any accounting irregularity or act relating to fraud against shareholders; (2) the identity of an employee reporting an act of fraud is required to be kept confidential by the company managing the hotline, the members of the company's audit committee, and the employees of the company's internal audit department; and (3) company policy prohibits disclosure of the whistleblower's report to management. All participants were advised that under current law if litigation ensued related to the subject matter of the report that parties to the litigation may obtain a copy of the report by subpoena, and if the identity of the whistleblower becomes known that he/she may be required to give a deposition or to testify.

Congress implemented the requirement for anonymous, confidential reporting hotlines on the basis that they would increase the likelihood that an employee observing accounting or auditing irregularities would whistleblow (SEC, 2003). One interpretation of SOX's "anonymous, confidential" requirement is that employees must be able to report wrongdoing without revealing their name or providing other identifying information (Kaplan et al., 2009b; Kaplan and Schultz, 2007; Keil et al., 2010). Another interpretation held by security companies that manage reporting hotlines for organizations is that the hotline may request the whistleblower to provide his/her name to the hotline while protecting it from disclosure to management (Business Controls, 2011; AuditConcerns, 2003; Confidential Communications Services, LLC, 2003; Gold, 2003). For our purposes, we simply investigate the applicability of Graham's Model in both situations without expressing an opinion on this question of law.

Effective randomization of the participants between the two treatment groups was successful as measured by demographic variables. Neither analysis of variance applied to age (F=.02, p=.89), years of work experience (F=.04, p=.85), and years of work experience in accounting (F=.01, p=.97), nor the Kruskal-Wallis test applied to gender (Chi-Square=.02, p=.90), marital status (Chi-Square=.03, p=.88), mutual fund ownership (Chi-Square=.45, p=.50), or real estate ownership (Chi-Square=1.17, p=.28) revealed any statistically significant differences between the groups.

Analysis

We used a path analytic approach to test the model (James et al., 1984; Pedhazur, 1982). Path analysis simultaneously examines the relationships between all proposed variables and provides an overall assessment of the fit of a hypothesized model. As discussed above, we used several single indicator measures for latent variables that were published in previous research. In order to estimate the latent variables measured with single indicators, we account for the effects of random measurement error by setting the error variance to 1.0 (Bollen, 1989; Hayduk, 1987). We also followed Harris and Schaubroeck's (1990) recommendation limiting the number of observed variables being analyzed to fewer than 20.

We used path analysis because it allowed us to analyze our model with individual characteristics as exogenous variables, model the indicators in Graham's Model of Principled Organizational Dissent as mediating variables, and capture the likelihood of reporting as the ultimate dependent variable. Although it is possible to estimate a structural model without a measurement model, our approach is consistent with regression procedures followed in path analysis.

IV. RESULTS

The means, standard deviations, and correlations for all study variables are reported in Table 3. We began by testing the fit of our hypothesized model (Figure 2) to the combined data (Model 1), name provided and no name provided by whistleblower. Given that the chi-square likelihood ratio statistic is a poor measure of fit with large samples (Joreskog and Sorbom, 1989), we used the Tucker-Lewis index (TLI non-normed) and the comparative fit index (CFI), which are less affected by sample size (Kenny, 1998). The closer these values are to unity, the better the fit, with 0.90-0.94 indicating an acceptable fit and 0.95 or greater indicating a good fit .(Kenny, 1998). Our analysis of the overall data produced a TLI of 0.94 and a CFI of 0.98, indicating a good fit for the hypothesized model to the overall data.

[Insert Table 3 about here]

The results for Model 1 (combined data) are shown in Figure 2 and Table 4. As expected, we found that the perceived responsibility to report was significantly positively influenced by one's level of personal idealism (H3: b=.24; $p < 0.003$) and perceived responsibility to report (H4: b=.29; $p < 0.001$). The influence of responsibility to report was positive and found to significantly impact likelihood of reporting (H5: b=.22; $p < 0.007$). The perceived seriousness of the questionable act was not directly related to likelihood of reporting (H1: b=.12; $p < 0.152$), but influenced likelihood to report indirectly through the feeling of responsibility to report (H2: b=.28; $p < 0.001$).

The perceived threat of adverse job action if the employee's identity was discovered by management was positively related to the perceived personal cost of reporting (H7: b=.32; $p < 0.001$). In contrast, the perceived risk of management discovering the identity of the whistleblower, while positive, did not significantly impact personal cost (H6: b=.02; $p < 0.807$). SOX, while negative, did not significantly influence the perceived personal cost of reporting (H8: b=-.06; $p < 0.498$). SOX did have a positive direct effect on likelihood of reporting that was highly significant (H9: b=.35; $p < 0.001$). However, the impact of the perceived personal cost of reporting on the likelihood of reporting was not significant (H10: b=-.12; $p < 0.115$).

[Insert Table 4 about here]

Having examined the fit of the hypothesized model to the overall combined data set, we sought to better understand the potential differences between the two conditions: (1) name not required to be provided by whistleblower (Model 2), and (2) name required to be provided by whistleblower (Model 3). We examine the fit of the general hypothesized model to the no-name and name models separately. For the no-name group, the hypothesized model (Figure 3) produced a TLI of 0.98 and a CFI of 0.995, indicating a very good fit. For the name group we found a TLI of 0.98 and a CFI of 0.995, also indicating a very good fit (Figure 4). Checking the modification indices produced by Amos, we saw no improvement to either model by eliminating nonsignificant paths so we did not optimize the models.

In comparison to the overall model (Model 1), we found that for the no-name model (Model 2) all significant paths were retained. In addition, the negative effect of the perceived personal cost of reporting on likelihood to report (H10: b=-.24; $p < .03$) becomes significant for Model 2. For the name model (Model 3), the path for personal idealism to responsibility to report (H3) and responsibility to report to likelihood to report (H5) were no longer significant.

As a stricter test of difference between name and no-name groups, we conducted a multi-group analysis simultaneously estimating models for both name and no-name cells (Kenny, 1998). We first tested a variant (free) model in which all paths were allowed to vary. The model provided excellent fit (Chi-square: 22.9, df = 22, and p<.41; RMSEA=0.02; CFI=0.995; TLI=0.984). We then compared the free model to an invariant (metric equivalent) model in which all paths for name and no-name cells were set to be equal. The metric equivalent model was significantly different from the free model (delta dF=19; delta chi-square=50.2; p<0.001) and showed poor fit (RMSEA=0.08 CFI=0.83, TLI=0.69).

Next, we checked for significant path differences across the two groups by identifying the critical ratios for differences between their path coefficients. We found two paths to be significantly different between the two groups. The path from job to report to perceived responsibility to report was significantly different across both groups at the p <.10 level. In this case the path was positive and significant in both models, yet much stronger in the name condition. Also significantly different between the two groups (p<.05) was the path between responsibility to report and likelihood to report. This path was stronger in the no-name condition, where it was a significant path versus the name condition, where the same path was non-significant.

V. DISCUSSION, CONCLUSION AND LIMITATIONS

The objectives of our study were to examine factors that influence the components of Graham's Model of Principled Organizational Dissent (perceived seriousness of the wrongdoing, perceived responsibility to report, and perceived personal cost of reporting), and to examine the impact of Section 806 of the Sarbanes Oxley Act on the perceived personal cost of reporting and the likelihood of reporting an act of corporate wrongdoing. We also examined whether Graham's Model of Principled Organizational Dissent predicts intention to whistleblow both when employee-whistleblowers are required to disclose and not to disclose their name to the employee hotline when reporting.

Employee hotlines have become an important component of the internal control system of many companies and are now mandated for publicly-traded companies by SOX. Section 806 of SOX and the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 also protect employees that report wrongdoing to employee hotlines from retaliation by their employer. Despite protections afforded to employees that report corporate wrongdoing, an employee's decision to report is a voluntary act. Therefore, to enhance the effectiveness of reporting hotlines it is necessary to understand factors that influence the decision of employees that observe corporate wrongdoing to report to the employee hotline.

Prior literature has treated perceived responsibility to report and perceived seriousness of the wrongful act as separate, independent components of Graham's Model that each directly influences the intention to report. Using path analysis, our study provides empirical evidence that instead the perceived seriousness of a wrongful act increases one's perceived responsibility to report, which in turn increases the likelihood that an observer of corporate wrongdoing will report it. The perceived seriousness of the wrongful act had no direct effect in our study on an employee's intention to report. We also establish that idealistic employees, and employees that feel their job duties include reporting acts of corporate wrongdoing they observe, are more likely to feel a responsibility to report.

Next we examined the influence that factors related to potential adverse job action being taken against an employee-whistleblower may have on the perceived personal cost of reporting. While the threat of management discovering the identity of the employee-whistleblower did not influence the perceived personal cost of reporting, the perceived threat of adverse job action if management does discover the identity of the whistleblower significantly increased the perceived personal cost of reporting. This may be a reflection that employees trust that publicly-traded companies will comply with their obligation under SOX to provide an anonymous, confidential reporting channel to report acts of wrongdoing to the audit committee and to protect the identity of employee-whistleblowers from management. However, despite the civil action available to employee-whistleblowers under Section 806 of SOX to recover pecuniary damages against employers that retaliate against whistleblowers, there is still concern about adverse job action being taken if the employee-whistleblower's identity is discovered. While the protection against retaliation afforded by SOX did not decrease the perceived personal of reporting, it directly increased the likelihood of reporting.

Consistent with prior studies, we establish that employees that feel a responsibility to report are more likely to report. As discussed above, while the perceived seriousness of the wrongful act indirectly increases the likelihood of reporting, it has no direct effect on reporting intention. Despite prior literature that theorizes a negative relationship between the perceived personal costs of reporting and the intention to report, most prior studies have failed to provide empirical support of such a relationship in an experimental setting (Keil, et al., 2010; Near and Jensen, 1983; Miceli, 1984; Miceli and Near, 1985; Near and Miceli, 1986). Our data likewise fails to support a negative relationship between the personal cost of reporting and the likelihood of reporting in the combined model. However, such a relationship was established in the condition where the employee may report without providing his/her name to the reporting hotline (Model 2). While we provide a possible explanation for this pattern below, further research regarding this difference may be warranted.

We also compared the applicability of Graham's Model in the situation where the whistleblower is required versus not required to provide his/her name when reporting. The comparison yields interesting results. In the condition where the employee-whistleblower is not required to provide his/her name to the employee hotline (Model 2), the employee's personal idealism and perceived job to report significantly impact the perceived responsibility to report while the perceived seriousness of the act is marginally significant. On the other hand, when the employee is required to provide his/her name when reporting, only the perceived seriousness of the act and the employee's perceived job to report the wrongdoing significantly impact the perceived responsibility to report. Because responsibility to report does not impact reporting intention in the name condition, the seriousness of the act and job to report have no indirect impact on reporting intention. Idealism has no significant impact on the perceived responsibility to report when the whistleblower must disclose his/her name to the reporting hotline. However, idealism does have a significant influence on the perceived responsibility to report in the situation where the whistleblower can report without providing his/her name.[1]

The results in the situation when the employee-whistleblower is required to provide his/her name to the reporting hotline (i.e. only seriousness of act and job to report impact responsibility to report) may be due to the potential consequences of a failure to report on the employee's future employment or career when such a duty is perceived by the employee to be part of his/her job. In that case, the obligation to report as part of one's job is more important to the employee than his/her personal value system. This reasoning is supported by the highly significant direct impact that SOX's protection against retaliation has on reporting intention. This analysis requires further evaluation given that the perceived responsibility to report in the name condition does not significantly impact the employee's reporting intention. When not required to provide his/her name, the employee-whistleblower's personal value system (such as his/her level of idealism) enters into the decision making process with job duty and seriousness of the act and in that case all three indirectly impact reporting intention by increasing the perceived responsibility to report.

Another interesting difference of the no name versus name condition relates to the impact of the perceived responsibility to report, the perceived personal cost of reporting, and SOX protection on the intention to whistleblow. While the perceived responsibility to report and the perceived personal cost of reporting both impact the decision of the

[1] The group comparison indicated that the path coefficient of perceived job to report's to perceived responsibility to report was significantly greater in the name condition than the no-name condition. While idealism had a significant influence on the perceived responsibility to report in the no name condition but not in the name condition, the difference was not significant between the two groups. While seriousness has a significant influence on responsibility to report in both the no name and name condition, the comparison between the two models revealed no significant difference between the strength of each path.

employee when not required to disclose his/her name (Model 2), neither are significant when the employee is required to provide his/her name. Instead, the protection afforded employees against retaliation by SOX was the only factor that influenced the reporting decision of the employee when required to disclose his/her name (Model 3). Therefore, in a post-SOX environment it can be argued that Graham's Model of Principled Organizational Dissent only applies when the employee-whistleblower is not required to provide his/her name to the reporting hotline.

The results in the no-name condition (Model 2) may indicate that in an environment where whistleblowing is shrouded by a veil of secrecy an atmosphere of apprehension and fear of whistleblowing may be created. In this environment, the signal to employees may be that whistleblowing is an undesirable behavior. As a result employees will carefully weigh their responsibility to report against their perceived personal cost of reporting in making a decision. The results in the name condition (Model 3) provides some evidence that the protection against retaliation provided employees by SOX predominates the decision making process when an employee is required to provide his/her name to the reporting hotline as it is the only factor that influenced reporting intention.

While the Graham Model of Principled Organizational Dissent has been used to explain the decision making process in the whistleblowing context, no research has been published to date empirically testing factors that comprise the components of the model (i.e. seriousness of the act, responsibility to report, and personal cost of reporting). We begin this process by exploring the impact of seriousness, personal idealism, and the job duty to report on the perceived responsibility to report. We also examine the perceived risk of identity discovery, the perceived threat of adverse job action, and the protection against retaliation under SOX on the perceived personal cost of reporting. Further empirical research should be done in this area to better understand factors that influence the decision making process in the whistleblower context.

The results of our study have practical implications for corporations seeking to increase the likelihood that employees will report acts of corporate wrongdoing they witness. Corporations should emphasize the duty of employees to report acts of corporate fraud and wrongdoing to the employee hotline as part of their job responsibilities. This could be further emphasized by incorporating the duty to report in the job description of employees and reinforcing this responsibility in employee communications on an ongoing basis. Employers could also increase a feeling of responsibility to report by informing employees of the potential serious damage to the organization, shareholders, employees and the general public that may be caused by acts of corporate wrongdoing and fraud. In the hiring process, corporate employers can also consider whether it is appropriate to use a personal idealism scale or other ethics scale as a screening tool for employees that are most likely to be exposed to acts of corporate wrongdoing and fraud in their particular job. State and local laws may restrict the use of such tools so the employer should first consult an attorney before using them for this purpose.

The likelihood of reporting acts of accounting and auditing irregularities may also be increased by decreasing the perceived threat of adverse job action due to whistleblowing. This may be achieved by promoting a corporate culture of ethical behavior and by encouraging the use of employee hotlines to report wrongdoing. Corporate employers could also adopt and enforce a corporate policy that is communicated to employees that prohibits management's retaliation against employees that whistleblow that carries serious consequences for any member of management that fails to comply with the policy. Additionally, publicly-traded companies can inform employees about the protections afforded to them under Section 806 of SOX and the Dodd-Frank Act in the event of adverse job action related to reporting an accounting or auditing irregularity.

The results of this study are subject to several limitations. First, a different response may be obtained replying to a survey about a hypothetical incident in an experiment than responding to the same situation in an actual work environment. Emotional factors, such as fear, anger, employee loyalty, and anticipated reaction of co-employees, are likely to play a small role in a hypothetical scenario as compared to in a real-life situation. Despite this limitation, experiments have been used extensively to explore reporting intentions of wrongful acts within an organizational setting (Ayers and Kaplan, 2005; Curtis and Taylor, 2009; Kaplan et al., 2009a, 2009b; Kaplan and Schultz, 2007; Kaplan and Whitecotton, 2001; King, 1997, 2001; Taylor and Curtis, 2009; Zhuang et al., 2005).

A second limitation relates to the use of undergraduate accounting students as proxies for an in-house accountant. While undergraduate accounting students are obtaining the education required for an in-house accounting position, their education is not yet complete and they are likely to have less work experience than someone already employed as an in-house accountant. To address this concern, we utilize undergraduate students taking a senior level accounting course. In addition, as indicated by the demographic data, participants did have some work experience as is common for many four year universities in an urban setting. The undergraduate students in our survey averaged 7.08 years of work experience and their average age was 26.29 years of age. Participants had an average 1.47 years of work experience as an accountant.

A third limitation relates to the type of fraudulent act used in the study. The hypothetical case involves the misstatement of oil and gas reserves. This factual pattern was selected because it was generally based on a case reported in the popular press and involved an accounting standard with a clear set of requirements. While there is no reason to question the generalizability of the findings to other acts of accounting irregularity, this is left to further research.

Finally, the participants in the study were from different organizational settings. This made it difficult to control for extraneous factors such as job characteristics, employee satisfaction, ethical environment, and so on.

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Table 1: Demographic Data for Participants

Panel A: Continuous Measures

Attribute	Scale	Mean	SD	Min	Max
Age	Years	26.29	5.874	19	50
Work Experience	Years	7.08	4.929	0	32
Work Experience in Accounting	Years	1.47	2.276	0	10

Panel B: Dichotomous and Categorical Measures

Attribute		Count	Percent
Gender:			
	Male	57	46.3
	Female	66	53.7
	Not provided	1	
Marital Status:			
	Married	31	25.2
	Singe, Never Married	78	63.4
	Separated or Divorced	4	3.3
	Living with Partner	10	8.1
	Not provided	1	
Employment:			
	Full-time (31 hours or more per week)	54	43.5
	Part-time (30 hours or less per week)	40	32.3
	Not employed	32	25.8
Household Income:			
	Less than $20,000	24	19.4
	$20,000 to $39,999	28	22.6
	$40,000 to $59,999	20	16.1
	$60,000 to $79,999	17	13.7
	$80,000 to $99,999	16	12.9
	$100,000 and greater	18	14.5
	Not provided	1	0.8
Currently Own Stock:			
	Yes	48	39.0
	No	75	61.0
	Not provided	1	
Currently Own Real Estate:			
	Yes	36	29.3
	No	87	70.7
	Not provided	1	

Table 2: Exploratory Factor Analysis for Multi-Item Measures

	Personal Idealism	Job to Report
If an action could harm an innocent other, then it should not be done.	0.83	
One should not perform an action, which might in any way threaten the dignity and welfare of another individual.	0.82	
One should never psychologically or physically harm another person.	0.81	
The existence of potential harm to others is always wrong, irrespective of the benefits to be gained.	0.77	
A person should make certain that their actions never intentionally harm another even to a small degree.	0.63	
Alex should leave it to someone in the Exploration and Reservoir Engineering Department to report the questionable act.*		0.80
Reporting an overstatement of oil and gas reserves is not Alex's job.*		0.78
Alex's job duties as an accountant do not include reporting a misstatement of oil and gas reserves.*		0.72
Alex should leave it to someone else to report the questionable act.*		0.68
Reporting the questionable act is the responsibility of someone in the engineering department not the accounting department.*		0.57
Eigenvalues	3.10	2.65
% Variance Explained	22.11	18.90
Coefficient Alpha	0.83	0.75

* Reverse coded items

Notes: Varimax Rotation Method with Kaiser Normalization.

Table 3: Means, Standard Deviation and Correlations

	Variables	Correlations 1	2	3	4	5	6	7	8	9	Group 1 No Name Mean	Group 1 No Name SD	Group 2 Name Mean	Group 2 Name SD
1	Likelihood to Report	7.77 *2.30*									8.19	*2.12*	7.39	*2.41*
2	Seriousness of Act	0.30 **	7.85 *1.74*								7.95	*1.34*	7.77	*2.05*
3	Personal Costs	-0.19 *	-0.02	6.96 *2.06*							6.63	*2.36*	7.27	*1.69*
4	Job Action	-0.20 *	-0.17	0.28 **	4.36 *2.61*						4.15	*2.46*	4.55	*2.74*
5	Identity Discovery	-0.04	0.06	0.12	0.35 **	6.01 *2.40*					5.76	*2.22*	6.23	*2.55*
6	SOX Protection	0.50 **	0.32 **	-0.16	-0.26 **	-0.15	8.27 *1.39*				8.31	*1.22*	8.23	*1.53*
7	Responsibility to Report	0.42 **	0.32 **	-0.07	-0.22 **	-0.01	0.46 **	8.12 *1.54*			8.32	*1.22*	7.95	*1.78*
8	Job to Report	0.15	0.04	-0.14	-0.35 **	0.03	0.26 **	0.38 **	7.88 *1.35*		7.78	*1.43*	7.94	*1.78*
9	Personal Idealism	0.19 *	0.15	-0.09	-0.32 **	0.03	0.41 **	0.38 **	0.32 **	7.69 *1.47*	7.60	*1.57*	7.78	*1.38*

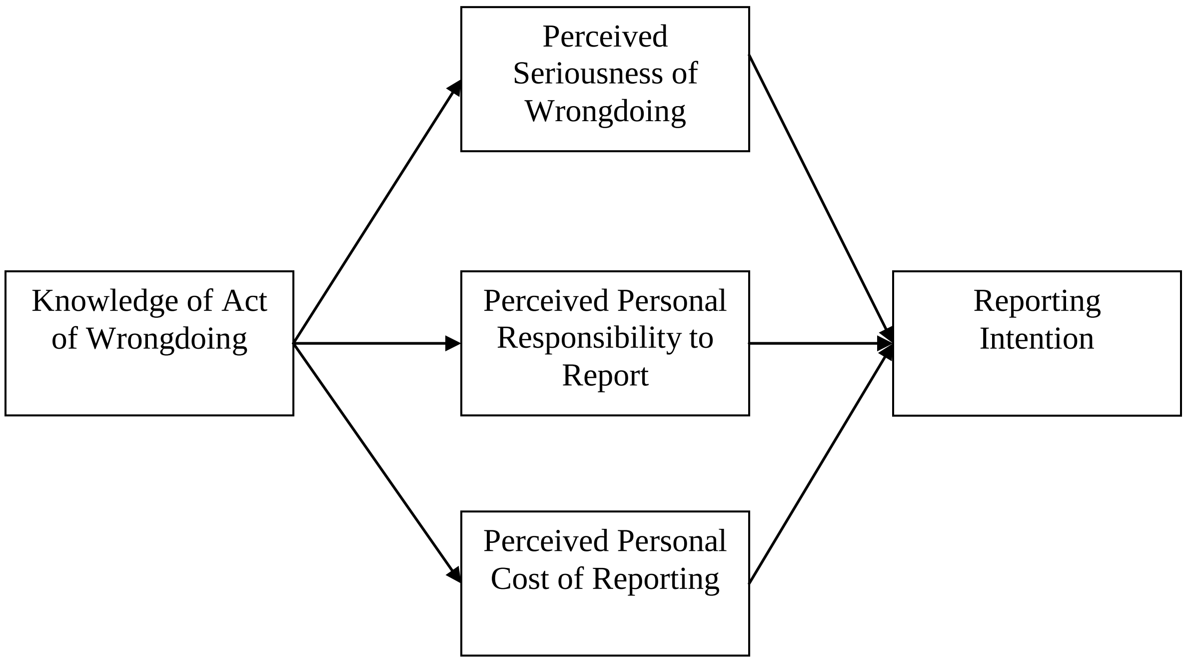
Notes: Diagonal shows means and standard deviation in italics.
** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 4: Standardized Regression Weights

	Parameters		Name	Model 1 - Overall		Model 2 – No Name		Model 3 - Name	
H1	Seriousness of Act	⟶	Likelihood to Report	0.12		0.09		0.16	
H2	Seriousness of Act	⟶	Responsibility to Report	0.28	*	0.19	±	0.34	†
H3	Personal Idealism	⟶	Responsibility to Report	0.24	†	0.41	*	0.12	
H4	Job to Report	⟶	Responsibility to Report	0.29	*	0.24	†	0.38	*
H5	Responsibility to Report	⟶	Likelihood to Report	0.22	†	0.39	*	0.07	
H6	Identity Discovery	⟶	Personal Costs	0.02		0.21	±	-0.19	
H7	Job Action	⟶	Personal Costs	0.32	*	0.24	±	0.25	†
H8	SOX Protection	⟶	Personal Costs	-0.06		-0.18		-0.03	
H9	SOX Protection	⟶	Likelihood to Report	0.35	*	0.20	±	0.46	*
H10	Personal Costs	⟶	Likelihood to Report	-0.12		-0.24	†	0.04	

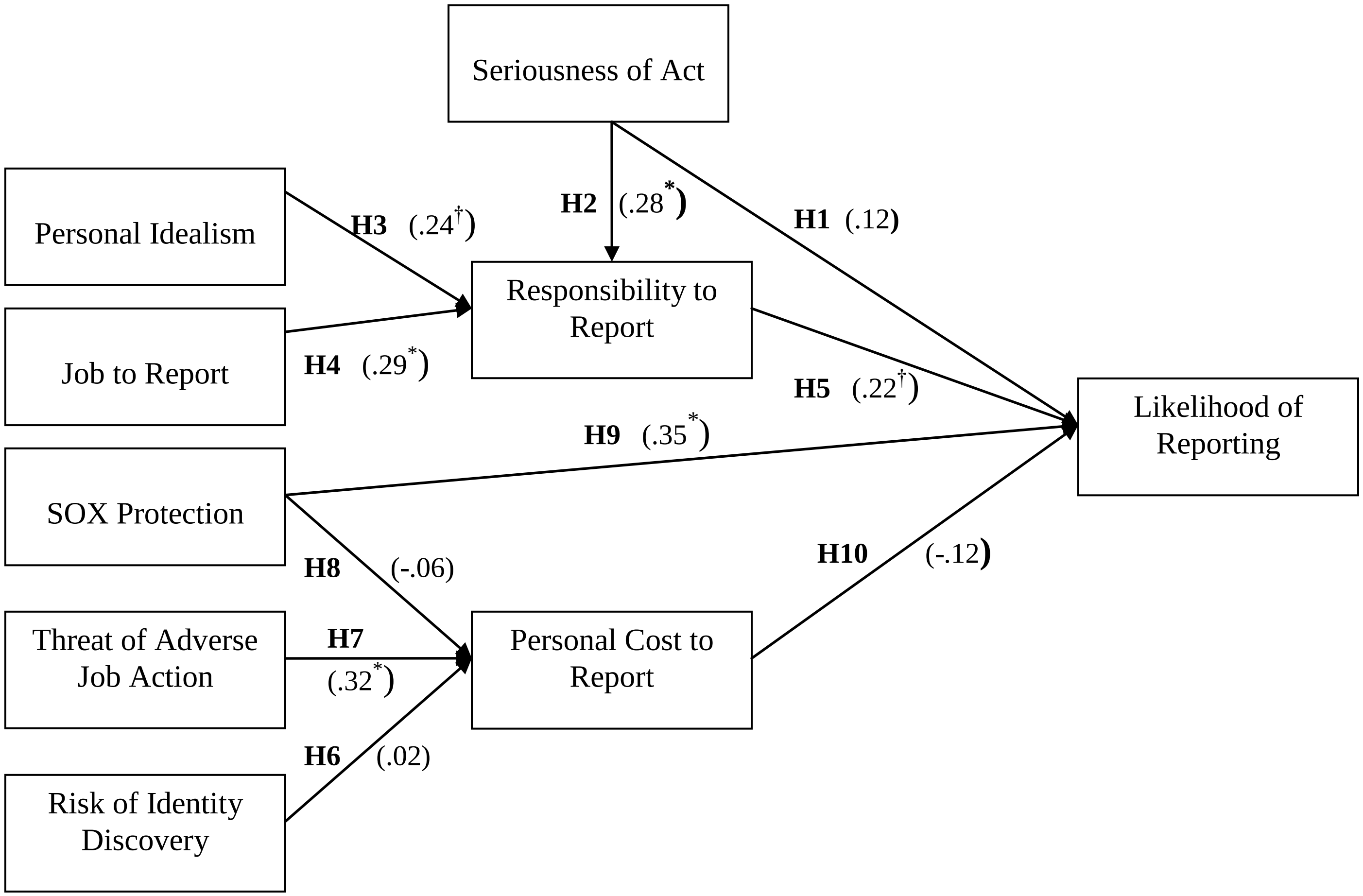
Notes: * $p < 0.001$
† $p < 0.05$
± $p < 0.10$

Figure 1: Graham's Model of Principled Organizational Dissent



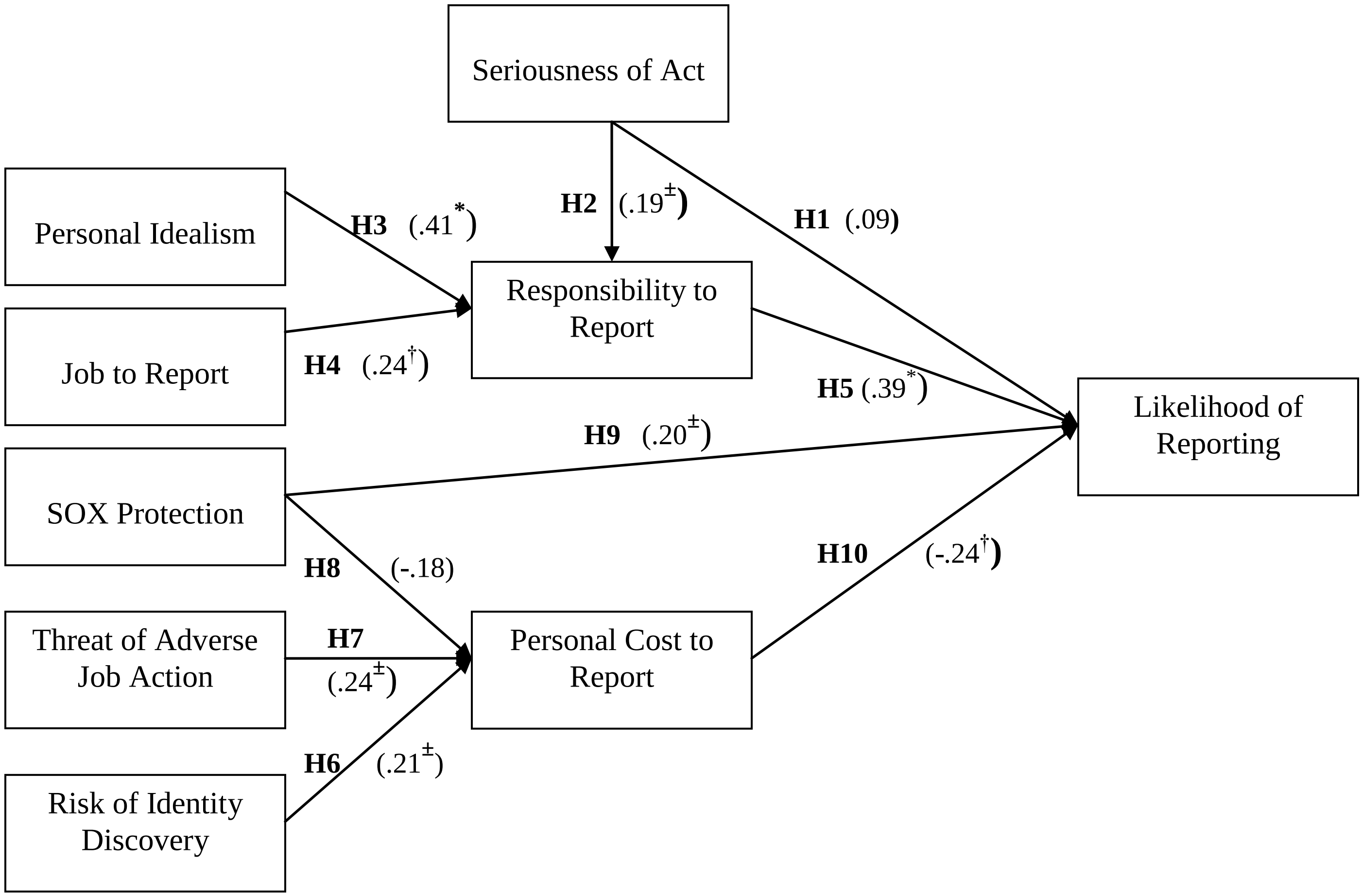
Source: Schultz et al. (1993, p. 79) as adapted from Graham (1986, p. 35)

Figure 2: Revised Graham Model of Principled Organizational Dissent (Model 1)



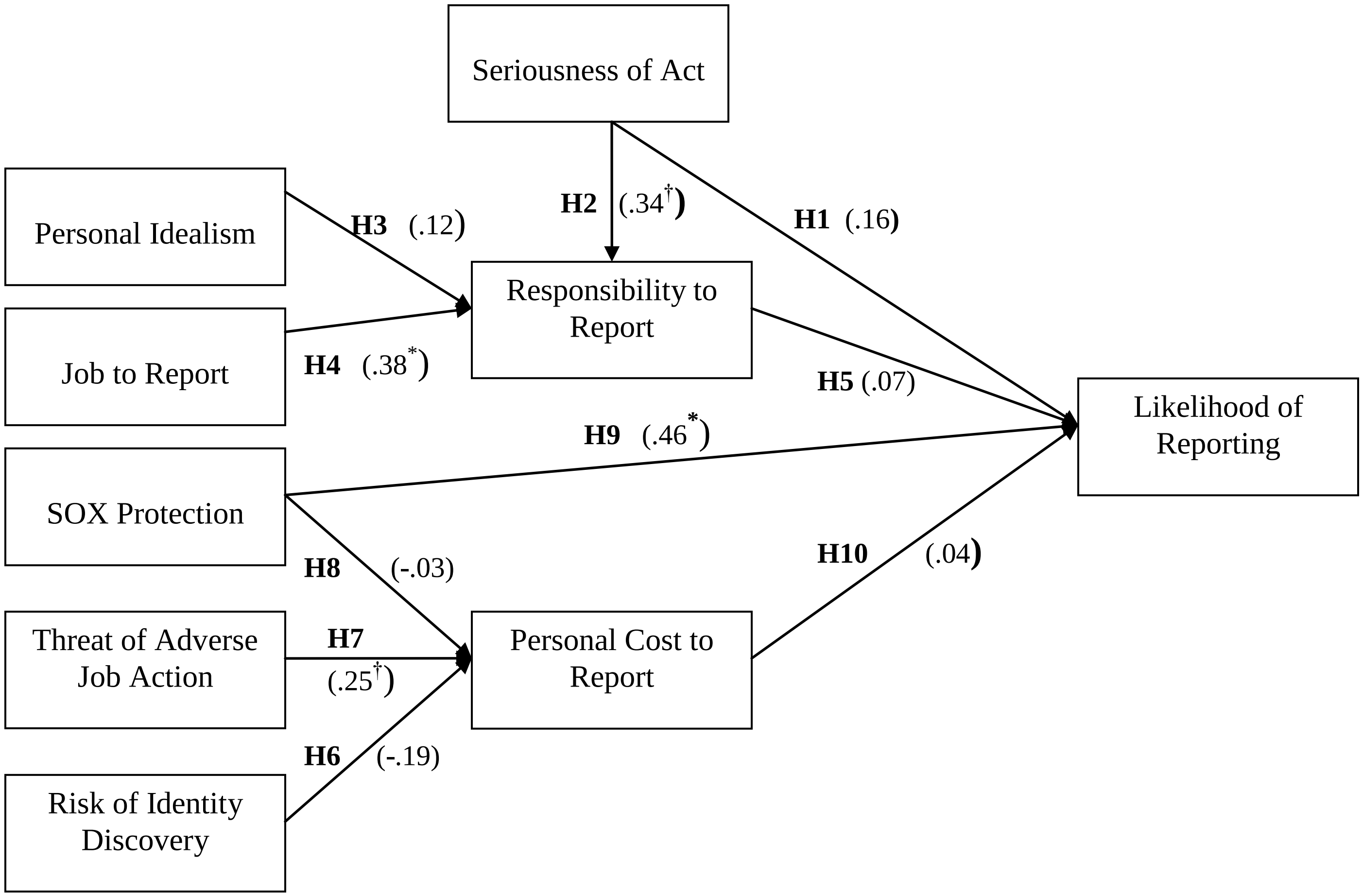
(*p < .001; †p < .05; ±p < .10)

Figure 3: Revised Graham Model of Principled Organizational Dissent (Model 2: No Name)



(*p < .001; †p < .05; ±p < .10)

Figure 4: Revised Graham Model of Principled Organizational Dissent (Model 3: Name)



(*p < .001; †p < .05; ±p < .10)