Journal of Forensic & Investigative Accounting
Vol. 7, Issue 1, January - June, 2015

The Effects of Personality Traits, Ethical Position, and the Materiality of Fraudulent Reporting on Entry-level Employee Whistleblowing Decisions

Alisa G. Brink
Sandra J. Cereola
Karl Bryan Menk*

1. Introduction and Background

Since 2000, there have been numerous high-profile financial scandals involving fraudulent financial reporting activities. The victims of these scandals include employees, investors, and the public at large. One of the most effective methods of fraud detection and prevention is employee whistleblowing (ACFE 2010; Dyck et al. 2010; Hooks et al. 1994; PricewaterhouseCoopers 2008; Read and Rama 2003). However, employees are often hesitant to report wrongdoing due to potential repercussions and retaliations (Elias 2008; Liyanarachchi and Newdick 2009; Loeb 1990). Regulatory acts, such as the False Claims Act, the Sarbanes Oxley Act of 2002 and the Dodd-Frank Act of 2010 include provisions intended to protect employees from whistleblowing repercussions (U.S. House of Representatives 1863, 1986, 2002, 2010). The False Claims Act and the Dodd-Frank Act include financial incentives to encourage whistleblowing in addition to penalties for retaliation against whistleblowers. Many corporations are also involved in efforts to increase employees' willingness to blow the whistle. These efforts include developing ethical compliance codes and promoting activities that establish a corporate tone or "tone at the top" that encourages employee whistleblowing and other appropriate professional behaviors (Haniffa and Hudaib 2007; Kaptein 2011). In order to develop programs that effectively encourage employees to report wrongdoing, it is important to understand the

* The authors are, respectively, Associate Professor of Accounting at Virginia Commonwealth University, Assistant Professor of Accounting at James Madison University, and Assistant Professor of Accounting at Duquesne University.

factors contributing toward employees' willingness to blow the whistle.

A growing body of research examines whistleblowing (see Grant 2002; Gundlach et al. 2003; Near and Miceli 1995 for reviews). Although individual values and personality traits could provide useful insights, few studies examine their association with whistleblowing propensity (Bjørkelo et al. 2010; Nayir and Herzig 2012). This paper contributes to the growing body of whistleblowing literature by examining how personality traits and ethical position are related to whistleblowing propensity when entry-level employees encounter a superior engaging in fraudulent financial reporting. Further, we examine whether the materiality level of the fraudulent act (e.g., the size of the monetary manipulation) influences employees' willingness to report wrongdoing.

We distribute a survey containing a vignette involving potential whistleblowing by an entry-level employee who observed a superior engaging in financial fraud. We manipulate the materiality of the fraud between-participants and measure ethical position and personality traits. The results support our hypothesized predictions about the relation between these individual factors and whistleblowing propensity. Using hierarchical regression, we obtain a parsimonious model of specific characteristics that are most important in predicting whistleblowing intent. Specifically, materiality, idealism, conscientiousness, and extraversion are found to be key predictors of whistleblowing likelihood. A second analysis reveals that individuals with the ethical ideology of exceptionism are particularly reluctant to blow the whistle.

These results provide valuable insight into the individual characteristics associated with whistleblowing propensity. Such information could be used to design whistleblowing training programs or incentives that are more effective in encouraging individuals to report wrongdoing. The remainder of this paper is organized as follows: In the next section, we develop the

hypotheses. We then present the methods and the results. We conclude the paper with a discussion of our contributions, limitations, and suggestions for future research.

2. Literature Review and Hypotheses Development

2.1 Reporting Fraud and Materiality

Near and Miceli (1985, 4) define whistleblowing as "the disclosure by organization members (former or current) of illegal, immoral or illegitimate practices under the control of their employers, to persons or organizations that may be able to effect action." While employees commonly discover fraud before other monitors, many are reluctant to report it (KPMG 2006; Moberly 2006; Near et al. 2004). The Ethics Resource Center (2012) reports that about 65 percent of U.S. employees who observed misconduct in 2011 chose to report it.

In many cases, employees are witnesses to wrongdoing perpetrated by a superior. Such a difference in rank is likely to discourage whistleblowing for several reasons. Subordinates who have little power are likely to be subject to retaliation if they blow the whistle (Mesmer-Magnus and Viswesvaran 2005). Further, superiors play a role in setting the 'tone at the top' through both their statements and actions (Greenfield et al. 2008, Zablow 2006). Employees' perceptions are strongly influenced by the tone they observe. If they witness a superior engaging in wrongdoing, they may be more likely to engage in activities that benefit themselves at the expense of the organization (Greenfield et al. 2008).

Prior literature indicates that the likelihood of whistleblowing increases when there is stronger or more convincing evidence of the wrongdoing (Near and Miceli 1985; Sonnier and Lassar 2013), or the type of wrongdoing is more severe and harmful (Near and Miceli 1985; Near et al. 2004; Victor et al. 1993). The accounting concept of materiality is related to the assessment of the severity or harmfulness of an act. Specifically, materiality refers to whether the

disclosure of an item would be likely to influence the judgment of a reasonable person (Kohler 1970). Individuals determine the materiality or importance of a problem based upon their judgment and decision making processes (Ro 1982). The dollar amount of a transaction is a common way to measure materiality, but materiality is not limited to financial dollar amounts. Marshall, Smith, and Armstrong (2006) found that both the dollar amount of the issue and the manner of violation or problem impacted the perception of an ethical dilemma. Additionally, Near et al. (2004) found that the type of unacceptable behaviors impacts whistleblowing behaviors and intentions. They found that incidents of sexual harassment, mismanagement, or illegal actions are more likely to be reported than incidents of theft or safety concerns. Thus, some acts such as sexual harassment, racial discrimination, or age discrimination could be considered material regardless of the dollar amount associated with the act. The significance or materiality of the act in question influences moral intensity which, in turn, influences an individual's moral decisions in response to that act (Jones 1991).

Several steps must occur before whistleblowing takes place. First, the employee must recognize that wrongdoing has taken place. Second, the observer must assess whether the activity warrants intervention. Third, the observer considers whether he or she is responsible for taking action. Fourth, the observer determines what action to take (Dozier and Miceli 1985). The materiality of a fraudulent act should influence the first two steps of the whistleblowing process. As the materiality of the fraudulent act increases, it should become more likely than an individual becomes aware that wrongdoing has taken place (step one) and that the activity warrants intervention (step two). This leads to our first hypothesis:

Hypothesis 1: Whistleblowing intent will be positively related to materiality.

2.2 Ethical Position

Survey results indicate that ethical positions are the primary motivation for individuals' willingness to report wrongdoing despite the potential for serious repercussions (Miceli and Near 1994; Miceli et al. 2009). However, relatively few studies investigate the relation between ethical position or ideology and whistleblowing actions. The limited research investigating this relation supports the self-reported assertion from survey respondents that ethical positions strongly influence whistleblowing (e.g., Brabeck 1984; Shawver and Clements 2007). For example, Brabeck (1984) finds a positive relation between Defining Issues Test (Rest 1990) moral reasoning scores and willingness to report an unacceptable situation. Individuals often differ in perceptions of whether certain practices are ethical or unethical (Douglas et al. 2007; Schlenker and Forsyth 1977) and these differences in perceptions are likely to influence an employee's propensity to blow the whistle. Forsyth (1980, 183) asserts that "in general people take particular stances regarding ethics and that the position taken will influence the judgment reached."

Forsyth (1980, 1992) proposes a typology of ethical ideology to explain variation between individuals' moral judgments wherein individuals' ethical position is based on a continuum between two extremes: idealism and relativism. Idealism relates to an individual's concern for the welfare of others and his/her beliefs in the relation between moral actions and outcomes (Forsyth 1992). An idealist believes that a morally correct action always results in positive outcomes for others and actions resulting in negative outcomes for others are morally incorrect. In contrast, a less idealistic individual believes that both moral and immoral actions

can result in a combination of positive and negative outcomes. An individual with low idealism believes that morally right actions are those that maximize self-interests even if they have negative consequences for others (Hastings and Finegan 2011). As high idealists believe that situations causing harm to others are morally incorrect, they may try to rectify such situation by taking positive actions (Hastings and Finegan 2011), such as whistleblowing. This leads to the following hypothesis:

Hypothesis 2: Whistleblowing intent will be positively related to idealism.

Relativism refers to an individual's application of universal moral principles or rules to direct the correct response to ethical issues (Forsyth 1992). An individual with low relativism believes in the validity of universal rules and believes that such rules should be applied consistently without variation based on specific situational factors. In contrast, individuals with high relativism believe that there are alternative perspectives that can be espoused to reach moral judgment. In other words, individuals high in relativism feel that the correct moral response is context specific. High relativists are willing to substitute alternative rules to facilitate self-interests (Barnett et al. 1994). Employees are often hesitant to report wrongdoing due to potential repercussions and retaliations, such as job loss or ostracization by co-workers (Elias 2008; Liyanarachchi and Newdick 2009; Loeb 1990). Due to the potential negative repercussions associated with whistleblowing, high relativists may be reluctant to engage in whistleblowing. Therefore, we predict the following:

Hypothesis 3: Whistleblowing intent will be negatively related to relativism.

Forsyth (1980) proposed idealism and relativism as orthogonal dimensions. Therefore,

individuals can be meaningfully divided into four different ethical ideologies based on their combined relativism and idealism scores (Forsyth 1980; Schlenker and Forsyth 1977). These four ethical ideologies are situationism (high idealism and high relativism), absolutism (high idealism and low relativism), subjectivism (low idealism and high relativism), and exceptionism (low idealism and low relativism).

Situationists identify positive outcomes as the only acceptable consequences from moral acts. If an act creates negative or mixed results for others, then the act is immoral and needs to be avoided. In addition, situationists reject universal moral principles and believe each issue must be analyzed individually. Like situationists, absolutists only view an act as moral and acceptable if it only produces positive outcomes. However, absolutists acknowledge the application of universal moral principles in defining ethical issues. Due to high levels of idealism, situationists and absolutists are likely to be willing to take action in the form of whistleblowing to prevent harmful outcomes to others. Therefore, we expect the ethical ideologies of situationism and absolutism to be positively related with whistleblowing intentions.

Hypothesis 4a: Whistleblowing intent will be positively related to situationism.

Hypothesis 4b: Whistleblowing intent will be positively related to absolutism.

Subjectivists and exceptionists are marked by low idealism. Thus, they feel that negative consequences do not necessarily make an action immoral. Subjectivists reject the idea of applying universal moral principles, while exceptionists accept the application of universal moral principles. However, exceptionists tend to be willing to ignore a rule if it conflicts with their self-interest (Barnett et al. 1994). Due to low levels of idealism, subjectivists and exceptionists are unlikely to be willing to potentially suffer the repercussions of whistleblowing in order to take

corrective action to prevent harmful outcomes to others. Thus, we expect the ethical ideologies of subjectivism and exceptionism to be negatively related with whistleblowing intentions.

Hypothesis 5a: Whistleblowing intent will be negatively related to subjectivism.

Hypothesis 5b: Whistleblowing intent will be negatively related to exceptionism.

2.3 Personality

Social concern or social responsibility refers to the willingness of an individual or a corporation to behave in a manner which is socially desirable or could benefit others in society (Digman 1997). Prior research indicates that an individual's sense of social concern or responsibility may be impacted by his or her personality traits (Digman 1997; Hare et al. 1988; Harland et al. 2007). Digman (1997) examines the relation between social responsibility and the big five personality traits (Norman 1963; Goldberg 1992): conscientiousness, openness to experience, extraversion, agreeableness, and neuroticism (emotional stability). Digman (1997) finds a positive relation between social responsibility and conscientiousness, openness to experience, extraversion, and agreeableness. Neuroticism is negatively related to social responsibility.

Further, whistleblowing is considered to be a proactive behavior (Miceli and Near 1992; Miceli et al. 2008). Personality traits positively associated with proactive behavior are therefore likely to be associated with one's whistleblowing propensity (Bjørkelo et al. 2010). Therefore, individuals with higher levels of social responsibility are more likely to engage in pro-social behaviors such as whistleblowing (Dozier and Micelli 1985).

Hypothesis 6a: Whistleblowing intent will be positively related to conscientiousness, openness to experience, extraversion, and agreeableness.

Hypothesis 6b: Whistleblowing intent will be negatively to neuroticism.

3. Method

3.1 Participants

Participants were upper level accounting students at four year institutions located on the east coast who were enrolled in or had completed an intermediate accounting course.[1] Prior studies have validated the use of students as a proxy for entry-level professionals (e.g., Hofstede 1972; Ashton and Kramer 1980; Bloomfield and Libby 1996; Maines and Hand 1996; Lipe 1998; Sims and Keenan 1998; Maines and McDaniel 2000). Consistent with the results reported by Lipe (1998) and Maines and McDaniel (2000), the participants included in this study were appropriate proxies as they possess the requisite knowledge to analyze the task assigned. Basic accounting knowledge includes an understanding of the materiality of a reportable problem as presented in the instrument used in this study. The manipulation in this study is designed to evaluate the impact that materiality would have on the whistleblowing intention of the participants.

The mean age of the respondents was 22 years, and approximately 59 percent were male. Most of the respondents were seniors (49 percent) or juniors (41 percent). Four hundred seven students were asked to complete surveys either electronically through SurveyMonkey or through a hard-copy survey. The students were asked to participate by accounting professors at the four participating universities. Three hundred thirty-nine surveys were completed and returned, resulting in a response rate of 83 percent. Sixty-three participants (19 percent) who incorrectly answered one or more of the manipulation checks and 13 participants (4 percent) with missing

[1]The study was reviewed and approved by the appropriate Institutional Review Board for human subjects research. All voluntary participants gave informed consent prior to participating in the study.

data were excluded from the analysis, resulting in 263 usable surveys. Demographic information for the respondents in the final sample is presented in Table 1.

[Insert Table 1 about here]

3.2 Task and Independent Variable Manipulation

To test the hypotheses, we employ a vignette developed by Siefert et al. (2010). The vignette asks participants to assume the role of a staff accountant who discovers suspicious revenues recorded in the general ledger in March. The revenues in question were recorded by a higher ranking employee, the Account Manager. Upon questioning, the Account Manager states that the revenues were related to a contract being negotiated, and that the revenue was necessary to meet the expected income for the quarter. In September, the staff accountant finds out that the negotiation failed and the contract was canceled. At that time, the Account Manager states that he will reverse the entry in the fourth quarter, when sales are estimated to be at their highest. The vignette concludes that the staff accountant is considering whether to report the actions of the Accounting Manager to the Chief Financial Officer.

We include a materiality threshold by manipulating the dollar amount of false revenues in question. In the low materiality treatment, the false revenues in question are one percent of annual revenues. In the high materiality treatment, the false revenues in question are ten percent of annual revenues.

3.3 Dependent Variable

To assess whistleblowing intentions, immediately following each scenario, respondents were asked to indicate the likelihood that they would report the wrongdoing using a 5-point Likert

scale ranging from highly unlikely (1) to highly likely (5). The mean whistleblowing likelihood score was 3.90 (SD 0.84) with approximately 79 percent of the respondents indicating they were highly likely or likely to report the wrongdoing.

3.4 Personality Traits

To measure personality, we used the personality trait index developed by John et al. (1991, 2008) to measure the "Big Five" personality dimensions of each participant. The questionnaire consists of forty-four statements representing five personality scales: eight statements that measure extraversion, nine statements that measure agreeableness, nine statements that measure conscientiousness, eight statements that measure neuroticism, and ten statements that measure openness. Respondents indicate the extent to which they agree to each statement using a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Based on the results of the final sample, the scales demonstrated good internal consistency with Cronbach's alpha reliability scores for each scale of 0.83, 0.77, 0.78, 0.82 and 0.81 respectively.

3.5 Ethical Position

To measure the ethical position of each participant, we used the Ethical Position Questionnaire (EPQ), developed by Forsyth (1980). The EPQ questionnaire consists of ten statements related to idealism and ten statements related to relativism. Respondents indicate the extent to which they agree to each statement using a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Based on the results of the final sample, the scales demonstrated good internal consistency with Cronbach's alpha reliability scores for each construct of 0.84 and 0.71 for idealism and relativism, respectively.

Following Schlenker and Forsyth (1977) and Barnett et al. (1994) we classify participants into one of four ethical ideologies based on the extent to which they are relativistic or idealistic. As discussed previously, situationists are individuals who are highly idealistic and highly relativistic; absolutists are individuals who are highly idealistic and low in relativism; subjectivists are highly relativistic but low in idealism; and exceptionists are low in idealism and relativism. We determine each individual's ethical ideology by determining high and low idealism and relativism based on median split, as suggested by Forsyth and Nye (1990). Median scores for idealism and relativism were 3.50 and 2.90, respectively. Thus, participants with idealism scores above (below) 3.50 were considered to be high (low) in idealism. Participants with relativism scores above (below) 2.90 were considered to be high (low) in relativism.

3.6 Manipulation and Understanding Checks

We tested participants' understanding of the materiality of the transaction in question by asking them if the revenues in question were material. Of the participants, 263 (81 percent) identified the materiality correctly and are retained for the analyses. Sixty-three participants (19 percent) failed the manipulation check, and these survey results were excluded from the study. Further, we asked participants to rate whether the revenues in question were material using a five-point Likert scale ranging from not at all material (1) to highly material (5). Participants in the material treatment rated the revenues in question as significantly more material than participants in the immaterial treatment (4.17 vs. 2.10, $p < 0.001$). In addition, participants were asked to identify the dollar amount of revenues in question. Ninety-one percent of participants correctly identified the dollar amount in question, indicating that they understood and attended to the materiality manipulation ($\chi^2 = 90.07$, $p < 0.001$).

4. Results

4.1 Variable Descriptive Statistics and Correlations

Univariate analysis of variance (ANOVA) assessed the relation between whistleblowing likelihood scores and the independent variables. Pearson's *r* correlations indicate the association between the dependent and independent variables. The test for each hypothesis will be discussed independently. Table 2 provides a summary of the descriptive statistics, and Table 3 reports the correlations for each variable.

[Insert Table 2 and Table 3 about here]

4.2 Hypothesis 1: Materiality

Hypothesis 1 proposes that materiality will be positively related to whistleblowing intent. Materiality has a positive and significant relation with whistleblowing intent ($r = 0.204$, $p = 0.001$). In addition, materiality was found to be a significant predictor of whistleblowing intent ($t = 3.503$, $p = 0.001$).

4.3 Hypotheses 2 and 3: Ethical Position

Hypothesis 2 proposes that idealism will be positively related to whistleblowing intent. Idealism is positively and significantly related to whistleblowing intent ($r = 0.160$, $p = 0.005$). In addition, hierarchical regression indicates that idealism is a significant predictor of whistleblowing intent ($t = 2.640$, $p = 0.009$). Thus, the results support Hypothesis 2. Consistent with Hypothesis 3, relativism is negatively related to whistleblowing intent. However the relation is not significant ($r = -0.027$, $p = 0.659$). In addition, relativism was not found to be a significant predictor of

whistleblowing intent (t = -0.975, p = 0.330).

4.4 Hypotheses 4a-5b: Ethical Ideology

Hypotheses 4a and 4b propose that situationism and absolutism will be positively related to whistleblowing intent, respectively. No significant correlation is found between situationism and whistleblowing intent (*r* = -0.002, p = 0.977). In addition, situationism is not found to be a significant predictor of whistleblowing intent (t = 0.408, p = 0.683). Absolutism has a significant positive relation with intent to whistleblow (*r* = 0.144, p = 0.019). However, absolutism is not retained in the hierarchical regression final model as a significant predictor of whistleblowing intent (t = 0.884, p = 0.378).

Hypothesis 5a and 5b propose that subjectivism and exceptionism will be negatively related to whistleblowing intent. No significant relation is observed between subjectivism and whistleblowing intent (*r* = 0.020, p = 0.749). In addition, subjectivism is not retained in the hierarchical regression final model as a significant predictor of whistleblowing intent (t = -0.397, p = 0.691). Consistent with H5b, exceptionism has a negative and significant relation with whistleblowing intent (*r* = -0.172, p = 0.005). In addition, hierarchical regression indicates that exceptionism is a significant predictor of whistleblowing intent (t = -3.473, p = 0.001).

4.5 Hypotheses 6a and 6b: Personality

Hypothesis 6a proposes that conscientiousness, openness, extraversion and agreeableness will be positively related to whistleblowing intent. The results of the study indicate that conscientiousness has a positive and significant relation with whistleblowing intent (*r* = 0.168, p = 0.006), openness has a positive and non-significant relation with whistleblowing intent (*r* =

0.105, t = 0.091), extraversion has a positive and significant relation with whistleblowing intent (r = 0.127, t = 0.039) and agreeableness has a positive and significant relation with whistleblowing intent (r = 0.167, t = 0.007). These correlations are consistent with Hypothesis 6a. In addition, conscientiousness and extraversion were found to be significant predictors of whistleblowing intent (t = 2.585, p = 0.010; t = 1.959, p = 0.051 respectively) however openness and agreeableness were not found to be significant predictors of whistleblowing intent (t = 0.585, p = 0.559; t = 1.569, p = 0.118 respectively).

Hypothesis 6b proposes that neuroticism will be negatively related to whistleblowing intent. The results of the study indicate that neuroticism has a negative and non-significant relation with whistleblowing intent (r = -0.111, p = 0.073). Neuroticism is not found to be a significant predictor of whistleblowing intent (t = -1.005, p = 0.316).

4.6 Hierarchical Regression

Hierarchical regression models are useful analysis tools for determining the variables in a model most useful in predicting the dependent variable (Keenan 2000; Sims and Keenan 1998; Stansbury and Victor 2009; Zhang et al. 2009). Nunnally (1967) and Hirshci and Selvin (1973) assert that hierarchical regression can be used to select and rank the most important independent variables used to predict a dependent variable. We use hierarchical linear regression to provide a more parsimonious model that focuses on the variables most highly associated with whistleblowing intentions.

The model resulting from the hierarchical regression provides information regarding the best combination of independent variables to predict the dependent variable. At each step in the hierarchical regression analysis, the independent variables that contribute the most to the

prediction equation by increasing the multiple correlation R are retained in the model. The analysis stops when no additional independent variables provide incremental statistical benefit to the model. Thus, not all independent variables may be retained in the final model.

To adjust for family-wise alpha error rates associated with multiple significance tests, variables were allowed to enter the regression model if their p-value was less than or equal to 0.05 (F to enter) and they were removed if the p-value exceeded 0.10 (F to remove). Collinearity diagnostics indicate that no independent variable has a tolerance less than 0.20 or a variance inflation factor (VIF) greater than 5. These results indicate that there are no multicollinearity issues in any of the regression models. Hierarchical regression results are presented in Table 4.

[Insert Table 4 about here]

As shown in Table 4 Panel A, the first hierarchical regression analysis includes the categorical materiality variable, the two continuous measures of idealism and relativism, and the five personality trait scores (conscientiousness, openness, extraversion, agreeableness, and neuroticism) as predictor variables with whistleblowing intention as the dependent variable. The final model is statistically significant ($F = 7.197$, $df = {}_{4, 258}$, $p < 0.001$), and consists of four independent variables that are significantly associated with whistleblowing intent: materiality, extraversion, conscientiousness, and idealism ($R = 0.317$, $R^2 = 0.100$). Standardized beta weights are 0.201 for materiality, 0.111 for extraversion, 0.125 for conscientiousness, and 0.157 for idealism. Neuroticism, openness, agreeableness and relativism are not included in the final model obtained from the hierarchical regression. Thus, the final model indicates that, along with materialism, the ethical position related to idealism, and extraversion and conscientiousness personality traits are key in predicting whistleblowing propensity.

In a second hierarchical regression, we replace the continuous measures of idealism and

relativism with the four categorical ethical ideology variables (situationism, absolutism, subjectivism and exceptionism). As shown in Table 4 Panel B, the final model is statistically significant ($F = 8.574$, $df = {}_{4, 258}$, $p < 0.001$). It consists of four independent variables significantly associated with whistleblowing intent: materiality, exceptionism, extraversion, and conscientiousness ($R = 0.343$, $R^2 = 0.117$). Standardized beta weights are 0.205 for materiality, -0.205 for exceptionism, 0.118 for extraversion, and 0.156 for conscientiousness. Similar to the first regression, the final model from the second hierarchical regression indicates that, materialism and extraversion and conscientiousness personality traits are key in predicting whistleblowing propensity. Of the four ethical ideologies (situationist, absolutist, subjectivist and exceptionist), only the exceptionist variable was retained for the model.

These results suggest that exceptionists react differently to whistleblowing scenarios than individuals with other ethical ideologies. Of the four ideologies, only exceptionism was significantly negatively correlated with whistleblowing intentions. This suggests that exceptionists are least likely to blow the whistle. Such reluctance may be attributable to exceptionists' willingness to substitute universal rules that permit them to act in a self-interested manner. Participants in this scenario were asked to assume the role of a subordinate employee observing a superior engaging in an improper act. As discussed previously, subordinates in such a situation may view the actions of the superior as indicative of the tone at the top (Greenfield et al. 2008). Exceptionists, with their desire to apply a rule that is consistent with self-interest, may be the ethical ideology type most likely to use the example set by the superior to justify self-interested behavior.

5. Discussion and conclusions

Although there is a growing body of research that examines whistleblowing (e.g., Grant 2002; Gundlach et al. 2003; Near and Miceli 1995), few studies examine individual values and personality traits and their association with whistleblowing (Bjørkelo et al. 2010; Nayir and Herzig 2012). Using a vignette, we describe a situation where a top level manager creates an ethical situation involving fraudulent reporting. The tone, set by management, creates an ethical dilemma for a low level employee who must decide whether or not to blow the whistle and report the manager for recording fraudulent revenue. Tone refers to the ethical atmosphere created in the workplace by top management. The tone that management sets may have a trickle-down effect on lower level employees of the company and therefore may impact employees' whistleblowing intentions. This study contributes to the growing body of whistleblowing literature by examining how materiality, personality traits, and ethical position impact an employees' willingness to whistleblow when confronted with fraudulent reporting.

First, we examine whether materiality is positively related to whistleblowing intent. As predicted, the results indicate a significant and positive relation. Similar to findings by Near and Miceli (1985), the likelihood of employees' whistleblowing increases when there is a stronger more convincing evidence of wrongdoing.

Second, we examine whether an individual's ethical position influences whistleblowing intent. We contend that when placed in an ethical situation, an individual's value system is an important factor that can help determine intent to whistleblow. Results indicate that individuals with an idealistic position (i.e., individuals that believe that ethical behavior ensures positive results) were found to be positively and significantly related to whistleblowing intent. Despite the influence of top management to report fraudulent revenues, idealistic individuals' obligations

to act morally conflicts with the idea that they will follow the tone set from management and hence will be more willing to blow the whistle.

An alternative analysis reveals that exceptionists (i.e., individuals with a low score on both idealism and relativism) were found to be negatively and significantly related to whistleblowing intent. Stead et al. (1990) suggest that exceptionists believe in universal moral rules, but that they are likely to make "practical exceptions". Thus the reluctance to whistleblow may be attributable to their willingness to substitute universal rules that permit them to act in a self-interested manner. As actions of their superior set the tone for the organization, exceptionists, with their desire to apply a rule that is consistent with self-interest, may be the ethical ideology type most likely to use the example set by the superior to justify self-interest behavior.

Third, we examine whether an individual's personality traits are related to whistleblowing intent. The personality traits found to be the key significant predictors of whistleblowing intent include conscientiousness and extraversion. Individuals with higher levels of conscientiousness tend to be self-disciplined and think before they act (Norman 1963; Goldberg 1992). Thus, similar to Digman (1997), we find that more individuals with higher levels of conscientiousness are more likely to whistleblow. Extraversion is associated with leadership behavior. Thus, extraverts are less likely to experience anxiety over negative feedback (Norman 1963; Goldberg 1992). Accordingly, extraverts may be more likely to blow the whistle and less likely to be concerned with any negative repercussions they might endure as a result of going against the tone of management to be unethical by reporting fraudulent revenues. Future research should continue to explore the connection between tone at the top and whistleblowing intentions.

This study extends our understanding of the impact on personality traits and ethical position as it relates to intent to whistleblow. The study contributes to the extant literature by providing insight into the individual characteristics associated with whistleblowing propensity. Understanding the underlying factors that influence whistleblowing intentions should facilitate the design of effective methods of encouraging whistleblowing amongst employees. Specifically, consideration might be given to what types of methods would be more or less persuasive to different personality types with the intent of maximizing the effectiveness of the methods employed. Such information could be used to develop ethical compliance codes and training programs that promote activities that establish a corporate tone that encourages employee whistleblowing. In addition, it is interesting to note that pre-employment testing for individual traits is becoming an increasingly common practice (Baez 2013; Kaplan and Saccuzzo 2008; Mantell 2011). Studies such as this one provide useful information about correlations between certain personality traits and desirable employee characteristics for employers who wish to use such testing methods.

Our study is subject to certain limitations. First, our results are sample specific limiting generalizability. While this study investigates a few potentially influential individual traits and factors that may influence whistleblowing, there are many additional factors that may influence whistleblowing in practice. Thus, there is ample room for additional research. For example, future research could examine the impact of experience on the whistleblowing propensity of practicing professionals that have experienced actual fraudulent events.In addition, there are other possible factors that could have influenced participant responses. For example, it is possible social desirability bias, which is the tendency for respondents to respond in a way they believe are social acceptable, influenced participant responses. Finally, the use of an

experimental design may create demand characteristics. That is, participants' interpretation of the vignette may have influenced their responses to fit that interpretation.

References

Ashton, R. H. and Kramer, S., 1980. Students as surrogates in behavioral accounting research: Some evidence. *Journal of Accounting Research,* 18 (1), 1-15.

Association of Certified Fraud Examiners (ACFE), 2010. *Report to the Nation on Occupational Fraud and Abuse*. Austin, TX.

Baez, B. (2013). Personality tests in employment selections: Use with caution. *Cornell HR Review*, January 26, 2013. Available at: http://www.cornellhrreview.org/personality-tests-in-employment-selection-use-with-caution/

Barnett, T., Bass, K., and Brown, G., 1994. Ethical ideology and ethical judgment regarding ethical issues in business. *Journal of Business Ethics*, 13 (6), 469-480.

Bjørkelo, B., Einarsen, S., and Matthiesen, S. B., 2010. Predicting proactive behaviour at work: Exploring the role of personality as an antecedent of whistleblowing behavior. *Journal of Occupational and Organizational Psychology*, 83, 371 -394.

Bloomfield, R. and Libby, R., 1996. Market reactions to differentially available information in the laboratory. *Journal of Accounting Research*, 34(2), 183 – 207.

Brabeck, M., 1984. Ethical characteristics of whistle blowers. *Journal of Research in Personality*, Vol. 18 (1), 41-53.

Digman, J. M., 1997. Higher-order factors of the big five. *Journal of Personality and Social Psychology*, 73 (6), 1246-1256.

Douglas, P. C., Elnaby, H. H., Norman, C.S., and Wier, B., 2007. An investigation of ethical position and budgeting systems: Egyptian managers in US and Egyptian firms. *Journal of International Accounting, Auditing and Taxation*. 16, 90-109.

Dozier, J.B. & Micelli, M.P., (1985). Potential predictors of whistleblowing: A prosocial behavior perspective. *The Academy of Management Review*, 10 (4), 823 – 836.

Dyck, A., Morse, A., and Zingales, L., 2010. Who blows the whistle on corporate fraud? *Journal of Finance,* 65 (6), 2213-2253.

Elias, R., 2008. Auditing students' professional commitment and anticipatory socialization and their relationship to whistleblowing. *Managerial Auditing Journal*, 23 (3), 283-294.

Ethics Resource Center, 2012. 2011 National Business Ethics Survey: Workplace Ethics in Transition. Arlington, VA: Ethics Resource Center, last accessed 10/15/12, available at: http://www.ethics.org/nbes/files/FinalNBES-web.pdf.

Forsyth, D. R., 1980. A taxonomy of ethical ideology. *Journal of Personality and Social Psychology*, 39 (1), 175-184.

Forsyth, D. R., 1992. Judging the morality of business practices: The influence of personal moral philosophies. *Journal of Business Ethics*, 11 (5/6), 461-470.

Forsyth, D. R., and Nye, J. L., 1990. Personal moral philosophies and moral choice. *Journal of Research in Personality*, 24, 398-414.

Goldberg, L., 1992. The development of markers for the big-five factor structure. *Psychological Assessment*, 4 (1), 26-42.

Grant, C., 2002. Whistle blowers: Saints of secular culture. *Journal of Business Ethics*, 39 (4), 391-399.

Greenfield, A. C., Norman, C. S., and Wier, B., 2008. The effect of ethical orientation and professional commitment on earnings management behavior. *Journal of Business Ethics*, 83, 419-434.

Gundlach, M. J., Douglas, S. C., and Martinko, J., 2003. The decision to blow the whistle: A social information processing framework. *Academy of Management Review*, 28 (1), 107-123.

Haniffa, R., and Hudaib, M., 2007. Locating audit expectations gap within a cultural context: The case of Saudi Arabia. *Journal of International Accounting, Auditing and Taxation*, 16 (2), 179-206.

Hare, R. D., McPherson, L. M., and Forth, A. E., 1988. Male psychopaths and their criminal careers. *Journal of Consulting and Clinical Psychology*, 56 (5), 710-714.

Harland, P., Staats, H., and Wilke, H. A. M., 2007. Situational and personality factors as direct or personal norm mediated predictors of pro-environmental behavior: Questions derived from norm-activation theory. *Basic and Applied Social Psychology*, 29 (4), 323-334.

Hastings, S. E., and Finegan, J. E., 2011. The role of ethical ideology in reactions to injustice. *Journal of Business Ethics*, 100, 689-703.

Hirschi, T., and Selvin H. C., 1973. Principles of Survey Analysis. The Free Press, New York.

Hofstedt, T. R., 1972. Some behavioral parameters of financial analysis. *The Accounting Review, 47 (*4), 679-692.

Hooks, K. L., Kaplan, S. E., Schultz, J. J., and Ponemon, L. A., 1994. Enhancing communication to assist in fraud prevention and detection: Comment: Whistleblowing as an internal control mechanism: Individual and organizational considerations. *Auditing*, 13 (2), 86-131.

John, O. P., Donahue, E. M., and Kentle, R. L., 1991. The big five inventory–versions 4a and 54. Berkeley. working paper, Institute of Personality and Social Research, CA: University of California, Berkeley.

John, O. P., Naumann, L. P., and Soto, C. J., 2008. Paradigm Shift to the Integrative Big-Five Trait Taxonomy: History, Measurement, and Conceptual Issues. In O. P. John, R. W. Robins, and L. A. Pervin (Eds.). Handbook of Personality: Theory and Research, Guilford Press, New York, NY, 114-158.

Jones, T. M., 1991. Ethical decision making by individuals in organizations: An issue-contingent model. *Academy of Management Review*, 16 (2), 366-395.

Kaplan, R. M., and D. P. Saccuzzo. (2008). *Psychological testing: Principles, applications, and issues*. Wadsworth, Cengage Learning.

Kaptein, M., 2011. From inaction to external whistleblowing: The influence of the ethical culture of organizations on employee responses to observed wrongdoing. *Journal of Business Ethics*, 98, 37-57.

Keenan, J., 2000. Blowing the whistle on less serious forms of fraud: A study of executives and

management. *Employee Responsibilities and Rights Journal*. 12 (4), 199-216.

Kohler, E. L., 1970. A Dictionary for Accountants. Prentice-Hall, Englewood Cliffs, NJ.

KPMG, 2006. Fraud risk management: developing a strategy for prevention, detection, and response. last accessed 10/15/12, available at: http://www.kpmg.com/CN/en/IssuesAndInsights/ ArticlesPublications/documents/Fraud-Risk-Management-O-200610.pdf.

Lipe, M.G., 1998. Individual investors' risk judgments and investment decisions: The impact of accounting and market data. *Accounting, Organizations and Society*, 23 (7), 625-640.

Liyanarachchi, G., and Newdick, C., 2009. The impact of moral reasoning and retaliation on whistleblowing: New Zealand evidence. *Journal of Business Ethics*, 89 (1), 37-57.

Loeb, S. E., 1990. Whistleblowing and accounting education. *Issues in Accounting Education*, 5, 281-294.

Maines, L.A. and Hand, J.R.M., 1996. Individuals' perceptions and misperceptions of time series properties of quarterly earnings. *The Accounting Review*, 71 (3), 317-336.

Maines, L.A. and McDaniel, L.S., 2000. Effects of comprehensive-income characteristics on nonprofessional investors' judgments: The role of financial-statement presentation format. *The Accounting Review*, 75 (2), 179-207.

Mantell, R., 2011 Job seekers, get ready for personality tests. More employers are using pre-hire assessments. *MarketWatch*, September 12, 2011. Available at: http://www.marketwatch.com/story/job-seekers-get-ready-for-personality-tests-2011-09-12

Marshall, R., Smith, M., and Armstrong, R., 2006. The impact of audit risk, materiality, and severity on ethical decision making: An analysis of the perceptions of tax agents in Australia. *Managerial Auditing Journal*, 21 (5), 497 – 519.

Mesmer-Magnus, J. R., and Viswesvaran, C., 2005. Whistleblowing in organizations: An examination of correlates of whistleblowing intentions, actions, and retaliation. *Journal of Business Ethics*, 62, 277-297.

Miceli, M. P., and Near, J. P., 1992. Blowing the whistle: The organizational and legal implications for companies and employees. Lexington Books, New York, NY.

Miceli, M. P., and Near, J. P., 1994. Whistleblowing: Reaping the benefits, *Academy of Management Executive*, 8 (3), 65-72.

Miceli, M. P., Near, J. P., and Dworkin, T. M., 2008. Whistleblowing in organizations. Routlegde, Taylor and Francis Group, New York, NY.

Miceli, M. P., Near, J. P., and Dworkin, T. M., 2009. A word to the wise: How managers and policy-makers can encourage employees to report wrongdoing. *Journal of Business Ethics*, 86, 379-396.

Moberly, R. E., 2006. Sarbanes-Oxley's structural model to encourage corporate whistleblowers. *Brigham Young University Law Review*, 5, 1107-1180.

Nayir, D. Z., and Herzig, C., 2012. Value orientation as determinants of preference for external and anonymous whistleblowing *Journal of Business Ethics*, 107, 197-213.

Near, J. P., and Miceli, M. P., 1985. Organizational dissidence: The case of whistleblowing. *Journal of Business Ethics*, 4, 1-16.

Near, J. P., and Miceli, M. P., 1995. Effective whistleblowing. *Academy of Management Review*, 20 (3), 679-708.

Near, J. P., Rehg, M. T., Van Scotter, J. R., and Miceli, M. P., 2004. Does type of wrongdoing affect the whistleblowing process? *Business Ethics Quarterly*, 14 (2), 219-242.

Norman, W. T., 1963. Toward an adequate taxonomy of personality attributes: Replicated factor structure in peer nomination personality ratings. *Journal of Abnormal Social Psychology*, 66 (1), 574-583.

Nunnally, J. C., 1967. Psychometric Theory. New York: McGraw-Hill.

PricewaterhouseCoopers, 2008. Economic crime: People, culture and controls: The 4th biennial global economic crime survey 2007. last accessed 10/15/12, available at: pwc.com/crimesurvey.

Read, W.J., and Rama, D.V., 2003. Whistleblowing to internal auditors. *Managerial Auditing Journal*, 18 (5), 354 -362.

Rest, J. R., 1990. DIT Manual: Manual for the Defining Issues Test. working paper, Center for the Study of Ethical Development, University of Minnesota.

Ro, B. T., 1982. An analytical approach to accounting materiality. *Journal of Business Finance and Accounting*, 9 (3), 397-412.

Schlenker, B. R., and Forsyth, D. R., 1977. On the ethics of psychological research. *Journal of Experimental Social Psychology*, 13, 369-396.

Shawver, T. J., and Clements, L. H., 2007. The intention of accounting students to whistleblow in situations of questionable ethical dilemmas. *Research on Professional Responsibility and Ethics in Accounting*, 11, 177-191.

Siefert, D. L., Sweeney, J. T., Joireman, J., and Thornton, J. M., 2010. The influence of organizational justice on accountant whistleblowing. *Accounting, Organizations and Society*, 35 (7), 707-717.

Sims, R. L., and Keenan, J. P., 1998. Predictors of external whistleblowing: Organizational and intrapersonal variables. *Journal of Business Ethics*, 17 (4), 411-421.

Sonnier, B.M. and Lassar, W. M. 2013. An Empirical evaluation of Graham's model of principled organizational dissent in the whistleblower context post-SOX. *Journal of Forensic and Investigative Accounting*, 5 (2), 131-174.

Stansbury, J. M., and Victor, B., 2009. Whistleblowing among young employees: A life-course perspective. *Journal of Business Ethics*, 85, 281-299.

Stead, W. E., Worrell, D. L., and Stead, J. G., 1990. An integrative model for understanding and managing ethical behavior in business organizations. *Journal of Business Ethics*, 9, 233-242.

U.S. House of Representatives False Claims Act 1863. (U.S. Code 31 § 3729), Washington, DC: Government Printing Office.

U.S. House of Representatives False Claims Amendments Act 1986. (Public Law 99-562, 100 [S. 1562]), Washington, DC: Government Printing Office.

U.S. House of Representatives Sarbanes-Oxley Act 2002, (Public Law 107-204 [H.R. 3763]), Washington, DC: Government Printing Office.

U.S. House of Representatives Dodd-Frank Wall Street Reform and Consumer Protection Act 2010, ([H.R. 4173]), Washington, DC: Government Printing Office.

Victor, B., Trevino, L. K., and Shapiro, D. L., 1993. Peer reporting of unethical behavior: The influence of justice evaluations and social context factors. *Journal of Business Ethics*, 12, 253-263

Zablow, R., 2006. Creating and sustaining an ethical workplace. *Risk Management*, 53 (9), 26-30.

Zhang, J., Chiu, R., and Wei, L., 2009. Decision-making process of internal whistleblowing behavior in China: Empirical evidence and implications. *Journal of Business Ethics*, 88, 25-41.

Table 1 Demographics

	n	%	Mean
Gender:			
Male	156	59%	
Female	103	39%	
Missing	4	2%	
Academic Standing			
Senior	128	49%	
Junior	109	41%	
Sophomore	8	3%	
Other	10	4%	
Missing	8	3%	
Work Experience (years)			3.8
0	53	20%	
1-5	147	56%	
6-10	47	18%	
> 10	16	6%	
Age (years)			22
<20	10	4%	
20-25	218	83%	
26-30	24	9%	
>30	11	4%	
Estimated GPA			3.6

Table 2 Variable descriptive statistics

Variable	M	SD	N
Whistleblow	3.90	0.844	263
Materiality	0.56	0.497	263
Idealism	34.62	5.623	263
Relativism	29.16	5.007	263
Situationist	0.28	0.451	263
Exceptionist	0.20	0.399	263
Absolutist	0.23	0.420	263
Subjectivist	0.29	0.456	263
Extroversion	27.11	5.525	263
Agreeableness	34.13	4.492	263
Conscientiousness	35.00	4.417	263
Neuroticism	21.76	4.908	263
Openness	33.93	5.376	263

Table 3 Reliability and correlations

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Whistleblow	**1.000**	0.193**	-0.017	-0.145*	0.148*	0.007	0.104	0.165**	0.186**	-0.122*	0.116
		(0.002)	(0.779)	(0.018)	(0.016)	(0.905)	(0.091)	(0.007)	(0.002)	(0.048)	(.059)
2. Materiality	0.204**	**1.000**	-0.056	0.032	0.039	-0.008	-0.038	0.012	0.017	0.033	0.039
	(0.001)		(0.361)	(0.608)	(0.529)	(0.901)	(0.537)	(0.843)	(0.787)	(0.590)	(0.524)
3. Situationist	-0.002	-0.056	**1.000**	0.312**	0.342**	0.404**	-0.041	0.035	-0.214**	0.050	0.014
	(0.977)	(0.361)		(0.000)	(0.000)	(0.000)	(0.511)	(0.567)	(0.000)	(0.419)	(0.822)
4. Exceptionist	-0.172**	0.032	-0.312**	**1.000**	-0.269**	-0.318**	0.102	-0.50	0.087	-0.098	0.015
	(0.005)	(0.608)	(0.000)		(0.000)	(0.000)	(0.098)	(0.418)	(0.159)	(0.112)	(0.812)
5. Absolutist	0.144*	0.039	-0.342**	-0.269**	**1.000**	-0.348**	-0.012	0.237**	0.222**	-0.117	-0.017
	(0.019)	(0.529)	(0.000)	(0.000)		(0.000)	(0.852)	(0.000)	(0.000)	(0.058)	(0.783)
6. Subjectivist	0.020	-0.008	-0.404**	-0.318**	-0.348**	**1.000**	-0.039	-0.209**	-0.070	0.144*	-0.011
	(0.749)	(0.901)	(0.000)	(0.000)	(0.000)		(0.533)	(0.001)	(0.259)	(0.019)	(0.860)
7. Extroversion	0.127*	-0.024	-0.032	0.097	-0.013	-0.042	**0.833**	0.114	0.187*	-0.241**	0.370**
	(0.039)	(0.698)	(0.600)	(0.115)	(0.840)	(0.501)		(0.065)	(0.002)	(0.000)	(0.000)
8. Agreeableness	0.167**	0.008	0.050	-0.046	0.213**	-0.205**	0.154*	**0.766**	0.339**	-0.428**	-0.326**
	(0.007)	(0.893)	(0.421)	(0.455)	(0.000)	(0.001)	(0.012)		(0.000)	(000)	(0.000)
9. Conscientiousness	0.168**	0.034	-0.222**	0.102	0.241**	-0.092	0.221**	0.337**	**0.777**	0.140*	0.105
	(0.006)	(0.583)	(0.000)	(0.098)	(0.000)	(0.135)	(0.000)	(0.000)		(0.023)	(0.089)
10. Neuroticism	-0.111	0.042	0.047	-0.106	-0.112	0.150*	-0.277**	-0.476**	-0.353**	**0.819**	-0.166**
	(0.073)	(0.495)	(0.452)	(0.086)	(0.070)	(0.015)	(0.000)	(0.000)	(0.000)		(0.007)
11. Openness	0.105	0.034	0.017	0.003	-0.018	-0.003	0.389**	0.137*	0.133*	-0.202**	**0.805**
	(0.091)	(0.578)	(0.778)	(0.964)	(0.767)	(0.965)	(0.000)	(0.026)	(0.031)	(0.001)	

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)
Note: Amounts on the diagonal represent Cronbach's alpha reliability coefficients (in **bold**). Amounts above the diagonal represent Spearman coefficients; amounts below the diagonal represent Pearson coefficients.

Table 4 Results of hierarchical regression analysis

Panel A: Effects of materiality, ethical position (idealism and relativism), and personality traits on whistleblowing intention ($F =_{4,258} 7.197$, $p<0.000$, $R = 0.317$, $R^2 = 0.100$)

Variable	STND Beta	SE	t	*p*
Material	0.201	0.100	3.393	0.001
Extroversion	0.111	0.009	1.832	0.068
Conscientiousness	0.125	0.012	2.047	0.042
Idealism	0.157	0.009	2.640	0.009

Panel B: Effects of materiality, ethical ideology (situationist, absolutist, subjectivist or exceptionist), and personality traits on whistleblowing intention ($F =_{4,258} 8.574$, $p<0.000$, $R=0.343$, $R^2 = 0.117$)

Variable	STND Beta	SE	t	*p*
Material	0.205	0.099	3.503	0.001
Extroversion	0.118	0.009	1.959	0.051
Conscientiousness	0.156	0.012	2.585	0.010
Exceptionist	-0.205	0.125	-3.473	0.001