



Heriot-Watt University
Research Gateway

Does group cohesion moderate auditors' whistleblowing intentions?

Citation for published version:

Alleyne, P, Haniffa, R & Hudaib, M 2019, 'Does group cohesion moderate auditors' whistleblowing intentions?', *Journal of International Accounting, Auditing and Taxation*, vol. 34, pp. 69-90.
<https://doi.org/10.1016/j.intaccaudtax.2019.02.004>

Digital Object Identifier (DOI):

[10.1016/j.intaccaudtax.2019.02.004](https://doi.org/10.1016/j.intaccaudtax.2019.02.004)

Link:

[Link to publication record in Heriot-Watt Research Portal](#)

Document Version:

Peer reviewed version

Published In:

Journal of International Accounting, Auditing and Taxation

Publisher Rights Statement:

© 2019 Elsevier B.V.

General rights

Copyright for the publications made accessible via Heriot-Watt Research Portal is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

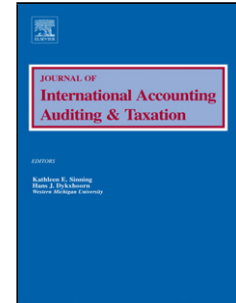
Take down policy

Heriot-Watt University has made every reasonable effort to ensure that the content in Heriot-Watt Research Portal complies with UK legislation. If you believe that the public display of this file breaches copyright please contact open.access@hw.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.

Accepted Manuscript

Title: Does group cohesion moderate auditors' whistleblowing intentions?

Authors: Philmore Alleyne, Roszaini Haniffa, Mohammad Hudaib



PII: S1061-9518(19)30032-1
DOI: <https://doi.org/10.1016/j.intaccaudtax.2019.02.004>
Reference: ACCAUD 259

To appear in: *Journal of International Accounting, Auditing and Taxation*

Please cite this article as: Alleyne P, Haniffa R, Hudaib M, Does group cohesion moderate auditors' whistleblowing intentions?, *Journal of International Accounting, Auditing and Taxation* (2019), <https://doi.org/10.1016/j.intaccaudtax.2019.02.004>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Does group cohesion moderate auditors' whistleblowing intentions?

Philmore Alleyne, PhD*
Senior Lecturer in Accounting
Department of Management Studies
University of the West Indies
Cave Hill Campus
Barbados, West Indies
Tel: (246) 417-4295
Email: philmore.alleyne@cavehill.uwi.edu

Roszaini Haniffa, PhD
Professor of Accounting
Department of Accounting, Economics and Finance
School of Management and Languages
Heriot-Watt University
Edinburgh EH14 4AS
United Kingdom
Tel: +44(0) 1314518348
Email: r.haniffa@hw.ac.uk

Mohammad Hudaib, PhD
Reader in Accounting
Adam Smith Business School
University of Glasgow
Glasgow G12 8QQ
United Kingdom
Tel: +44(0) 1413304136
Email: Mohammad.Hudaib@glasgow.ac.uk

* Corresponding author

Abstract

Prior whistleblowing research documents various relationships between certain individual characteristics and the intention to report workplace irregularities (whistleblow). However, auditors are trained to work in teams and to make decisions in consultation with the group. We study the extent to which an individual auditor's ethical judgment may be affected by the strength of the group cohesiveness in the audit team. Our research extends prior studies on

whistleblowing in the auditing context by examining the moderating effect of group cohesion on the relationship between several individual characteristics and whistleblowing intentions. Results based on survey data of 54 audit teams comprising 226 external auditors indicate significant relationships between nearly all individual characteristics (attitudes, perceived behavioral control, independence commitment and personal responsibility for reporting, and personal cost of reporting) and whistleblowing intentions. However, we find no significant relationship between desired moral approbation and whistleblowing intentions. Further, we find the presence of strong group cohesion reduces the tendency of whistle-blowing intentions of individuals with strong individual characteristics. Though further research is warranted, our study suggests the need for audit firms to assess both group cohesiveness and individual characteristics when assembling audit teams.

Keywords: Group cohesion, external auditors, audit teams, auditing, whistleblowing intentions.

Does group cohesion moderate auditors' whistle-blowing intentions?

1. Introduction

The large number of high-profile cases of audit quality reduction behaviors (Herrbach, 2005) by auditing firms (e.g. Arthur Andersen with Enron, KPMG AZSA LLC and Ernst & Young ShinNihon LLC with Olympus, and David Friehling of Friehling & Horowitz with Bernard L. Madoff Investment), have prompted researchers to analyze more deeply the auditor's intention to report audit irregularities (whistleblow). Despite the existence of professional codes of ethics (*de jure*) requiring the observer of wrongdoing within audit organizations to report their observations to a person or entity that is capable of correcting the wrongdoing (Near & Miceli, 1985), studies document a general reluctance on the part of auditors to report wrongdoing

committed by their colleagues (Finn & Lampe, 1992; Kaplan, 1995; Kaplan & Whitecotton, 2001; Taylor & Curtis, 2010). Prior studies provide evidence of a significant relationship between various individual characteristics and whistleblowing intentions (see e.g. Alleyne, Hudaib, & Haniffa, 2018; Latan, Ringle, & Jabbour, 2016). However, little research considers the potential effects of group level dynamics that may promote or inhibit whistleblowing intentions.

This paper responds to the call of Kaplan (2015) and others for more research on group decision making on the whistleblowing intentions of individuals within groups. Kaplan (2015) argues that “to the extent that there is communication among multiple observers, the whistleblowing decision likely becomes a group decision” (p.102). Our paper also extends the conceptual model of Alleyne, Hudaib, and Pike (2013) by considering group cohesion. Since auditors work in teams, the relationships that develop through group interactions and shared experiences can influence the cohesiveness of groups (Greenberger, Miceli, & Cohen, 1987), which also has the propensity to influence decision making.

Despite being rotated from team to team, auditors develop a history of working with other colleagues over time, and as a result participate in a group development process that fosters cohesion over the long term (Yoo & Alavi, 2001). In our study, group cohesion is treated as the moderating variable, given that the strength of individuals’ bond may influence whistleblowing behavior. However, we posit that group cohesion by itself may not drive an auditor’s intention to blow the whistle because the intention must be triggered at an individual-level by the potential whistleblower in the group and hence, individual-level characteristics remain as the main drivers. Also, groups can enable both ethical and unethical behavior and as such, group cohesion can produce either deleterious or fruitful results. Therefore, our study examines the interaction effects of group cohesion on individual-level characteristics within the auditing environment which may either stifle or induce whistleblowing. Since previous studies indicate the general

reluctance of auditors to report wrongdoing by colleagues, analyzing the interaction of individual characteristics and the strength of group cohesion may provide further insights on the phenomenon of whistleblowing intentions among auditors.

We surveyed 226 auditors in 54 audit teams in Barbados for several reasons. Firstly, the small size of Barbados and its accounting profession relative to other developed countries enabled us to effectively identify and test for group cohesion in the context of a close-knit environment where in-group loyalty may take precedence over societal rules and consideration. Secondly, since most Barbadian auditors are qualified and trained in the UK and are members of international professional accountancy organizations, the setting may also be relevant for other countries that follow international best practices. Thirdly, given the lack of whistleblowing legislation and the presence of punitive defamation laws, Barbados is a compelling case for studying whistleblowing.

Results from our survey indicate significant positive relationships between the independent variables (attitudes toward whistleblowing, perceived behavioral control, personal responsibility for reporting, and independence commitment) and internal whistleblowing intentions, but negative in the case of personal cost of reporting. Surprisingly, we find no significant relationship between desired moral approbation and whistleblowing intentions, suggesting that moral approval from self and others does not influence the decision to whistleblow. The interactions between group cohesion and the independent variables are negative and significant (except for personal cost of reporting and desired moral approbation, which are not significant), indicating that strong group cohesion reduces internal whistleblowing intentions for those who have stronger individual characteristics. Results further indicate that strong group cohesion reduces external whistleblowing intentions for individuals with high independence commitment but increases for individuals with high personal cost of reporting. Overall, the results suggest that strong group cohesion in audit organizations may play a

“profession protection” role as opposed to a “societal protection” role which is aimed at protecting the profession from any assessment and intrusion by outside parties (Canning & O'Dwyer, 2001, p.725).

The remainder of the paper is structured as follows. The next section presents the theoretical framework and development of the hypotheses. Section 3 outlines our research methodology and the survey instruments used. We discuss the data, results and conclusions in Sections 4, 5 and 6.

2 Theoretical Framework and Hypotheses Development

This research aims to assess the impact of group dynamics on the individual's intention to whistleblow in an audit team setting. Accordingly, we bring together theories of individual behavior and group dynamics to develop our research hypotheses.

We relied on Ajzen's (1991) theory of planned behavior (TPB) to model individual whistleblowing behaviors. We adapted Graham's (1986) theory of principled organization dissent, Gendron et al.'s (2006) theory of independence commitment, and Ryan and Riordan's (2000) discussion of desired moral approbation to model individual whistleblowing intentions within a group setting. This section discusses each theory and how we developed our research hypotheses, accordingly.

Ajzen's (1985, 1991) TPB is one of the most applied and supported models explaining behavior in the social sciences (Armitage & Conner, 2001; Park & Blenkinsopp, 2009). That model extends Ajzen & Fishbein's (1980) theory of reasoned action (TRA). According to TRA, if an individual evaluates the suggested behavior as positive (attitude), and thinks that his/her significant others want him/her to perform the behavior (subjective norm), then the individual will be more highly motivated to adopt the behavior. Ajzen (1985) added another factor, perceived behavioral control, which refers to the degree to which a person believes that s(he) can

control any given behavior. According to TPB, an individual's behavior is influenced by one's attitude towards the behavior, subjective norms, and perceived behavioral control. Behavioral intention is the individual's assessment of the likelihood of choosing a given behavioral alternative; and it is strongly correlated with actual behavior (Ajzen, 1991).

Prior literature utilizes TPB to measure behavioral intentions, including whistleblowing intentions (Park & Blenkinsop, 2009). Given the inherent difficulty of measuring actual behavior, researchers use whistleblowing intentions (the likelihood of blowing the whistle) as a proxy for actual whistleblowing behavior (Kaplan & Whitecotton, 2001; Chiu, 2002; Curtis, 2006). Our study utilizes two antecedents of TPB, the attitude towards the behavior and perceived behavioral control.¹ We further adapt the TPB model to include four other factors relevant to whistle-blowing, namely, desired moral approbation, personal cost of reporting, perceived responsibility for reporting and independence commitment.

2.1 Attitude towards Whistleblowing and Whistleblowing Intentions

Ajzen (1991) argues that intention is a strong predictor of actual behavior and that behavior is influenced by one's individual characteristics (including attitudes, perceived behavioral control, and subjective norms). An individual's attitude towards a certain behavior is defined as the assessment of the extent of one's approval or disapproval and the behavioral consequences. Accordingly, a positive attitude will influence the intention to perform the act, while a negative attitude will deter the individual from acting (e.g. Fishbein & Ajzen, 1975; Turrisi & Jaccard, 1992; Park & Blenkinsop, 2009). For example, an audit staff member with a positive attitude towards reporting unethical behavior at the workplace is more likely to blow the

¹ A significant contribution of our proposed whistle-blowing model is the inclusion of a relatively new and under-researched construct in the ethical decision making literature – desired moral approbation. We included this variable given the mixed findings on the influence of subjective norms in the whistleblowing literature (see Park & Blenkinsop, 2009; Rustiarini & Sunarsih, 2017).

whistle. Attitude is expected to have an independent and direct effect on an auditor's whistleblowing intention. Hence, the first hypothesis:

H1: A positive attitude towards whistleblowing has a positive effect on both internal and external whistleblowing intentions.

2.2 Perceived Behavioral Control and Whistleblowing Intentions

TPB also proposes that perceived behavioral control, which refers to one's perception of the level of ease or difficulty required to perform or engage in a specific behavior, will influence the intention to act. Beck and Ajzen (1991) suggest that perceived behavioral control can be either a direct predictor of behavior or it can moderate the relationship between intention and behavior (Webb & Sheeran, 2006). Beck and Ajzen (1991) further suggest that the greater the perceived behavioral control, the stronger the intention to engage in the behavior in question. In this regard, prior to taking action to report wrongdoing at the workplace, an auditor is likely to assess how much control (s)he has over the situation and the possibility of succeeding in triggering a positive outcome (Bandura, 1997). Thus, if the auditor feels (s)he has greater control in overcoming obstacles, the intention to whistleblow will be higher. With regards to internal whistleblowing intentions, Park and Blenkinsopp (2009) find a significant and positive relationship with perceived behavioral control. Therefore, a higher level of perceived behavioral control is expected to have a direct effect on whistleblowing intentions. Thus, the second hypothesis:

H2: A high level of perceived behavioral control has a positive effect on both internal and external whistleblowing intentions.

2.3 Desired Moral Approbation and Whistleblowing Intentions

Group dynamics can influence and change an auditor's individual reasoning. Through his or her interactions with other members in the audit team, the auditor learns to assess perceptions

of others and their possible responses when s(he) assumes the risk of asking a question, seeking feedback, offering a new idea, admitting mistakes or confiding on observation of unethical behavior (Greenberger *et al.*, 1987). In other words, ethical decision making on the “right” thing to do following observation of wrongdoing is not only influenced by an auditor’s own ethical views (moral approval from self) but also consideration of the opinions of his/her referent group (i.e. gaining moral approval from others or avoiding moral blame by others). These factors are captured in a concept known as desired moral approbation.

Desired moral approbation is a relatively under-researched topic in the ethics literature, yet a few previous studies find support for its existence and ability to explain an individual’s inconsistency in making moral judgments (Ryan & Riordan, 2000). Desired moral approbation is the consent that individuals must attain from themselves and/or others to perform an action without feeling any discomfort (Jones & Ryan, 1997; Ryan & Riordan, 2000). In this regard, desired moral approbation is concerned with the notion of approval. Hence, before making decisions and performing an action, individuals may consider both their own moral approval as well as others, or be more concerned with either their own self approval or approval from others.

Prior research suggests that social influences, such as social consensus, self-assurance, and approval (or disapproval) from the community and referent others, can also influence behavioral intentions (Ajzen, 1991; Jones & Ryan, 1997; Ryan & Ciavarella, 2002; Ryan & Riordan, 2000), including reporting intentions of auditors (Finn & Lampe, 1992; Hooks, Kaplan, & Schultz, 1994; Cardinaels & Jia, 2016). We include this social influence factor in the model due to the likely influence on an individual’s ethical behavior in group settings. Hence, the third hypothesis:

H3: A high level of desired moral approbation has a positive effect on both internal and external whistleblowing intentions.

2.4 Personal Responsibility for Reporting and Whistleblowing Intentions

An auditor's behavior is also likely to be influenced by professional responsibilities and obligations. Drawing upon Graham's (1986) model of principled organizational dissent, Schultz, Johnson, Morris, and Dyrnes (1993) propose that feelings of personal responsibility for reporting may influence an individual's intention to act. Kaplan and Whitecotton (2001) and Schultz *et al.*, (1993) find significant association between strong feelings of personal responsibility for reporting and the likelihood of blowing the whistle on questionable acts. If the morally-derived feeling of responsibility is high within the auditor, s(he) will report the violation or wrongdoing committed by a colleague, as non-disclosure may result in loss of reputation and credibility for the organization and the profession. Therefore, a high level of feelings of personal responsibility for reporting is expected to have a direct effect on whistleblowing intentions. Hence, the next hypothesis:

H4: A high level of feeling of personal responsibility for reporting has a positive effect on both internal and external whistleblowing intentions.

2.5 Independence Commitment and Whistleblowing Intentions

Independence commitment refers to "the extent to which the individual accountant considers auditor independence as a key attribute of the profession, and believes that regulatory standards of auditor independence (issued by the profession and/or external regulatory agencies) should be rigorously binding and enforced in the public accounting domain" (Gendron, Suddaby, & Lam, 2006, p.170). Prior research demonstrates that the key nature of audit independence is associated with both independence in fact and perceived auditor independence (i.e. independence to investors and third parties), and that its regulatory aspects are critical to the formation of an audit framework fostering public confidence and supporting capital markets effectively (Alleyne, Devonish, & Alleyne, 2006). Hall, Smith, and Langfield-Smith (2005) argue that accountants are

likely to feel ethically bound and morally obligated to engage in behaviors that are in the best interest of the profession by operating with an independent mind and reporting questionable conduct. Thus, the following hypothesis:

H5: A high level of independence commitment has a positive effect on both internal and external whistleblowing intentions.

2.6 Personal Cost of Reporting and Whistleblowing Intentions

Personal cost of reporting is the individual's perception of the risk of retaliation from members of the organization that could affect one's willingness to report wrongdoing (Graham, 1986). Ponemon (1994, p.123) suggests that "the nature of and extent of the retaliations or sanctions imposed by management or co-workers against the whistleblower is perhaps the most significant determinant to the prospective whistleblower's decision in the communication of organizational wrongdoing." Curtis (2006) argues that the personal cost of reporting to the individual may come in the form of refusal of pay increases, unfair performance reviews, transfers to undesirable posts or jobs, possible firing and lack of peer support (e.g. ostracism). Prior research finds support for a negative relationship between perceived personal cost of reporting and reporting intentions (Arnold & Ponemon, 1991; Schultz *et al.*, 1993; Kaplan, 1995; Kaplan & Whitecotton, 2001). Thus, a lower perception of personal cost of reporting may lead to a higher likelihood of reporting, while a higher perception of personal cost of reporting may lead to a lower likelihood of reporting. Similarly, Miceli, Near, Rehg, and Van Scotter (2012) suggest that co-workers can either corroborate or invalidate the observer's perceptions of questionable acts, further determining whether the observer should whistleblow. Hence, the next hypothesis:

H6: A high personal cost of reporting has a negative effect on both internal and external whistleblowing intentions.

2.7 Moderating Effect of Group Cohesion on Individual Characteristics and Whistleblowing Intentions

Cohesion has been defined as “group members’ inclination to forge social bonds, resulting in members sticking together and remaining united” (Carron, 1982, p. 124) in pursuit of achieving instrumental objectives and/or for the satisfaction of members’ affective needs (Carron, Widmeyer, & Brawley, 1985). Therefore, in a cohesive group, team members will show more cooperative behavior and be more sensitive to others (Kidwell, Mossholder, & Bennett, 1997). At the individual-level, group cohesion tends to act as a controlling factor, influencing an individual’s behavior to adhere to group norms (Beal, Cohen, Burke, & McLendon, 2003). This point is supported by prior studies, which establish group cohesion to be positively related to conformity to team norms and values regarding appropriate attitudes (Sanders, 2004; Greenberger *et al.*, 1987).

Group cohesion can also influence ethical decision-making. Schminke and Wells (1999) suggest that group cohesion should lead to enhanced discussion of ethical issues, dilemmas positions, and actions, and through significant interactions and discussion of ethical issues, a cohesive group will be able to achieve ethical conformity. Narayanan, Ronson, and Pillutla (2006) put forward a typology of unethical actions arising from the interaction of self and group which may benefit, harm or have no impact on group members. They suggest that group memberships, especially highly cohesive ones, may lead to group members feeling the need to take on shared responsibility for the group’s ethical or unethical actions, and therefore, members may be willing to engage in unethical behavior to benefit the group and self (mutual benefit) as opposed to harming the group to benefit self (egoistic).

Furthermore, Hirschi and Stark (1969) identify social attachment and commitments (i.e. cohesiveness) to be elements that can control individuals from acting on their ‘motives to deviate’. Therefore, the inclination to make unethical decisions to benefit the group may stem

from an individual's desire to remain in good standing with the members of a highly cohesive group, especially if to do otherwise may bring harm to the group. This suggests that membership in strong cohesive groups is highly valued (Cartwright, 1968; Narayanan *et al.*, 2006). Therefore, an audit team member may be reluctant to blow the whistle on wrongdoing committed by colleagues, as s(he) may be less willing to compromise his or her group membership and may perceive a greater sense of responsibility or loyalty for colleagues with whom s(he) consistently interacts.

Thus, when an auditor feels uncertain in an unethical dilemma and the audit group is cohesive, approval from members within the audit group (referent others) may become more important than individual ethical beliefs in reporting wrongdoing. Similarly, if an individual belongs to a cohesive audit team and values sense of identification with the team and group spirit more than his or her own pursuit of what s(he) feels is the right thing to do, then his or her own individual attitude towards whistleblowing may be hampered by the group. Additionally, when high group cohesion exists, the auditor may suppress his or her intention to blow the whistle even if s(he) is able to solely overcome obstacles and if the reporting brings more harm to the group.

In short, group cohesion in the audit team can influence the individual audit member's behavior, such that if a member of a highly cohesive audit team observes another member committing wrongdoing, the observer of the wrongdoing will be less likely to whistleblow. Thus, high group cohesion will weaken the relationship of desired moral approbation, attitudes, perceived behavioral control, personal responsibility for reporting, and independence commitment with whistleblowing intentions, and strengthen the relationship of personal cost of reporting with whistleblowing intentions. From the above discussion, the following two hypotheses are put forward:

H7a: The positive impact of a high level of desired moral approbation, attitudes, perceived behavioral control, personal responsibility for reporting, and independence commitment on both internal and external whistleblowing intentions will be reduced when group cohesion is strong.

H7b: The negative impact of a high personal cost of reporting on both internal and external whistleblowing intentions will be reduced or eliminated when group cohesion is strong.

Figure 1 below presents the conceptual model of the current study.

Insert Figure 1 about here

3. Research Methods

3.1 Research context

Our study is set in the Caribbean island of Barbados, a close-knit, socially inter-related collectivist society with a population of approximately 300,000 (Alleyne, 2016). Barbados is now ranked highly on the human development index (UNDP, 2014), and it has a strong social partnership system between government, business and society. The country has a thriving economic sector driven by construction, tourism, manufacturing, and international business. Many of the infrastructure and institutions in place were shaped by British colonization, including the accounting profession. The business sector is audited by professional accounting firms, which follow international best practices and have audit staff that are members of international accounting bodies.

3.2 Sample

As of 31st December 2017, 897 accountants were registered with the Institute of Chartered Accountants of Barbados (ICAB). Since the number of predictors in this study is seven (7), the minimum sample size required for multivariate analysis must be at least 111 (Green, 1991). Using the member list provided by ICAB, we contacted audit partners of the four large accounting firms (Big 4) and 14 small and medium size firms to request access to their audit teams.²

3.3 Data collection

We received permission from all 18 audit firms. We then asked each firm how many audit teams and total team members we could survey. We created a pre-assigned unique survey team code to identify the firm and the team within the firm for inclusion on the survey instruments. The coding system assisted us in identifying the teams and firms during the data analysis stage of our research. Though the teams and firms were not anonymous to us, the individuals in each team completed the questionnaires anonymously.

The partners arranged a convenient time for the researchers to visit their firm when all relevant members of various existing audit teams were present in the office. Audit teams met in assigned rooms with the researchers who explained the purpose of the research, the importance of their participation, and also gave respondents the opportunity to ask any questions regarding the research. The packages, containing the general instructions letter, a cover letter and survey questionnaire, an informed consent form, and a self-addressed envelope for returning the questionnaires, were then distributed to each audit team. Respondents could complete the survey questionnaire either in the presence of the researchers or at a later date. Of the 54 audit groups, the majority of the teams encompassed 3 to 5 members (see Table 1).

² The Big 4 had 295 auditors and the smaller firms asked had 88 auditors.

Insert Table 1 about here

A total of 226 questionnaires were completed, 79% (178 auditors) from the Big 4 accounting firms and 21% (48 auditors) from medium and smaller firms. Statistical tests showed no significant differences between responses of audit staff from the large firms and the small and medium firms. The possibility of non-response bias was also checked by comparing early (completed in the presence of researchers) and late respondents (posted later) using Armstrong and Overton's (1977) approach, and t-tests indicated no statistically significant differences on any of the independent and dependent variables.

Table 2 presents information on the profile of audit staff including age, academic qualification, gender, professional working experience, organizational position, and professional qualifications. The high ratio of audit staff with the Association of Chartered Certified Accountants (ACCA)'s professional qualification (50%) suggests that the auditing practitioners and the accounting society in Barbados are significantly influenced by the UK standards.

Insert Table 2 about here

3.4 Development of the research instrument

The research instrument consisted of two parts (see Appendix A for extract of survey questionnaire). The first part requested respondents' demographic information. The second part presented the scenario and the related questions. Given the difficulties in gaining access to subjects and observing actual ethical or unethical behaviors, we adopted the scenario approach, commonly used in areas of accounting and marketing research (Silver & Valentine, 2000; Sweeney & Roberts, 1997). Furthermore, prior whistleblowing studies utilized scenario

approaches to measure whistleblowing intentions (e.g. Schultz *et al.*, 1993; Kaplan, 1995; Kaplan & Whitecotton, 2001; Curtis, 2006).

Our research instrument presents a hypothetical situation via a scenario where the subjects are asked to respond by placing themselves as an actor in the situation (Ferris, Dulebohn, Frink, George-Falvy, Mitchell, & Matthews, 1997). The scenario (the impairment of independence) we used was adapted from prior whistleblowing studies (Kaplan & Whitecotton, 2001; Curtis, 2006).³ In this scenario, a senior assigned to work on an audit engagement with the client company, Modern Appliances, discovered that the audit manager (Michael Jenkins) was offered the position of financial controller of Modern Appliances. It was disclosed that Mr. Jenkins was still contemplating whether to accept or decline the offer, while he continued in his capacity as audit manager.⁴ Respondents were required to assume that Michael Jenkins was part of their current audit team and they were asked a series of questions (items) related to the scenario (see Appendix A for details).

We adapted various scales utilized in the ethics literature, including that of Park and Blenkinsopp (2009) for measuring the dependent variables internal and external whistleblowing intentions, Ajzen (1991) for determining attitude and perceived behavioral control, Ryan and Riordan (2000) for desired moral approbation, Schultz *et al.* (1993) for personal responsibility for reporting and personal cost of reporting, Gendron *et al.* (2006) for independence commitment, Schminke and Wells (1999) for group cohesion, and Paulhus (1989) for social

³ As part of a larger research project, this study included two additional scenarios involving the shredding of papers (adapted from Rau & Weber, 2004) and the partner acceding to client pressure by adopting aggressive accounting treatments (adapted from Shafer, Morris, & Ketchand, 1999). Preliminary testing revealed no significant variability in the responses to the three (3) scenarios. We used the independence scenario given that the inclusion of results for all the scenarios would significantly increase the length of the paper.

⁴ Consistent with prior studies (e.g. Curtis, 2006), respondents were aware that the ethics rulings (similar to Rule 101 of the AICPA Code of Professional Conduct on Auditor Independence) require that the auditor should not be involved in the audit engagement until the job offer has been declined or is not being considered in order to avoid impairing objectivity and integrity (AICPA, 2007).

desirability response bias (SDB).⁵ All items were measured on a 7-point Likert scale, and items in each multi-item scale were then averaged to form a composite score. Higher scores indicate higher levels of behavioral intentions and individual-level characteristics towards whistleblowing.

The research instrument was piloted and refined through several stages: 1) initial review by four audit practitioners in accounting firms; 2) completion and assessment by four undergraduate students of auditing; and 3) incorporation of further changes (i.e. minor amendments to scenarios and presentation of the questionnaire) as suggested by two academics. To check for the presence of common method variance (Podsakoff, Mackenzie, Russell, & Mohr, 2003), Harman's (1976) single factor test was used to explore the variables of interest. Using principal component factor analysis with varimax rotation, all factors loaded consistently within the specific constructs of interest, thus indicating that common method variance may not have been an influential factor on the results (see Tables 1 to 5 in Appendix B). Furthermore, all multi-item scales had Cronbach's alphas above .75, thus indicating high internal reliabilities.

3.5 Method of analysis

Since we were interested in the effect of group cohesion in audit teams, we adapted the cross-level design⁶ to measure individual auditors' self-reports about their perceptions of the level of norms in their audit teams. The individual responses for each audit team member were aggregated to form a composite score for the team, consistent with the approaches in prior research (e.g. Rousseau, 1985; Robinson & O'Leary-Kelly, 1998). Prior research also assigned group scores to individual members within the specific group, and utilized ordinary least squares

⁵ Prior research used the impression management (IM) scale to control for SDB in ethics research (Shafer, 2008; Trevino, Butterfield, & McCabe, 1998). To further control for possible halo bias (i.e. the routine answering of groups of similar questions), our research instrument contained both negative and positively worded items.

⁶ Prior studies have utilised a cross-level design to explain the effects of individual and group variables on one another, within the same study (e.g. Mossholder & Bedeian, 1983; Rousseau, 1985).

(OLS) regression at the individual-level to test the hypothesized relationship (Mossholder & Bedeian, 1983; Bedeian, Kemery, & Mossholder, 1989; James & Williams, 2000). To ensure the appropriateness of aggregating data from individual team members to create team data, we assessed the within-team agreement statistic (r_{wg}) and used intra-class correlation coefficients [ICC(1) and ICC(2)] to assess the extent to which team responses differ among teams and the reliability of the team level means (Bliese, 2000).

James, Demaree, and Wolf (1984, 1993) used $r_{wg(j)}$ index of group agreement (where 1 = perfect agreement and 0 = absence of agreement) to determine appropriateness and validity based on the individuals' perceptions of the level of group cohesion. In our study, the mean $r_{wg(j)}$ was .95, indicating near perfect agreement on the appropriateness of aggregating the data.

James (1982) also recommends using two intra-class correlations (ICCs) for determining the level of agreement of team members. ICC(1) indicates the extent of agreement among ratings from members of the same team. ICC(2) indicates whether teams can be differentiated on the variables of interest. In the literature, ICC(1) values tend to vary between 0.00 to 0.50 with a median of 0.12, while ICC(2) values are expected to exceed 0.70 (James, 1982). For our interdependence measure, we found ICC(1) to be 0.19, thus demonstrating that team membership accounted for significant variance and the value of ICC (2) was 0.73.⁷ Overall, these results justify the aggregation of individual auditors' responses to form single scores for group cohesion for each audit team.

As we are interested in the interaction effects of group cohesion and the six individual-level independent predictor variables *i.e. attitude, perceived behavioral control, desired moral approbation, personal responsibility for reporting, personal cost of reporting, and independence commitment* on the dependent variables, *internal whistleblowing* and *external whistleblowing*, we used hierarchical multiple regression analysis similar to prior ethics literature (Flannery & May,

⁷ These ICC values are comparable to those obtained in prior group research (e.g. Bliese, 2000; Liao & Rupp, 2005).

2000; Chiu, 2002), as it allows the ordering of the variables to be entered into the analysis (Cohen & Cohen, 1983; Baron & Kenny, 1986).⁸ We zero-centered the predictor and group cohesion variables before running the regression analyses (Aiken & West, 1991). In this study, the independent, dependent, and moderating variables are normally distributed and linear. Given the theoretical and empirical influences of gender and tenure from the literature (Flannery & May, 2000; Mesmer-Magnus & Viswesvaran, 2005), and that this research used self-reported data which may be biased by respondents' socially desirable responses (Shafer, 2008), we also controlled for the possible influences of demographic and social desirability response bias factors.

Based on conceptual and statistical recommendations (Baron & Kenny, 1986), the order of entry of the variables within the regression analysis was as follows for each of the two regression models, with Internal Whistleblowing (IWB) and External Whistleblowing (EWB) as the dependent variable. The test incorporated the control variables in step 1; the six independent predictor variables ($IPV_{i=6}$) in step 2 (main effects); group cohesion in step 3 (the moderator); and the interactions between group cohesion and each of the independent variables ($GC \times IPV_i$) in step 4 (the moderating effect). ModGraph-1 program by Jose (2008) was used to plot the interaction graphs, based on information from SPSS output. To examine whether the simple slopes of group cohesion (i.e. low, medium and high levels of group cohesion) differ significantly from zero, we used ModGraph-1 to calculate the simple slopes (betas, standard errors, t-values and p-values).

⁸ Prior literature has proposed the use of hierarchical linear modelling (HLM) and traditional approaches such as Ordinary Least Squares (OLS) techniques (e.g. Moderated Multiple Regression (MMR)) as statistical approaches to test for moderation in cross level analysis. Gavin and Hofmann (2002) argue that HLM and MMR for cross-level analysis are somewhat conceptually similar. Following Hofmann, Morgeson, and Gerras (2003), we felt using other data analysis techniques such as confirmatory factor analysis and estimation of HLM models might be problematic, given that our teams were relatively small (averaging 3 to 5 audit team members). James and Williams (2000) argue that using HLM can be a complex process and "simpler is sometimes better" (p. 423). James and Williams (2000) further suggest that cross-level regression (OLS) is more appropriate for small sample nested designs. As a result, Gonzalez and Denisi (2009) utilize OLS regression to test their cross-level hypotheses. Thus, we used moderated multiple regression (MMR) to test our hypotheses.

4. Results

4.1 Descriptive statistics

Table 3 presents the means, standard deviations and Pearson correlation coefficients for our variables. Correlation matrix results and the fact that the variance inflation factors (VIF) did not exceed 2 in the regression models indicate no major concern with multicollinearity.⁹ The means for the dependent variables indicate a higher preference by respondents for internal whistleblowing (4.93) rather than external whistleblowing (3.42).

Insert Table 3 about here

4.2 Hierarchical regression analysis

4.2.1 Main effects

Table 4 presents the hierarchical regression analysis results testing our hypotheses. In step 1 of Table 4, no control variables are significantly associated with whistleblowing except for firm size, which is found to be negatively and significantly associated with only external whistleblowing. This suggests that auditors working in larger firms have a higher tendency to whistleblow and their choice will be to do so externally.

As seen in step 2 of Table 4, the variables, attitude and independence commitment, are both positively and significantly associated with only internal whistleblowing ($\beta = .197, p < .01$ and $\beta = .224, p < .01$, respectively), thus H₁ and H₅ are partially supported.¹⁰ The variables, perceived behavioral control and personal responsibility for reporting, are both positively and significantly associated with both types of whistleblowing (internal - $\beta = .199, p < .01$ and $\beta =$

⁹ Tabachnick & Fidell (2007) note that statistical problems created by multicollinearity occur when correlations are ≥ 0.90 .

¹⁰ Hypotheses 1 to 6 are *fully* supported only if there is a significant relationship between the individual independent variable and both types of whistleblowing (internal and external).

.305, $p < .01$, and external - $\beta = .170$, $p < .05$ and $\beta = .149$, $p < .05$, respectively), thus fully supporting H₂ and H₄. Desired moral approbation is not significantly related to both types of whistleblowing, thus H₃ is rejected. Personal cost of reporting is negatively and significantly associated with only internal whistleblowing ($\beta = -.146$, $p < .05$), thus partially supporting H₆. These results further imply that auditors with positive attitudes, high independence commitment, and low personal cost of reporting, have a higher tendency to choose only internal channels to whistleblow while those with higher perceived behavioral control and personal responsibility of reporting, have a greater tendency to whistleblow regardless of the channels, supporting the results of Alleyne, Haniffa, and Hudaib (2016).

Insert Table 4 about here

4.2.2 Interaction effects

Table 4 (Step 4) and Modgraph plots (Figures 2 to 8) show the results of the interaction effects. When moderated by group cohesion, our results find no significant relationships between desired moral approbation and both types of whistleblowing intentions. On the other hand, results show the interaction effects between attitudes and independence commitment, and group cohesion to be negative and significant for both types of whistleblowing intentions (see Table 4, step 4). To be more specific, results (see Fig. 2 and 3) indicate the relationship between *attitude* and *internal whistle-blowing* (simple slope $\beta = .559$, $t = 4.598$, $p < .01$), and *attitude* and *external whistle-blowing* (simple slope $\beta = .252$, $t = 2.556$, $p < .05$), to be significantly intensified when *group cohesion* is low.

Insert Figures 2 & 3 about here

Similarly, results (see Fig. 4 and 5) indicate the relationship between *independence commitment* and *internal whistle-blowing* (simple slope $\beta = .576$, $t = 4.847$, $p < .01$), and *independence commitment* and *external whistle-blowing* (simple slope $\beta = .331$, $t = 3.318$, $p < .01$), are significantly intensified when *group cohesion* is low.

Insert Figures 4 & 5 about here

These results suggest that in the presence of weak group cohesion, individuals with positive attitudes and higher levels of independence commitment will be more likely to whistleblow, regardless of the channel. Conversely, it may be argued that auditors will be less likely to whistleblow when group cohesion is strong. In other words, commitment to the group may be deemed more important than commitment to the ethical standards of the organization and the profession.

The interaction effects between perceived behavioral control and personal responsibility for reporting, and group cohesion are negative and significant for only internal whistleblowing (see Table 4, step 4). Results (see Fig. 6 and 7) indicate the relationship between perceived behavioral control and *internal whistle-blowing* is significantly intensified when *group cohesion* is low (simple slope $\beta = .381$, $t = 3.726$, $p < .01$). In addition, the relationship between personal responsibility for reporting and *internal whistle-blowing* is significantly intensified when *group cohesion* is low (simple slope $\beta = .544$, $t = 5.408$, $p < .01$). The results for the interaction effects imply that individuals with higher levels of perceived behavioral control and personal responsibility for reporting will be more inclined to whistleblow internally when group cohesion is weak. Thus, H_{7a} is partially supported.

Insert Figures 6 & 7 about here

In the case of the interaction term, personal cost of reporting and group cohesion, Table 4 (Step 4) shows the interaction effects between group cohesion and personal cost of reporting to be positive and significant with only external whistleblowing intentions. The result (Fig. 8) indicates the relationship between personal cost of reporting and *external whistle-blowing* is significantly intensified when *group cohesion* is high (simple slope $\beta = .195$, $t = 2.520$, $p < .05$). Therefore, H_{7b} is partially supported. The result suggests that in the presence of strong (weak) group cohesion, an individual with a high level of personal cost of reporting will have a higher (lower) tendency to whistleblow externally. This is because the auditor may feel more confident to do so despite a high personal cost because of expectations of support from the group.

Insert Figure 8 about here

5 Discussion of findings and implications

Our results indicate that all individual characteristics of auditors in this study with the exception of desired moral approbation, are significantly associated with whistleblowing (Table 5 summarizes the overall results of the hypothesis testing). Attitude, perceived behavioral control, independence commitment, personal responsibility to report, and personal cost of reporting are all significantly related to internal whistleblowing intentions. In terms of external whistleblowing intentions, significant main effects are found for perceived behavioral control and personal responsibility for reporting. Our results are largely consistent with the constructs presented in Ajzen's (1991) TPB, Graham's (1986) theory of principled organizational dissent, and Gendron

et al. (2006)'s notion of independence commitment, with respect to internal whistleblowing. However, no support is found for desired moral approbation, as suggested by Ryan and Riordan (2000).

Insert Table 5 about here

Our results also indicate a preference for internal whistleblowing by Barbadian auditors. The tendency to choose internal channels for whistleblowing may be attributed to a commitment to protect the profession by correcting the problem internally, or fear of reprisals for reporting externally given the small size of the profession and society where everyone knows each other.

We believe the results may have policy implications for audit firms and regulators. Audit firms might consider creating mechanisms to encourage internal whistleblowing by setting up independent committees to receive reports and providing organizational support. External whistleblowing via regulators might also be encouraged.

Overall, our results indicate that group cohesion moderates the relationships for four of the six independent variables (attitude, perceived behavioral control, independence commitment, and personal responsibility for reporting) and internal whistleblowing intentions. In addition, group cohesion moderates the relationships of three of the independent variables (attitudes, independence commitment, and personal cost of reporting) and external whistleblowing intentions.

The study further finds that when group cohesion is strong, there are significant negative relationships between the individual-level characteristics (attitudes, perceived behavioral control, independence commitment, and personal responsibility for reporting) and internal whistleblowing. However, in relation to external whistleblowing, we find attitudes and independence commitment to be positively and significantly intensified under conditions of

weak group cohesion, while personal cost is positively heightened under conditions of strong group cohesion. The findings suggest that, in general, weak cohesiveness among audit groups in Barbados may influence auditors' willingness to report wrongdoing, and in turn to help protect the image of the firm, profession, and public interest.

However, the auditor's inclination to whistleblow internally rather than externally in the presence of weak group cohesion is not necessarily surprising. It may well be a reflection of the Barbadian culture which is strongly hierarchical, security seeking, obedient, non-confrontational, and concerned with self-respect and not bringing shame to others (Barrow, 2001). Further, given the audit profession's encouragement of internal reporting of wrongdoing, the auditors in our survey may have been complying with what they believed to be their professional code of ethics.

Based on Narayanan *et al.* (2006)'s typology, the failure to whistleblow may be perceived as benefitting the group and either benefiting self (mutual) or harming self (martyr). While weak group cohesiveness may be suitable in encouraging ethical behaviors, strong group cohesiveness is necessary for audit efficiency. However, strong group cohesiveness risks group members being subdued by groupthink and members sticking together and covering up for each other; which falls in line with a collectivist culture like Barbados, where decisions are made to benefit one's in-group. Therefore, achieving the right balance in terms of group cohesiveness is a key issue for the accounting profession to consider. Hence, any cohesive and collegial efforts in audit firms should be directed at getting the job done in an ethical manner rather than creating an atmosphere of close in-groups that will enable unethical behavior. Efforts at cohesion in teams should include high ethical agreement with incentives on sound ethical behavior.

For instance, it may be argued that audit firms attempt to assemble more cohesive audit groups as possible to benefit in the areas of efficiency in completing audit engagements, motivation of employees, and communication within teams. However, these benefits must be weighed against the costs of possible reputational damage to the firm and the profession. We do

not wish to downplay the benefits of group cohesion on audit firms' performance. We also do not suggest that warning labels are required on groups. However, our results indicate that in the composition of the team, strong group cohesion may unintentionally contribute to behavior that may be damaging to the reputation and success of the audit firm. Thus, we argue for more diversity in group composition as this will bring different ideas, values, and beliefs in solving ethical dilemmas among members.

Our results suggest that audit firms should prefer teams with weaker group cohesion, at least from the perspective of whistleblowing. We do not advocate that audit firms make individuals who dislike each other work together so that they will be more likely to blow the whistle on each other. However, we propose that audit firms should look closer at the composition of their audit teams. Perhaps the level of cohesion needs to be targeted towards a focus on ethical behavior rather than solely on the bottom line. This may be achieved by staffing audit teams with members who hold the correct moral attributes. In addition, to promote independence and reduce the building up of solidarity and absolute loyalty to members, the rotation of audit members on teams might assist in encouraging ethical behavior (Teoh & Lim, 1996; Catanach & Walker, 1999). We also suggest that there should be mechanisms in place so that team members feel comfortable suggesting alternative courses of action. O'Leary and Pangemanan (2007, p. 224) seem to support this by stating that "individuals free from the constraints of group pressure appear more inclined to take a more ethical stance, such as become a whistleblower, when faced with an ethical dilemma."

Prior research documents the impact of cultural differences regarding the acceptability of whistleblowing (e.g. Keenan, 2002; Patel, 2003). Our study indicates that while wrongdoing is perceived as being serious and unethical, reporting it (whistleblowing) was perceived as an ethical behavior in Barbados. In that regard, our study is consistent with perceptions towards whistleblowing to developed countries, specifically the UK and the US, and as noted earlier may

be due to Barbados' dominant British professional and cultural influences as well as close business and trade ties with North Americans.

6. Conclusion

This study provides insights on the moderating effect of group cohesion on the relationship between the independent variables (attitudes, perceived behavioral control, independence commitment, and personal responsibility) and internal whistleblowing. Furthermore, group cohesion moderates the relationship between the independent variables (attitudes, independence commitment, and personal cost) and external whistleblowing. Thus, the results highlight the importance for audit firms to consider the adverse effects of strong group cohesion and to develop appropriate interventions to promote whistleblowing among teams and hierarchy in firms. While our study contributes to the literature by identifying the impact of group cohesion and dynamics on the reporting behavior of organizational members, considerable additional work is needed to completely model the process of group cohesion and explore its influence in more depth.

This research does not claim to cover all of the group factors influencing whistleblowing. For instance, future research could examine group homogeneity, hierarchy or potency within groups as equally important characteristics influencing whistleblowing intentions. In addition, future research can explore issues such as trust, solidarity, personal communication, and happiness to work in the group.

A limitation in our study is the dominance of small audit team size in our sample. Since smaller group memberships allow members to develop stronger bonds, this may impact on the overall results. Hence, future research might consider having a more balanced audit size among teams in the sample (i.e. not dominated by either very small audit teams or very large audit teams), to determine the impact of interaction of group cohesion on whistleblowing. This should

provide further insights into social bonds within simple and complex groups, as subgroups may exist within larger groups.

Another limitation in our study is the adoption of a quantitative survey method to measure whistleblowing intentions. Future research should consider using qualitative approaches such as interviews and focus groups to gain opinions and feelings, as well as note interactions and groupthink under whistleblowing conditions. Besides a cross-level design, future research might also employ a longitudinal design that follows group cycles in order to determine if the influence of group cohesion changes over time. Also, the model can be extended to investigate leader-follower schemes within the group, as well as the influence of team norms on group cohesion and reporting of wrongdoing within the context of audit teams.

In summary, our study documents certain relationships between personal characteristics, group dynamics, and whistleblowing intentions in the context of a rather unique, small developing country. While the study has limitations, its results provide a starting strong point for future research in this area.

Acknowledgements:

We would like to thank the Editor and two anonymous reviewers for their valuable comments.

References

- AICPA. (2007). American Institute of Certified Public Accountants (AICPA). *Code of Professional Conduct*. New York: AICPA.
- Aiken, L.S., & West, S.G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Ajzen, I. (1985). From intentions to action: a theory of planned behavior. In J. Kuhl, & J. Beckmann (Eds.), *Action-control: From cognition to behavior* (pp. 11-39). Heidelberg: Springer.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.

- Alleyne, P. (2016). The influence of organizational commitment and corporate ethical values on nonpublic accountants' whistleblowing intentions in Barbados. *Journal of Applied Accounting Research*, 17(2), 190-210.
- Alleyne, P., Devonish, D., & Alleyne, P.G. (2006). Perceptions of auditor independence in Barbados. *Managerial Auditing Journal*, 21(6), 621-635.
- Alleyne, P., Hudaib, M., & Pike, R. (2013). Towards a conceptual model of whistleblowing intentions among external auditors. *The British Accounting Review*, 45(1), 10-23.
- Alleyne, P., Hudaib, M., & Haniffa, R. (2018). The moderating role of perceived organizational support in breaking the silence in public accountants. *Journal of Business Ethics*, 147(3), 509-527.
- Alleyne, P., Haniffa, R., & Hudaib, M. (2016). The construction of a whistle-blowing protocol for audit organisations: A four stage participatory approach. *International Journal of Auditing*, 20(1), 72-86.
- Armitage, C., & Conner, M. (2001). Effect of the theory of planned behavior: A meta-analytic review. *British Journal of Social Psychology*, 40, 471-499.
- Armstrong, J.S., & Overton, T.S. (1977). Estimating non-response bias in mail surveys. *Journal of Marketing Research*, 14(3), 396-402.
- Arnold, D. & Ponemon, L. (1991). Internal auditors' perceptions of whistleblowing and the influence of moral reasoning. *Auditing: A Journal of Practice & Theory*, 10, 1-15.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Baron, R.M., & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Barrow, C. (2001). Reputation and ranking in a Barbadian society. In C. Barrow, & R. Reddock (Eds.), *Caribbean sociology: Introductory readings* (pp. 201-213). Kingston: Ian Randle Publishers.
- Beal, D., Cohen, R., Burke, M., & McLendon, C. (2003). Cohesion and performance in groups: A meta-analytic clarification of construct relations. *Journal of Applied Psychology*, 88(6), 989-1004.
- Beck, L., & Ajzen, I. (1991). Predicting dishonest actions using the theory of planned behavior. *Journal of Research in Personality*, 25(3), 285-301.
- Bedeian, A.G., Kemery, E.R., & Mossholder, K.W. (1989). Testing for cross-level interactions: An empirical demonstration. *Behavioral Science*, 34, 70-78.
- Bliese, P.D. (2000). Within-group agreement, non-independence and reliability: implications for data aggregation and analysis. In K.J. Klein & S.W.J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organization* (pp. 349-381). San Francisco, CA: Jossey-Bass.
- Canning, M., & O'Dwyer, B. (2001). Professional accounting bodies' disciplinary procedures: accountable, transparent and in the public interest? *European Accounting Review*, 10(4), 725-749.
- Cardinaels, E., & Jia, Y., (2016). How audits moderate the effects of incentives and peer behavior on misreporting. *European Accounting Review*, 25(1), 183-204.
- Carron, A.V. (1982). Cohesiveness in sport groups: Interpretations and considerations. *Journal of Sport Psychology*, 4(2), 123-138.
- Carron, A.V., Widmeyer, W.N., & Brawley, L.R. (1985). The development of an instrument to assess cohesion in sport teams: The group environment questionnaire. *Journal of Sport Psychology*, 7(3), 244-266.
- Cartwright, D. (1968). The nature of group cohesiveness. In D. Cartwright & A. Zander (Eds.), *Group dynamics: Research and theory* (3rd ed.) (p. 109). New York: Harper & Row.

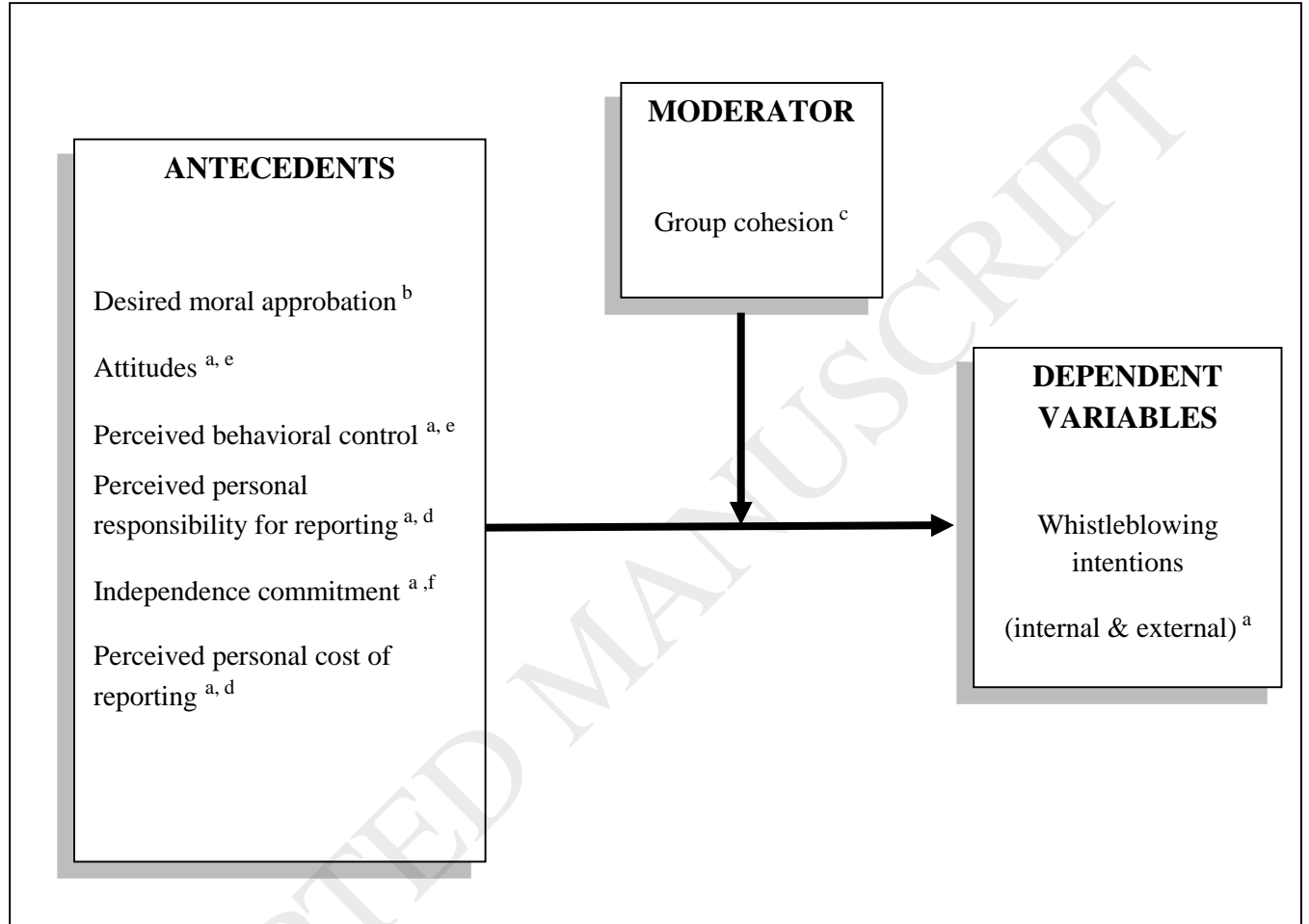
- Catanach, A., & Walker, P. (1999). The international debate over mandatory auditor rotation: a conceptual research framework. *The Journal of International Accounting, Auditing and Taxation*, 8(1), 43-66.
- Chiu, R.K. (2002). Ethical judgment, locus of control, and whistleblowing intention: A case study of mainland Chinese MBA students. *Managerial Auditing Journal*, 17(9), 581-587.
- Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd ed.). New Jersey: L. Erlbaum Associates.
- Curtis, M. (2006). Are audit-related ethical decisions dependent upon mood? *Journal of Business Ethics*, 68(2), 191-209.
- Ferris, G.R., Dulebohn, J.H., Frink, D.D., George-Falvy, J., Mitchell, T.R., & Matthews, L.M. (1997). Job and organizational characteristics, accountability and employee influence. *Journal of Managerial Issues*, 9(2), 162-175.
- Finn, D.W. (1995). Ethical decision-making in organizations: A management employee-organization whistleblowing model. *Research on Accounting Ethics*, 1, 293-313.
- Finn, D. W., & Lampe, J. C. (1992). A study of whistleblowing among auditors. *Professional Ethics, A Multidisciplinary Journal*, 1(3/4), 137-168.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley Publishing Company.
- Flannery, B., & May, D. (2000). Environmental ethical decision-making in the US metal-finishing industry. *Academy of Management Journal*, 43(4), 642-662.
- Gavin, M. B., & Hofmann, D. A. (2002). Using hierarchical linear modeling to investigate the moderating influence of leadership climate. *The Leadership Quarterly*, 13(1), 15-33.
- Gendron, Y., Suddaby, R., & Lam, H. (2006). An examination of the ethical commitment of professional accountants to auditor independence. *Journal of Business Ethics*, 64(2), 169-193.
- Gonzalez, J. A., & Denisi, A. S. (2009). Cross-level effects of demography and diversity climate on organizational attachment and firm effectiveness. *Journal of Organizational Behavior*, 30, 21-40.
- Graham, J.W. (1986). Principled organizational dissent: A theoretical essay. In B.M Staw & L.L. Cummings (Eds.), *Research in organizational behavior* (pp. 1-52). Greenwich, CT: JAI Press.
- Green, S.B. (1991). How many subjects does it take to do a regression analysis? *Multivariate Behavioral Research*, 26(3), 499-510.
- Greenberger, D.B., Miceli, M.P., & Cohen, D.J. (1987). Oppositionists and group norms: The reciprocal influence of whistleblowers and co-workers. *Journal of Business Ethics*, 6(7), 527-542.
- Hall, M., Smith, D., & Langfield-Smith, K. (2005). Accountants' commitment to their profession: Multiple dimensions of professional commitment and opportunities for future research. *Behavioral Research in Accounting*, 17, 89-109.
- Harman, H.H. (1976). *Modern factor analysis* (3rd ed.). Chicago: University of Chicago Press.
- Herrbach, O. (2005). The art of compromise? The individual and organizational legitimacy of irregular auditing. *Accounting, Auditing and Accountability Journal*, 18(3), 390-409.
- Hirschi, T., & Stark, R. (1969). Hellfire and delinquency. *Social Problems*, 17(2), 202-213.
- Hofmann, D. A., Morgeson, F. P., & Gerras, S. J. (2003). Climate as a moderator of the relationship between the leader-member exchange and content specific citizenship: Safety climate as an exemplar. *Journal of Applied Psychology*, 88(1), 170-178.
- Hooks, K.L., Kaplan, S.E., & Schultz Jnr, J.J. (1994). Enhancing communication to assist in fraud prevention and detection. *Auditing: A Journal of Practice & Theory*, 13, 86-117.

- James, L.R. (1982). Aggregation bias in estimates of perceptual agreement. *Journal of Applied Psychology*, 67, 219-229.
- James, L.R., & Williams, L.J. (2000). The cross-level operator in regression, ANCOVA and contextual analysis. In K.J. Klein, & S.W.J. Kozlowski (Eds.), *Multilevel theory, research and methods in organizations: foundations, extensions and new directions* (pp. 382-424). San Francisco, CA: Jossey-Bass.
- James, L.R., Demaree, R.G., & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology*, 69, 431-444.
- James, L.R., Demaree, R.G., & Wolf, G. (1993). Rwg: An assessment of within-group interrater agreement. *Journal of Applied Psychology*, 78, 306-309.
- Jones, T.M., & Ryan, L.V. (1997). The link between ethical judgment and action in organizations: A moral approbation approach. *Organization Science*, 8, 663-680.
- Jose, P.E. (2008). *ModGraph-I: A programme to compute cell means for the graphical display of moderational analyses: The internet version (version 2.0)*. Wellington, New Zealand: Victoria University of Wellington. Retrieved from <http://www.victoria.ac.nz/psyc/staff/paul-jose-files/modgraph/modgraph.php>.
- Kaplan, S.E. (1995). An examination of auditors' reporting intentions upon discovery of procedures prematurely signed off. *Auditing: A Journal of Practice & Theory*, 14(2), 90-104.
- Kaplan, S.E. (2015). Discussant comment in whistleblowing intentions of lower level employees: The effect of reporting channel, bystanders, and wrongdoer power status by Jingyu Gao, Robert Greenberg, Bernard Wong-On-Wing. *Journal of Business Ethics*, 126, 101-102.
- Kaplan, S.E., & Whitecotton, S.M. (2001). An examination of the auditors' reporting intentions when another auditor is offered client employment. *Auditing: A Journal of Practice & Theory*, 20(1), 45-63.
- Keenan, J.P. (2002). Comparing Indian and American managers on whistleblowing. *Employee Responsibilities and Rights Journal*, 14(2), 79-89.
- Kidwell, Jr R.E., Mossholder, K.W., & Bennett, N. (1997). Cohesiveness and organizational citizenship behavior: A multilevel analysis using work groups and individuals. *Journal of Management*, 23(6), 775-793.
- Latan, H., Ringle, C., & Jabbour, C. (2016). Whistleblowing intentions among public accountants in Indonesia: Testing for moderating effects. *Journal of Business Ethics*, <https://doi.org/10.1007/s10551-016-3318-0>.
- Liao, H., & Rupp, D.E. (2005). The impact of justice climate, climate strength and justice orientation on work outcomes: A multilevel-multifoci framework. *Journal of Applied Psychology*, 90, 242-256.
- Mesmer-Magnus, J., & Viswesvaran, C. (2005). Whistleblowing in organizations: An examination of correlates of whistleblowing intentions, actions and retaliation. *Journal of Business Ethics*, 62 (3), 277-297.
- Miceli, M.P., Near, J.P., Rehg, M.T., & Van Scotter, J.R. (2012). Predicting employee reactions to perceived organizational wrongdoing: Demoralization, justice, proactive personality and whistleblowing. *Human Relations*, 65(8), 923-954.
- Mossholder, K.W., & Bedeian, A.G. (1983). Cross-level inference and organizational research: Perspectives on interpretation and application. *Academy of Management Review*, 8, 547-558.
- Narayanan, J., Ronson, S., & Pillutla, M. (2006). Groups as enablers of unethical behavior: The role of cohesion on group members actions. In E. Mannix, & M. Neale (Eds.), *Ethics in groups: Research on managing groups and teams* (pp. 127-147). UK: JAI Press.

- Near, J.P., & Miceli, M.P. (1985). Organizational dissidence: The case of whistleblowing. *Journal of Business Ethics*, 4(1), 1-16.
- O'Leary, C., & Pangemanan, G. V. (2007). The effect of groupwork on ethical decision-making of accountancy students. *Journal of Business Ethics*, 75(3), 215-228.
- Park, H., & Blenkinsopp, J. (2009). Whistleblowing as planned behavior - A survey of South Korean police officers. *Journal of Business Ethics*, 85(4), 545-556.
- Patel, C. (2003). Some cross-cultural evidence on whistleblowing as internal control mechanism. *Journal of International Accounting Research*, 2(1), 69-96.
- Paulhus, D.L. (1989). *The balanced inventory of desirable responding (BIDR-6). Preliminary unpublished scale*. Vancouver, Colombia: University of British Columbia.
- Podsakoff, P.M., Mackenzie, S.B., Russell, S.S., & Mohr, D.C. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.
- Ponemon, L. (1994). Whistleblowing as an internal control mechanism: Individual and organizational considerations. *Auditing: A Journal of Practice & Theory*, 13(2), 118-130.
- Rau, S.E., & Weber, J. (2004). The impact of the Enron mega-event on auditors' moral reasoning. *The Journal of Accounting & Finance Research*, 12(6), 106-119.
- Rest, J. R. (1986). *Moral development: Advances in research and theory*. New York: Praeger Publishers.
- Robinson, S.L., & O'Leary-Kelly, A.M. (1998). Monkey see, monkey do: The influence of work groups on the antisocial behavior of employees. *The Academy of Management Journal*, 41(6), 658-672.
- Rousseau, D.M. (1985). Issues of level in organizational research: Multi-level and cross-level perspectives. In L.L. Cummings, & B.M. Staw (Eds.), *Research in organizational behavior* (pp. 1-37). Greenwich, CT: JAI Press.
- Rustiarini, W.N., & Sunarsih, M.N. (2017). Factors influencing the whistleblowing behaviour: A perspective from the theory of planned behaviour. *Asian Journal of Business and Accounting*, 10(2), 187-214.
- Ryan, L.V., & Ciavarella, M.A. (2002). Tapping the source of moral approbation: The moral referent group. *Journal of Business Ethics*, 38(1), 179-192.
- Ryan, L.V., & Riordan, T.M. (2000). The development of a measure of desired moral approbation. *Educational and Psychological Measurement*, 60(3), 448-462.
- Sánchez, J.C., & Yurrebaso, A. (2009). Group cohesion: Relationships with work team culture. *Psicothema*, 21(1), 97-104.
- Sanders, K. (2004). Playing truant within organizations: Informal relationships, work ethics and absenteeism. *Journal of Managerial Psychology*, 19(2), 136-155.
- Schminke, M., & Wells, D. (1999). Group processes and performance and their effects on individuals' ethical frameworks. *Journal of Business Ethics*, 18(4), 367-381.
- Schultz, Jr. J.J., Johnson, D.A., Morris, D., & Dyrnes, S. (1993). An investigation of the reporting of questionable acts in an international setting. *Journal of Accounting Research, Supplement*, 31, 75-103.
- Shafer, W.E. (2008). Ethical climate in Chinese CPA firms. *Accounting, Organizations and Society*, 33(7), 825-835.
- Shafer, W.E., Morris, R.E., & Ketchand, A.A. (1999). The effects of formal sanctions on auditor independence. *Auditing: A Journal of Practice and Theory, Supplement*, 18, 85-101.

- Silver, L.S., & Valentine, S.R. (2000). College students' perceptions of moral intensity in sales situations. *Journal of Education for Business*, July/August, 309-314.
- Sweeney, J.T., & Roberts, R.W. (1997). Cognitive moral development and auditor independence. *Accounting, Organizations and Society*, 22(3), 337-352.
- Tabachnick, B.G., & Fidell, L.S. (2007). *Using multivariate statistics* (5th ed.). Boston: Allyn and Bacon.
- Taylor, E.Z., & Curtis, M.B. (2010). An examination of the layers of workplace influences in ethical judgments: Whistleblowing likelihood and perseverance in public accounting. *Journal of Business Ethics*, 93(1), 21-37.
- Teoh, H., & Lim, C. (1996). An empirical study of the effects of audit committees, disclosures of non-audit fees, and other issues on audit independence: Malaysian evidence. *Journal of International Accounting, Auditing and Taxation*, 5(2), 231-248.
- Trevino, L.K., Butterfield, K.D., & McCabe, D.L. (1998). The ethical context in organizations: Influence on employee attitudes and behaviors. *Business Ethics Quarterly*, 8(3), 447-476.
- Turrisi, R., & Jaccard, J. (1992). Cognitive and attitudinal factors in the analysis of alternatives to drunk driving. *Journal of Studies on Alcohol*, 53(5), 405-414.
- UNDP. (2014). *Human Development Report 2014*. New York: Oxford University Press.
- Webb, T. L., & Sheeran, P. (2006). Does changing behavioral intentions engender behavior change? A meta-analysis of the experimental evidence. *Psychological Bulletin*, 132(2), 249-268.
- Yoo, Y., & Alavi, M. (2001). Media and group cohesion: Relative influences on social presence, task participation, and group consensus. *MIS Quarterly*, 25(3), 371-390.

Figure 1 Conceptual model of whistleblowing intentions among external auditors



Adapted from ^a Alleyne *et al.* (2013), ^b Jones and Ryan (1997), ^c Schminke and Wells (1999),
^d Graham (1986), ^e Ajzen (1991), ^f Gendron *et al.* (2006).

Table 1: Composition of groups in the survey

Group Size (Members)	No. of Groups	Total
3	14	42
4	20	80
5	17	85
6	2	12
7	1	7
Total	54	226

Table 2: Profile of respondents

Variables		
<i>Panel A: Continuous variables</i>		
	Mean	Standard deviation
Age	30.80 years	9.69 years
Years of working experience	7.84 years	4.93 years
<i>Panel B: Other variables</i>		
	Frequency	Percentage (%)
Gender		
Male	102	45.1
Female	124	54.9
Total	226	100.0
Organizational position		
Partners	9	4.0
Audit Managers	49	21.7
Audit Seniors	61	27.0
Junior Staff	107	47.3
Total	226	100.0
Academic qualifications (education) *		
Secondary (High School)	18	8.0
Diploma	12	5.3
Bachelor's degree	177	78.3
Master's degree	7	3.1
Other	12	5.3
Total	226	100.0
Professional qualifications		
ACCA	113	50.0
ACA	3	1.3
CGA	32	14.2
CPA	11	4.9
CMA	1	0.4
Other	8	3.5
Unqualified **	58	25.7
Total	226	100.0

Notes: * Highest qualification attained; ** Currently pursuing professional exams

ACCA = Association of Chartered Certified Accountants; ACA = Association of Chartered Accountants;
CGA = Certified General Accountants of Canada; CPA = Certified Public Accountants; CMA = Certified
Management Accountants of Canada

Table 3: Descriptive statistics and correlations matrix

Variables		M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
Controls																
1	SDB	8.23	4.18	(.75)												
2	Gender	1.55	0.50	.18**	(-)											
3	Tenure	7.84	4.93	.07	-.22**	(-)										
4	Firm size	.36	0.48	.08	.05	.26**	(-)									
Dependents																
5	IWB	4.93	1.52	.06	.03	-.12	-.10	(.92)								
6	EWB	3.42	1.25	.08	.11	-.08	-.12	.47**	(.87)							
Independents																
7	ATT	5.02	1.23	.08	.02	-.15*	-.09	.16*	.09	(.83)						
8	DMA	5.15	0.89	-.04	.06	-.06	-.01	.06	-.07	.39**	(.80)					
9	PBC	4.60	1.44	.05	-.02	-.03	.07	.15*	.14*	.66**	.26**	(.79)				
10	IC	4.93	1.29	.12	.07	-.12	-.02	.25**	.07	.61**	.31**	.39**	(.91)			
11	PRR ^a	4.73	1.48	.19**	.01	-.07	-.07	.35**	.13*	.65**	.37**	.50**	.67**	(-)		
12	PCR ^a	3.23	1.61	-.04	.09	.02	-.12	-.12	.11	-.15*	-.01	-.16*	-.13*	-.12	(-)	
Moderators																
13	GC	3.15	0.61	-.20**	-.02	-.04	-.01	-.01	.13*	-.18*	-.13*	-.17*	-.16*	-.22**	-.05	(.92)

Notes:

** p < .01; * p < .05

M = Mean; SD = Standard deviation.

1 = Social desirability bias (SDB); 2 = Gender; 3 = Tenure; 4 = Firm size (1= non-big 4 firm; 0= Big 4 firm); 5 = Internal whistleblowing intentions (IWB);

6 = External whistleblowing intentions (EWB); 7 = Attitudes toward whistleblowing (ATT); 8 = Desired moral

Approval (DMA); 9 = Perceived behavioral control (PBC); 10 = Independence commitment (IC); 11 = Personal

responsibility for reporting (PRR); 12 = Personal cost for reporting (PCR); 13 = Group cohesion (GC).

Alpha reliabilities are shown in parentheses on the diagonal.

(-) represents single-item variables for which reliabilities cannot be computed.

^a = single-item scales

Table 4 Results of hierarchical regression analysis for the moderating effects of group cohesion on internal and external whistleblowing intentions

Internal Whistleblowing intentions		Attitude [ATT]			Perceived Behavioral Control [PBC]			Desired Moral Approval [DMA]			Personal Responsibility for Reporting [PRR]			Personal Cost of Reporting [PCR]			Independence Commitment [IC]		
Step	Variable	β	R ²	ΔR^2	β	R ²	ΔR^2	β	R ²	ΔR^2	β	R ²	ΔR^2	β	R ²	ΔR^2	β	R ²	ΔR^2
1	SDB	.022			.022			.022			.022			.022			.022		
	Gender	.014			.014			.014			.014			.014			.014		
	Tenure	-.101			-.101			-.101			-.101			-.101			-.101		
	Firm size	-.055	.017	.017	-.055	.017	.017	-.055	.017	.017	-.055	.017	.017	-.055	.017	.017	-.055	.017	.017
2	IPV _{I=6}	.197**	.055**	.038**	.199**	.057**	.040**	.062	.021	.004	.305**	.108**	.091**	-.146*	.038*	.021*	.224**	.067**	.050**
3	GC	.035	.056	.001	.035	.058	.001	.008	.021	.000	.048	.110	.002	-.004	.038	.000	.032	.068	.001
4	IPV x GC	-.248**	.113**	.057**	-.161*	.082**	.024**	-.119	.034	.013	-.192**	.146**	.036**	-.043	.039	.001	-.227**	.116**	.048**
External Whistleblowing intentions		Attitude [ATT]			Perceived Behavioral Control [PBC]			Desired Moral Approval [DMA]			Personal Responsibility for Reporting [PRR]			Personal Cost of Reporting [PCR]			Independence Commitment [IC]		
Step	Variable	β	R ²	ΔR^2	β	R ²	ΔR^2	β	R ²	ΔR^2	β	R ²	ΔR^2	β	R ²	ΔR^2	β	R ²	ΔR^2
1	SDB	.100			.100			.100			.100			.100			.100		
	Gender	.082			.082			.082			.082			.082			.082		
	Tenure	-.030			-.030			-.030			-.030			-.030			-.030		
	Firm size	-.144*	.041	.041	-.144*	.041	.041	-.144*	.041	.041	-.144*	.041	.041	-.144*	.041	.041	-.144*	.041	.041
2	IPV _{I=6}	.087	.049	.008	.170*	.070*	.029*	-.039	.043	.002	.149*	.063*	.022*	.095	.050	.009	.083	.048	.007
3	GC	.111	.060	.011	.124	.085	.015	.090	.051	.008	.119	.076	.013	.096	.059	.009	.106	.059	.011
4	IPV x GC	-.143*	.079*	.019*	-.076	.090	.005	-.013	.051	.000	-.023	.077	.001	.148*	.081*	.022*	-.214**	.102**	.043**

Notes: N = 226; SDB = Social desirability bias; GC = group cohesion; IPV = Independent variable; Standardized Beta-Coefficients are reported; ** p < .01; * p < .05.

Figure 2 Plot of interaction effect of attitudes toward whistleblowing and group cohesion on internal whistleblowing intentions

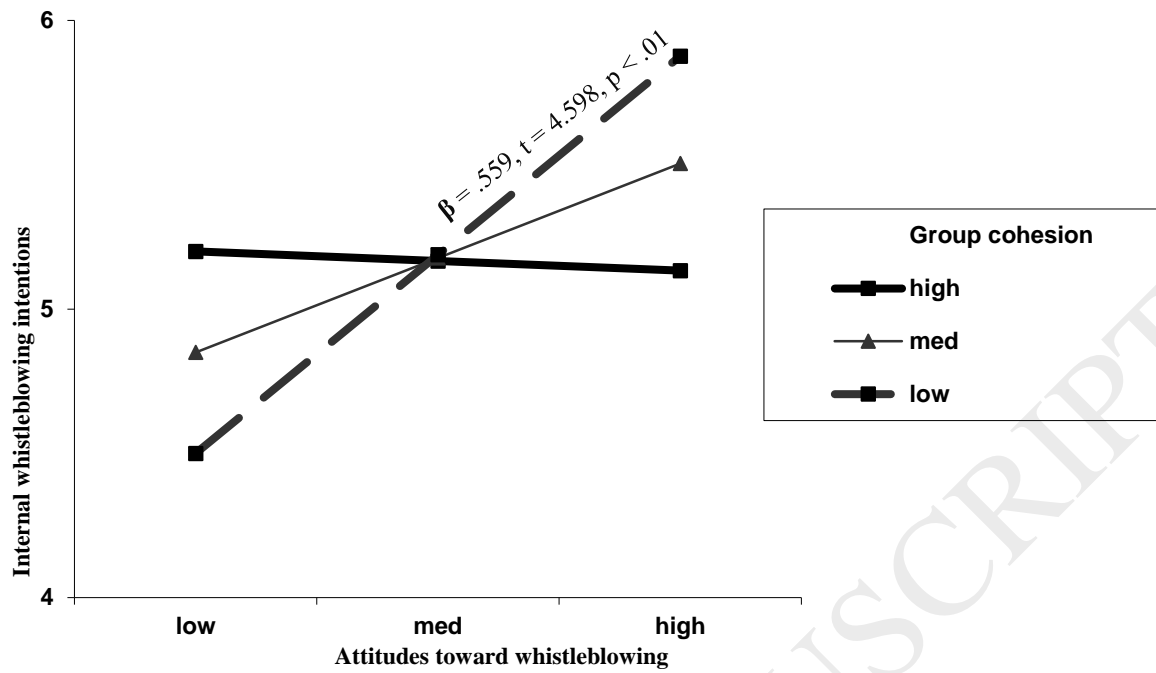


Figure 3 Plot of interaction effect of Attitudes toward whistleblowing and group cohesion on external whistleblowing intentions

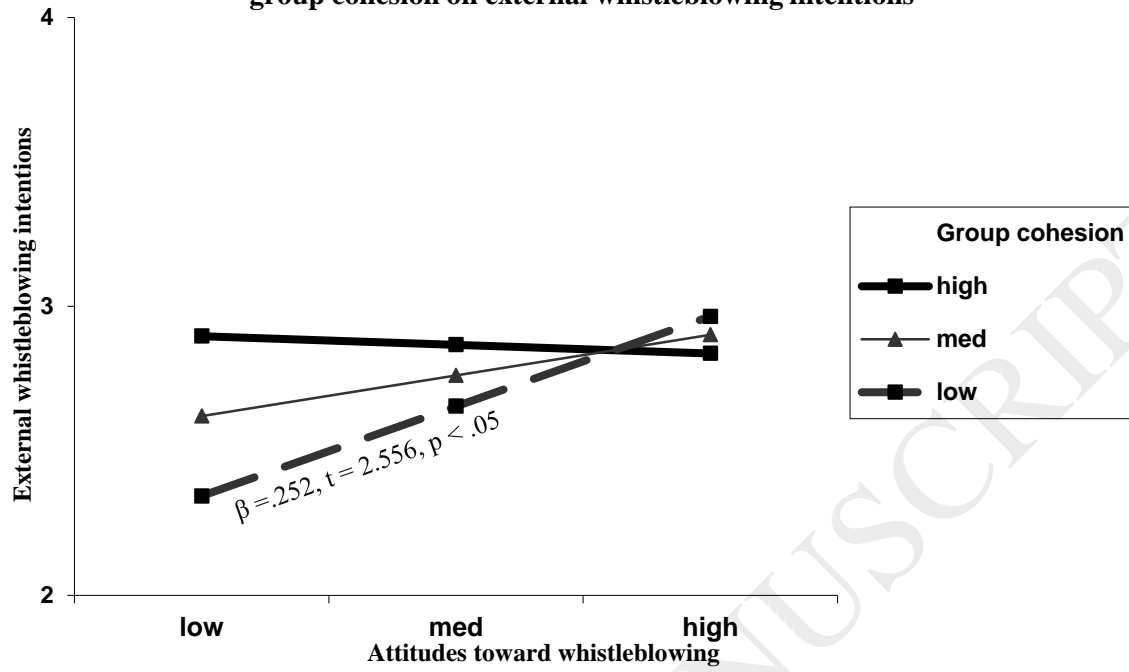


Figure 4 Plot of interaction effect of independence commitment and group cohesion on internal whistleblowing intentions

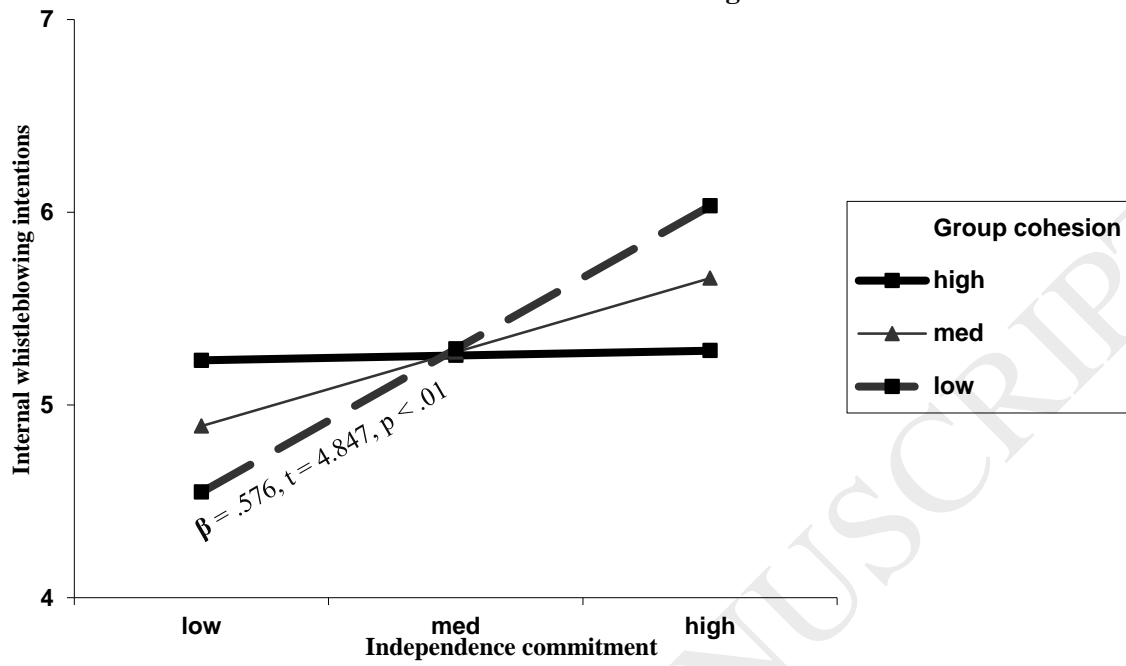


Figure 5 Plot of interaction effect of independence commitment and group cohesion on external whistleblowing intentions

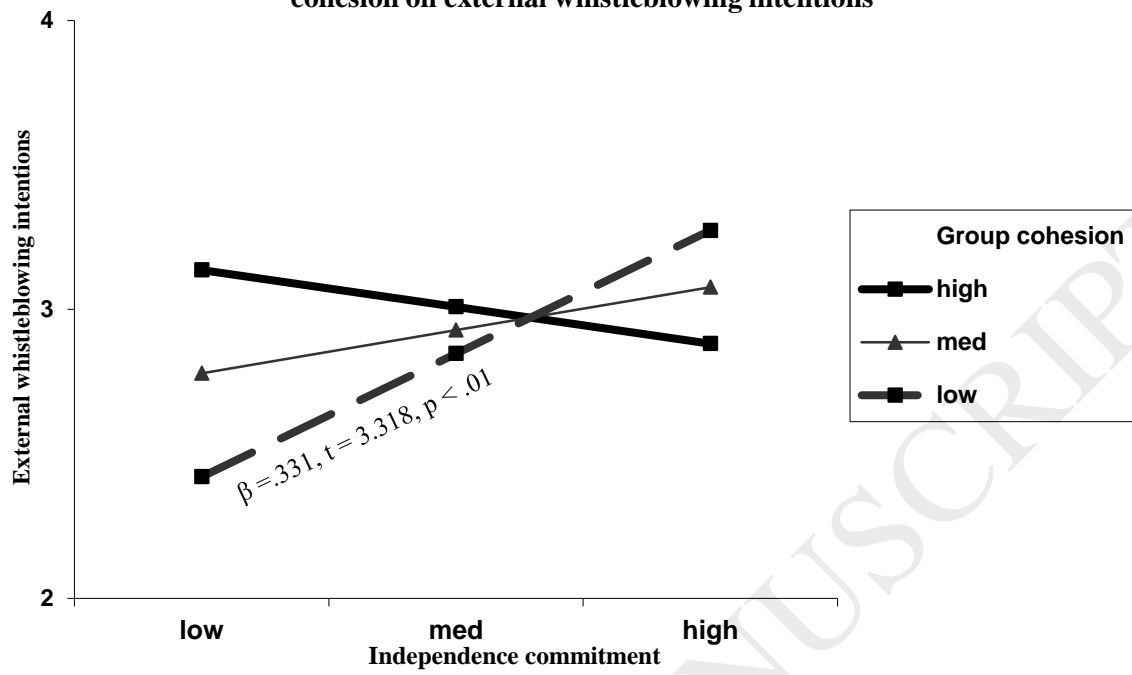


Figure 6 Plot of interaction effect of perceived behavioral control and group cohesion on internal whistleblowing intentions

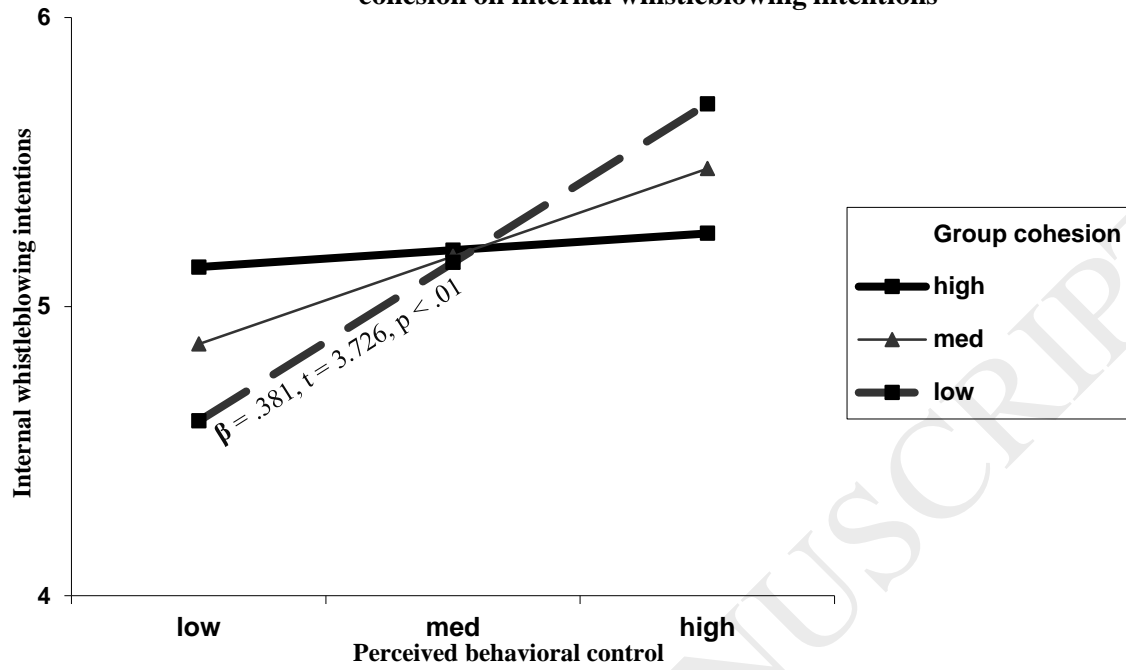


Figure 7 Plot of interaction effect of personal responsibility for reporting and group cohesion on internal whistleblowing intentions

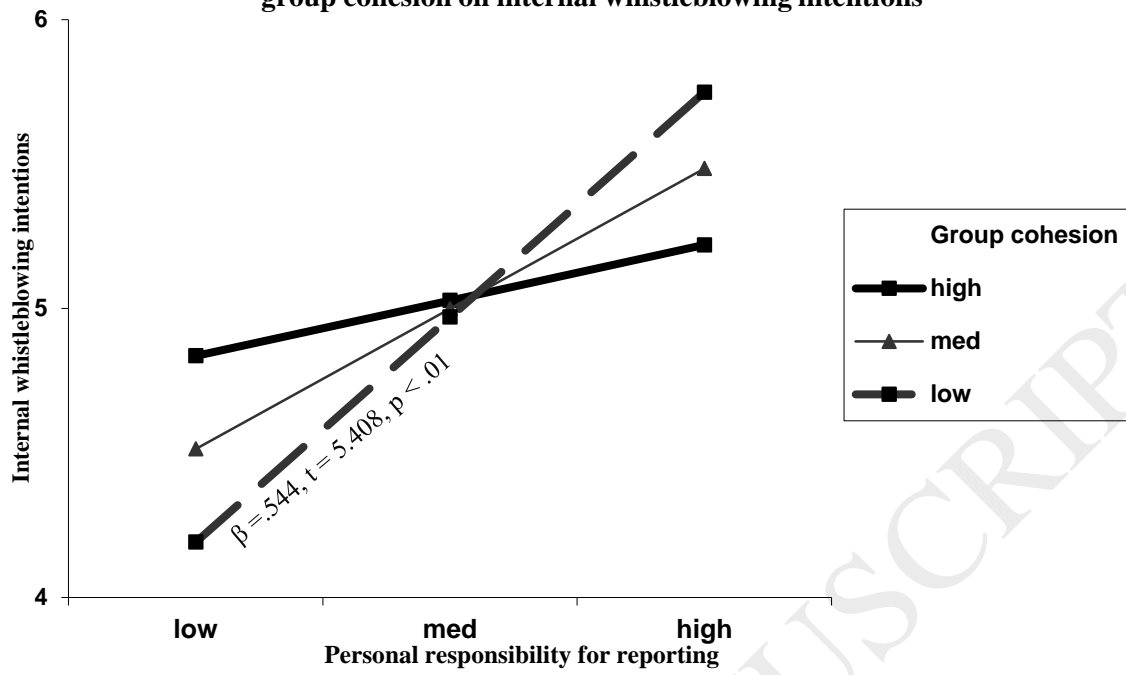


Figure 8 Plot of interaction effect of personal cost of reporting and group cohesion on external whistleblowing intentions

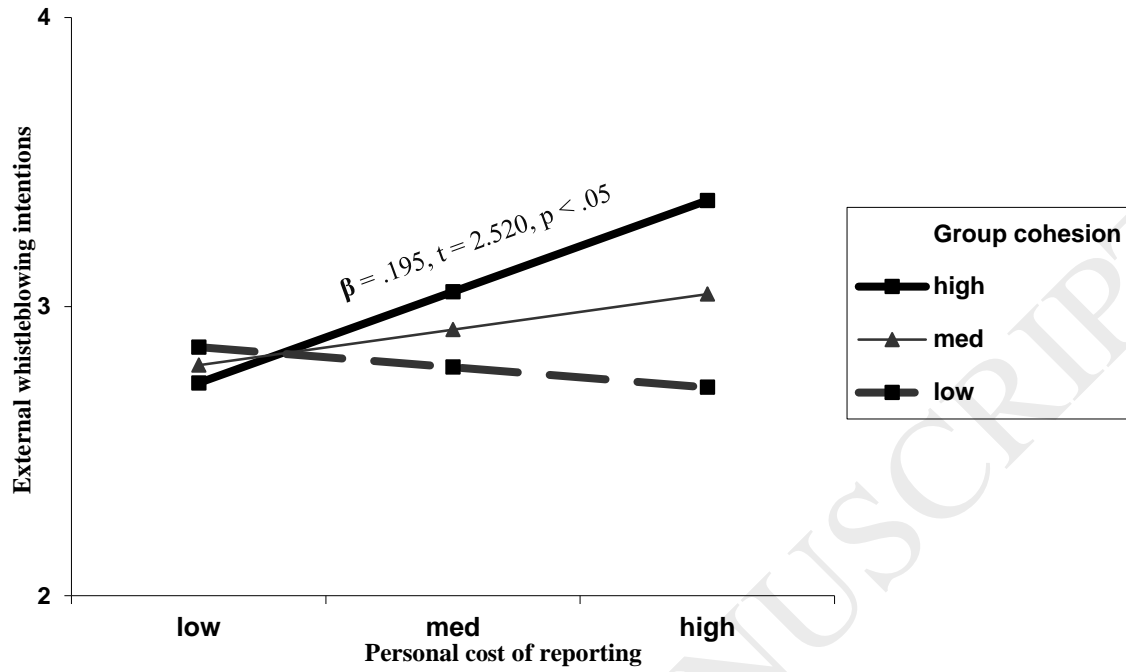


Table 5 Summary of theoretical underpinning and results of hypotheses testing

Theoretical underpinnings	Main effect variables (a)	Main effect hypotheses (expected relationship with whistleblowing)	Results	Moderating hypotheses (expected relationship of a *b with whistleblowing)	Results	
					Internal whistleblowing	External whistleblowing
					Strong group cohesion	Strong group cohesion
Theory of planned behavior (Ajzen, 1991)	Attitudes	H ₁ (+)	IWB - Sig.** EWB - Not sig. Partially Support H ₁	H _{7a} (-)	Sig.**	Sig.*
	Perceived behavioral control	H ₂ (+)	IWB - Sig.** EWB - Sig.* Accept H ₂		Sig.**	Not sig.
Notion of approval required (Gendron <i>et al.</i> , 2006)	Desired moral approbation	H ₃ (+)	IWB - Not sig. EWB - Not sig. Reject H ₃		Not sig.	Not sig.
Principled organizational dissent (Graham, 1986)	Perceived personal responsibility for reporting	H ₄ (+)	IWB - Sig.** EWB - Sig.* Accept H ₄		Sig.**	Not sig.
Notion of independence (Gendron <i>et al.</i> , 2006)	Independence commitment	H ₅ (+)	IWB - Sig.** EWB - Not sig. Partially support H ₅		Sig.**	Sig.**
Principled organizational dissent (Graham, 1986)	Perceived personal cost of reporting	H ₆ (-)	IWB - Sig.* EWB - Not sig. Partially support H ₆		H _{7b} (+)	Not sig.
Theoretical underpinnings	Moderating variable					
Group cohesion (Schminke and Wells, 1999)	Group cohesion [GC]					

Notes: IWB = Internal whistleblowing intentions; EWB = External whistleblowing intentions; (+) = Positive relationship; (-) = negative relationship; significance level ** $p < .01$; * $p < .05$