LOYALTY AND FAIRNESS: A STUDY OF THE INFLUENCE OF MORAL FOUNDATIONS ON AUDITORS’ PROPENSITY TO SUBORDINATE THEIR JUDGMENT

Marc P. Neri

Dissertation Prepared for the Degree of

DOCTOR OF PHILOSOPHY

UNIVERSITY OF NORTH TEXAS

December 2016

APPROVED:

Mary B. Curtis, Major Professor
Jesse Robertson, Major Professor
Rex Wright, Committee Member
George Krull, Interim Chair of the Department of Accounting
Marilyn Wiley, Dean of the College of Business
Victor Prybutok, Vice Provost of the Toulouse Graduate School

Subordination of judgment is a fundamental threat to auditor objectivity. Subordination of judgment occurs when auditors agree with their superiors either in spite of or without forming their own independent judgments. Many audit procedures rely on independent, critical thinking at every level of the audit team; however, a number of studies suggest that auditors tend to agree with superiors even when a superior’s views clearly run contrary to generally accepted accounting principles. While there is general agreement among scholars that subordination of judgment is “bad,” very little attention has been given to moral biases that might influence an auditor’s tendency to subordination of judgment, or to potential remedies that could mitigate an auditor’s tendency to subordinate judgment.
ACKNOWLEDGEMENTS

I would like to express my gratitude to my dissertation committee. Specifically, I am grateful for two co-chairs, Mary Curtis and Jesse Robertson, who encouraged me to pursue my own research interests and guided me with great patience through the process. I am no less grateful for Rex Wright’s enthusiasm in joining a committee outside his department. And, I should also thank all the faculty, staff and doctoral students at the University of North Texas who have created a truly supportive culture. I always felt like a valued colleague.

I would also like to thank everyone involved with the AICPA Foundation and the Accounting Doctoral Scholars program. Without the support of the program, I would not have been able to pursue my doctorate. Not only did the program provided funding, but also access to a fellowship of professionals and academics dedicated to the future of accounting education and scholarship.

Most importantly, I would like to thank my family: my parents, who sacrificed much for my education; and my wife, Lara, who has willingly embraced ‘glad poverty’ so I may pursue my vocation. She is my inspiration, my co-laborer, and my friend.
# TABLE OF CONTENTS

ACKNOWLEDGEMENTS ....................................................................................................................... iii
LIST OF TABLES ..................................................................................................................................... vi
LIST OF FIGURES .................................................................................................................................. vii
CHAPTER 1: INTRODUCTION ............................................................................................................... 1
CHAPTER 2: LITERATURE REVIEW AND HYPOTHESES ................................................................ 5
   The Influence of Superiors...................................................................................................................... 5
   Social Identity Theory (SIT) ................................................................................................................... 8
      In-group favoritism ............................................................................................................................. 8
      Which Hat to Wear? .......................................................................................................................... 9
   Professional Identity Salience (PIS) ..................................................................................................... 10
Moral Foundations Theory (MFT) ........................................................................................................ 12
   Intuition ............................................................................................................................................. 13
   Emotion ............................................................................................................................................. 14
   Moral Heuristics ............................................................................................................................... 15
   Multiple Foundations ......................................................................................................................... 16
   Loyalty-Respect ............................................................................................................................... 17
   Fairness ............................................................................................................................................ 18
CHAPTER 3: METHODOLOGY .............................................................................................................. 21
   Design and Subjects ............................................................................................................................ 21
   Professional Identity Salience Intervention (PIS) ................................................................................. 22
   The Case Study ..................................................................................................................................... 23
      Superior Influence Manipulation (MGR) ......................................................................................... 24
   Dependent Variable (JB_3) ................................................................................................................. 25
   Post-task Questionnaire ...................................................................................................................... 27
   Additional Controls and Manipulation Checks......................................................................................... 28
   Pilot Testing ...................................................................................................................................... 29
CHAPTER 4: RESULTS .......................................................................................................................... 31
   Participants ....................................................................................................................................... 31
   Demographics and Groups ................................................................................................................... 31
   Participant Understanding and Effort .................................................................................................... 35
Manipulation Checks ............................................................................................................................ 36
  Manipulation of PIS .............................................................................................................................. 36
  Manipulation of Manager Opinion ...................................................................................................... 38
Moral Foundations ................................................................................................................................. 39
  Confirmatory Factor Analysis ............................................................................................................. 39
  Correlation Matrix ............................................................................................................................... 41
Other Variables ........................................................................................................................................ 42
  Dependent Variable (JB_3) ................................................................................................................ 42
  Independent Variables (MGR and PIS) ............................................................................................... 44
  Control Variables ................................................................................................................................. 44
Tests of Hypotheses ................................................................................................................................. 46
  H1 and H2 – The Influence of Manager Opinion and PIS Intervention on Subordination of
  Judgment .............................................................................................................................................. 46
  H3 and H4 – The Moderating Influence of Moral Foundations ........................................................... 50
CHAPTER 5: CONCLUSIONS & FUTURE RESEARCH ........................................................................... 57
  Conclusions ........................................................................................................................................... 57
  PIS Intervention ................................................................................................................................... 57
  Moral Foundations ............................................................................................................................... 57
Study Limitations ..................................................................................................................................... 59
Future Research ........................................................................................................................................ 60
APPENDIX A: INSTRUMENT ................................................................................................................ 61
APPENDIX B: LIST OF CHANGES MADE TO INSTRUMENTS FROM PRIOR LITERATURE.... 73
REFERENCES ............................................................................................................................................ 79
**LIST OF TABLES**

Table 1A: Descriptive Statistics by Experimental Groups (N=76) .......................................................... 32
Table 1B: Descriptive Statistics by Educational Level (N=76)........................................................................ 33
Table 2: Analysis of PIS Task Responses (N = 33).......................................................................................... 38
Table 3: Confirmatory Factor Analysis on Moral Foundations (N=76)............................................................ 41
Table 4: Pearson Correlations Matrix (N=76) .................................................................................................. 43
Table 5: The Influence of Manager’s Opinion (MGR) and PIS on Audit Judgment (N=76)......................... 49
Table 6: Regression of PIS and Moral Foundations on Audit Judgment (JB_3) for the Manager 'Expense Opinion' Treatment (N=34) .................................................................................................................. 52
Table 7: Regression of PIS and Moral Foundations on Audit Judgment (JB_3) for the Manager 'No Opinion' Condition (N=42) .............................................................................................................................. 55
Table 8: Regression of PIS and Moral Foundations on Audit Judgment (JB_3) for the Manager ‘Expense Opinion’ Condition for an Expanded Sample (N=91)........................................................................................................ 56
LIST OF FIGURES

Fig. 1: Model of the Influence of PIS on Subordination of Judgment ...................................................... 11

Fig. 2A: Model of Influence of Moral Foundations on Subordination of Judgment when a Superior Expresses an Opinion (PROCESS Model 2 per Hayes 2013) ................................................................. 20

Fig. 2B: Model of Influence of Moral Foundations on Subordination of Judgment when a Superior Does Not Express an Opinion (PROCESS Model 2 per Hayes 2013) ................................................................. 20

Fig. 3: Experimental Design and Components ......................................................................................... 22

Fig. 4: Audit Judgment Questions ............................................................................................................ 26

Fig. 5: Experimental Groups ..................................................................................................................... 47

Fig. 6: Prediction for the Influence of Manager’s Opinion (MGR) on Audit Judgment under Different PIS Intervention Conditions .................................................................................................................. 48

Fig. 7: Results for the Influence of Manager’s Opinion (MGR) on Audit Judgment under Different PIS Intervention Conditions .................................................................................................................. 48
CHAPTER 1
INTRODUCTION

In this dissertation, I examine the influence of moral foundations on auditor judgment. Moral foundations are a set of heuristics or cognitive biases that can exert an influence on judgment in situations with moral tension (Graham et al., 2012; Haidt & Joseph, 2007). Auditors may face a situation of moral tension when subordinating their judgment. Subordination of judgment occurs when an auditor agrees with a superior in the audit team either in spite of or without forming an independent judgment (PCAOB, 2013; Peytcheva & Gillett, 2011). Subordination of judgment is a fundamental threat to auditor objectivity (PCAOB, 2013). Regulators, practitioners and scholars agree that independent, critical thinking is required at every level of the audit team, and in various auditing tasks (Baumann, 2015; Demelis et al., 2015). Yet, a number of studies indicate that auditors tend to subordinate their judgment to that of a superior in the audit team (Bazerman, Loewenstein, & Moore, 2002; Bierstaker & Wright, 2005; Peytcheva & Gillett, 2011; Wilks, 2002).

Subordination of judgment is a component of auditor objectivity (PCAOB, 2013). Research examining the influence of clients on auditor objectivity suggests that bias in favor of clients is a result of cognitive biases, and that strengthening auditors’ professional identity salience (PIS) can strengthen auditor objectivity (Bauer, 2015). PIS is the temporary, heightened awareness of an auditor’s identity as a professional among peers (Bauer, 2015). However, an auditor’s response to PIS may be impaired by their sense of loyalty to a superior within the audit firm. Loyalty is one example of an innate moral heuristic that operates at a non-conscious level to make agreement with one’s in-group seem to be a better choice than disagreement (Graham et al., 2012).

Audit research suggests that auditors’ normative evaluations of their superiors is an important factor influencing the likelihood of subordination of judgment (Kim & Harding, 2016). Moral Foundations Theory (MFT) suggests that individuals tend to make normative evaluations by means of
non-conscious, moral intuitions (Graham et al., 2012; Haidt & Joseph, 2007). Evidence suggests there are at least five dimensions of morality, collectively called moral foundations, that form a set of innate moral heuristics (Graham et al., 2012). Each moral foundation captures an individual’s attitude or preference for a particular category of moral action.

There are two moral foundations in particular that may create moral tension in the case of subordination of judgment: loyalty-respect and fairness (Andersen, Zuber, & Hill, 2015; Graham et al., 2012). An auditor’s preference for loyalty to one’s in-group or respect for those placed in authority is a cognitive bias that could make acceptance of a superior’s opinion seem more morally acceptable. A superior is not only a member of the audit team in-group, but also vested with authority over that team. Conversely, a high sense of fairness\(^1\) could create a cognitive bias that heightens an auditor’s concern for the rules of the profession code, leading the auditor to question the judgment of superiors. If a superior’s opinion happens to disagree with an accounting rule this creates a situation of moral tension where an auditor’s concern for loyalty and respect is placed in opposition to that auditor’s concern for fairness. Therefore, an auditor’s response to PIS is likely to depend, in part, on a personal difference in the auditor’s moral foundations.

I conducted a two-by-two between-subjects experiment with a manipulation of superior’s influence and a PIS intervention, forming the four experimental groups, and two measured variables. The measured variables captured the moral foundations of loyalty-respect and fairness by means of the Moral Foundations Questionnaire (MFQ) (Andersen et al., 2015; Graham et al., 2012) administered in a post-task survey. The experimental task consisted of a case study with an audit judgment. After reading the case, participants were asked to give a recommendation concerning the correct accounting treatment.

\(^1\)Note: “fairness” in this context refers to a theoretical construct of moral foundations theory. As such, it does not describe a particular auditor’s subjective perception of what is fair within a given context, but a general sensitivity to issues of fairness *per se*. Therefore, fairness is a trait, rather than a state. However, different contextual factors can influence the activation of the trait of fairness, hence the discussion of professional identity salience.
of expenditures on plant, property and equipment (PPE), as well as predict the treatment that another staff auditor would likely recommend. The dependent variable was the prediction of the other staff auditor recommendation².

First, I manipulated the superior’s opinion: I informed some participants that their superior believed an item should be expensed, while I informed the other participants that their superior had no opinion regarding the item (Peytcheva & Gillett, 2011). Importantly, the ‘expense opinion’ represented a departure from US accounting regulations, creating a situation of moral tension. Second, I administered a PIS intervention to some participants, requiring them to rate the characteristics of a good auditor, while I required the other participants to perform a similar task (rating the characteristics of a good vacation) designed not activate PIS (Bauer, 2015).

The treatment of PPE can have a profound impact on the financial statements of firms, but it is also a matter with which junior-level auditors would have a great deal of familiarity. Anecdotal evidence from discussions with partners and managers in practice suggests that interns are likely to have participated in the audit of PPE, and research indicates there is no significant difference between results from students and auditors on a similar tasks (Peytcheva & Gillett, 2011). Therefore, I used graduate and senior undergraduate accounting student population at two universities in the Southwestern United States as a proxy for junior staff auditors. I also gathered data on participants’ internship and other work experience, including whether they had been involved in the audit of PPE.

I found that moral foundations influenced audit judgment when the superior’s opinion was explicitly stated and that opinion ran contrary to the rules. The moral foundation of loyalty-respect led to more agreement with the superior’s opinion, while the moral foundation of fairness led to less agreement.

² Participants were asked to give their prediction of another professional’s opinion because indirect questions of this kind have been found to be effective at reducing social desirability bias (Fisher, 1993). However, participants were also asked to give their own recommendation, and the answers to the direct and indirect questions were found to be highly, significantly and positively correlated.
with the superior’s opinion. The PIS intervention did not mitigate the tendency of staff auditors to agree with their superior as predicted; rather, the results suggested that a PIS intervention might induce uncertainty about the rules in less experienced auditors. In addition, I did not find evidence that the auditor’s moral foundations influenced the usefulness of the PIS intervention.

In Chapter 2, I discuss the prior literature before presenting my hypotheses. Chapter 3 discusses the experimental approach and instrument in detail. Chapter 4 discusses the results, and Chapter 5 discusses the implications and limitations of this study, and considers some future research directions.
CHAPTER 2
LITERATURE REVIEW AND HYPOTHESES

The Influence of Superiors

Subordination of judgment occurs when an auditor agrees with the views of another person or group either without forming an independent judgment or in spite of coming to a different independent conclusion (PCAOB, 2013). Two areas of particular concern involve an auditor agreeing with the preferences or views of a client (Bauer, 2015), or an auditor agreeing with the preferences or views of a superior in their firm (Peytcheva & Gillett, 2011). The focus of this study is when subordination of judgment involves agreeing with superiors within the firm. This is less thoroughly researched and, consequently, less well understood than subordination of judgment to a client.

Research suggests that superiors’ risk-taking attitudes can influence their subordinates’ audit judgments. For instance, Cohen & Trompeter (1998) find that an auditor with a superior who is known to be ‘aggressive’ with respect to winning new clients, as opposed to a superior who is more conservative in this regard, is more likely to bid for a client’s work when there are significant indications of engagement risk. In their experiment, the client adopts a questionable position regarding R&D expenditures. The results also suggest that the auditor’s decision to bid for the client’s work is associated with a willingness to accept the questionable accounting position.\(^3\)

Superiors can also have a detrimental effect on auditor judgment when they express a preference for audit efficiency over audit effectiveness. Peecher (1996) finds that auditors are more likely to accept client explanations for income increasing items when the superior emphasizes audit efficiency than when the superior emphasizes audit effectiveness. This study also presents evidence indicating that

---

\(^3\) In related research, auditors’ risk-taking attitudes and behaviors are found to be affected by the superior review process common in audit practice. Specifically, an auditor’s materiality judgments tend to be more conservative when auditors are required to justify their opinions than when they are not, or when auditors face the prospect of receiving feedback from superiors than when their work is anonymous (DeZoort, Harrison, & Taylor, 2006). This research also suggests that auditors spend more time deliberating when they must justify their choices than when they do not.
auditors may spend less time searching for alternative explanations when the superior emphasizes audit efficiency. Behavior such as being less critical of client explanations and conducting fewer subsequent evidence searches may indicate less professional skepticism (Hurtt, Brown-Liburd, Earley, & Krishnamoorthy, 2013; Nelson, 2009).

A related study that examines auditors’ hypothesis testing suggests that superior preferences for efficiency over effectiveness influence the degree to which auditors cling to hypotheses when audit tests suggests auditors abandon the hypothesis and conduct further testing (Brown, Peecher, & Solomon, 1999). Conversely, auditors tend to exhibit greater professional skepticism by assessing fraud risk to be higher when superiors emphasize fraud risk than when superiors do not emphasize fraud risk, regardless of the number of fraud risk indicators present in the case (Carpenter & Reimers, 2013).

Examining the audit planning process, Bierstaker & Wright (2001) find that auditors align their plans to the perceived expectations and preferences of their superiors. In the experiment, eighty-three auditors complete an audit plan to test the revenue cycle. Auditors plan fewer total audit hours and fewer procedures when their superiors indicate the importance of audit fees than when there is no indication from superiors. Auditors also tend to budget less experienced staff, rather than more experienced staff, to the testing procedures. This has implications for the rigor of subsequent audit judgments.

In another study, sixty-one auditors assess inherent risk then complete an audit plan to test the revenue cycle (Bierstaker & Wright, 2005). This time, superiors either emphasize audit efficiency, or they emphasize both efficiency and effectiveness. The first situation reflects an efficiency condition while the second situation reflects a balanced condition, rather than the absence of any information regarding superiors’ preferences. Auditors tend to assess risk higher and plan more testing when superiors emphasize both efficiency and effectiveness than when the audit partner emphasizes efficiency
only. Even when auditors recognize risk has increased from the prior year, they tend not to recommend increasing the rigor of testing when only efficiency is emphasized.

Superiors’ express opinions on auditing matters can influence the judgment of their subordinates, who are likely to adopt the opinion of their superior as their own (Rich, Solomon, & Trotman, 1997). A superior’s opinion does not need to be particularly persuasive in order to affect auditor judgment. Mere knowledge of an audit partner’s opinion is enough to influence the subsequent opinion of auditors (Wilks, 2002). Wilks (2002) finds that participants who know the audit partner’s opinion at the outset are more likely to interpret individual items of evidence in a manner that is more consistent with the partner’s opinion, and are more likely to concur with the audit partner’s opinion as a result, than are participants who have no knowledge of the partner’s opinion. Wilks (2002) describes this phenomenon as “pre-decisional distortion,” since the auditor learns of the views of superiors prior to making their own judgment and then examines the evidence selectively. Rather than looking at the evidence impartially, the auditor searches for evidence that supports the superiors’ views and tends to ignore disconfirming evidence.

In a recent study of pre-decisional distortion with 181 auditors (96 from South Korea and 85 from Australia), the perceived expertise of the superior was manipulated (Kim & Harding, 2016). When language in the experimental task communicated that the superior had higher than usual expertise in the area, auditors showed greater levels of pre-decisional distortion toward a preference held by the superior than when the language suggested that the superior had less than usual expertise in the area. The authors conclude that auditors make normative evaluations of the superior that affects their audit judgment (Kim & Harding, 2016).

In addition, Kim and Harding (2016) examine the influence of differences in social norms between auditors from South Korea and Australia. The study finds that the South Korean auditors have
higher levels of power distance (Hofstede, 1983) than Australian auditors, suggesting that South Korean auditors share a more hierarchical cultural norm than Australian auditors. This normative bias resulted in South Korean auditors being more likely to subordinate judgment to a superior (Kim & Harding, 2016). Therefore, auditors’ pre-existing biases were found to influence their normative evaluation of a superior’s views and, consequently, affect the tendency of auditors to subordinate their judgment to that of a superior.

Even when auditors are given an opportunity to formulate an audit judgment prior to learning the views of their superiors, their superiors’ views can exert influence on subsequent reported audit judgments (Peytcheva & Gillett, 2011). Peytcheva and Gillett (2011) ask auditors to formulate recommendations as to whether their client should expense a capital expenditure as a repair. Critically, in an effort to reduce the effect from pre-decisional distortion, Peytcheva and Gillet (2011) give auditors the chance to formulate an opinion prior to learning the views of superiors. The study finds that auditors are more likely to suggest expensing the item if they discover that their superiors express this view than if superiors express no views, despite evaluating evidence before learning the superiors’ preference. This suggests that auditors tend to subordinate their judgment to that of their superiors even when they are given an opportunity to come to their own conclusion first. In keeping with these finding, I predict:

\[ H1: \text{Auditor judgment is more closely aligned with superior opinions when auditors know superiors’ opinions than when the superiors’ opinions are not known.} \]

Social Identity Theory (SIT)

In-Group Favoritism

A number of audit studies have considered the influence of social identification as a judgement bias or as an intervention to improve audit judgment (Bamber & Iyer, 2002, 2007; Bauer, 2015; Iyer, Bamber, & Barefield, 1997; A. J. Johnson, 2014; Stefaniak, Houston, & Cornell, 2012). None have yet
considered the influence social identification within the audit team, nor have they considered professional identity as an intervention to mitigate subordination of judgment to that of superiors.

Social identity theory (SIT) states that social identification is the perception that one belongs to an in-group (Ashforth, Mael, Ashforth, & Mael, 1989). In general, people tend to classify themselves and others into abstract, archetypal social categories, such as firm, profession, gender and age. Such classifications form distinct social identities. Social identification reflects the extent to which an individual’s self-concept is determined by unity with a social group (Herda & Lavelle, 2015). Importantly, social identity does not depend upon the likeability of others or prior interactions with specific individual members of the group (Ashforth et al., 1989). Therefore, a person may identify with another person they have never met or with someone of whom they have a negative impression.

Critically, social identification results in the internalization of the in-group’s values, norms, opinions and behaviors, leading to in-group favoritism (Ashforth, Harrison, & Corley, 2008; Ashforth et al., 1989). In the case of auditors, SIT may partly explain the tendency of subordination of judgments. SIT suggests that auditors will tend to share the values, sentiments and opinions of those with which they identify. Therefore, if auditors perceive superiors to be members of their audit in-group, they are more likely to agree with and internalize the views of those superiors. However, identification with a superior is not the only possible social identification affecting auditing judgment.

Which Hat to Wear?

An individual possesses multiple social identities (Ashforth, Johnson, Hogg, & Terry, 2001). The influence from any particular social identity depends on two factors: (1) the relative strength of that social identity compared to other social identities the person possesses; (2) the relative salience of that social identity within a situation (Ashforth et al., 2001).
First, in examining the influence of the relative strength of social identities, Bamber and Iyer (2002) find that auditors tend to identify strongly with their firms and with the audit profession as a whole. Strong identification with both the firm and the profession leads to very little conflict between organizational and professional commitment among auditors (Bamber & Iyer, 2002). However, there is no examination of social identification with specific individuals within the firm, such as a superior. Also, this study considers audit quality as an antecedent to forming firm identification, but not as an output of social identification.

While an auditor may possess an unspecified number of social identities, research has focused on two that significantly affect audit objectivity. Specifically, the relative strength of client identification and professional identification can bias audit judgment (Bamber & Iyer, 2007; Bauer, 2015). If client identification is stronger than professional identification, audit opinions tend to be closely aligned with client preferences, suggesting auditor objectivity is impaired; however, when professional identification is stronger than client identification, the opposite is true (Bamber & Iyer, 2007; Herda & Lavelle, 2015). Therefore, professional identification may bolster auditor objectivity.

Professional Identity Salience (PIS)

While the strength of social identities is important, evidence suggests that the salience of those identities can be more influential (Bauer, 2015). Professional identity salience (PIS) is a state of heightened cognizance of an auditor’s professional identity. Among auditors, PIS is found to emphasize the importance of rules of professional conduct, objectivity and independence. Specifically, an auditor that completes a task with reminders of professional values and characteristics is less likely to express an audit opinion aligned with explicit client preferences than an auditor not given such a reminder (Bauer, 2015).
However, it is less clear whether PIS will mitigate subordination of judgment to a superior within an audit firm. A superior could be seen as a prototype of the professional in-group. A superior’s opinion might even be viewed as the voice of the profession. At the very least, in-group bias could lead to auditors favoring the opinions of a superior. On the other hand, a superior could be viewed as a member of a different social group thanks to difference in age, experience, or responsibilities between the superior and the subordinate (Ashforth et al., 2001).

As has been stated, social identity research in auditing suggests that professional identification and firm identification are two distinct constructs (Bamber & Iyer, 2002); therefore, it is likely that “superior identification” is different from professional identification. Increasing PIS will not increase identification with the superior; rather, PIS will emphasize identification with professional rules, including objectivity. I predict PIS will mitigate subordination of judgement, such that:

\[ H2: \text{PIS moderates the relationship described in H1 such that the alignment of views is less for auditors given a PIS cue than auditors not given a PIS cue when the superior’s opinion is known; however, PIS has no effect when the superior’s opinion is unknown.} \]

Fig. 1: Model of the Influence of PIS on Subordination of Judgment
Moral Foundations Theory (MFT)

Moral judgment is a fundamental component of social interaction; moral judgment has been found to reinforce the kinds of human cooperation necessary in social settings such as the workplace (Everett, Pizarro, & Crockett, 2016). Meanwhile, moral judgment is formed through social interactions, particularly reflecting upon the moral actions of others and a group’s social norms (Haidt, 2001). The audit profession has strong social norms (King, 2002), which proscribe non-professional conduct. Subordination of judgment is a prime example of a proscription imbued with moral tension, since it involves refraining from behavior that might seem acceptable or admirable in other areas of life: loyalty to the in-group or deference to persons in positions of authority. Recent research has shown that auditors no only undertake normative evaluations when deciding whether to subordinate their judgment, but important social and cultural biases, such as power distance, can influence these assessments (Kim & Harding, 2016).

Research in the field of moral psychology indicates that agreement with a superior is likely to be influenced by an individual’s concern for loyalty to the in-group and respect for authority (Graham et al., 2011; Hildreth, Gino, & Bazerman, 2016). Meanwhile, the effectiveness of any appeal to professionalism is likely to be influenced by an individual’s sensitivity to issues of fairness (Glenn, Iyer, Graham, Koleva, & Haidt, 2009; Graham et al., 2011). An individual’s concern for loyalty, authority and fairness form a set of moral heuristics, called moral foundations, that exert an influence on judgment and decision-making at an intuitive, non-conscious level (Graham et al., 2011, 2012; D K Lapsley & Narvaez, 2004; Daniel K. Lapsley & Hill, 2008). This can and does happen even if the resulting judgments are not rationally optimal or “ethical” (Narvaez, 2008; Sunstein, 2005).

Research in audit ethics has tended to assume that moral judgment is a conscious, rational process (Bailey, Scott, & Thoma, 2010; Jones, Massey, & Thorne, 2003). Therefore, relatively few
studies have examined the role of moral heuristics in audit practice (Bailey et al., 2010). Recent research within the accounting realm has begun to look at moral foundations in the context of accounting and auditing judgment (Andersen et al., 2015; Neri, 2015); however, it is worth reviewing the key points of Moral Foundations Theory before developing hypotheses based upon the moral foundations of loyalty, respect and fairness.

Intuition

Moral judgment generally involves a quick, normative evaluation about the character or actions of a person based on feelings (like–dislike, good–bad) without conscious awareness of having gone through steps of search, weighing evidence, or inferring a conclusion (Haidt & Bjorklund, 2008, p. 188, modified from Haidt, 2001). Therefore, moral judgment tends to be intuitive, rather than rational (Haidt & Bjorklund, 2008; Haidt, 2001; Olatunji et al., 2009). Intuition is a type of quick, automatic, non-conscious thinking (Kahneman, 2011; Tversky & Kahneman, 1974), which contrasts with slower, deliberate, conscious rational thinking. Intuitive thinking and rational thinking do not necessarily compete, but are two distinct methods of cognition that can co-operate (Daniel K. Lapsley & Hill, 2008). For instance, intuition may make a quick initial judgment, which reason then evaluates and corrects as necessary (Sunstein, 2005).

Moral intuition should be contrasted with moral awareness, which is also sometimes referred to as moral sensitivity in accounting ethics literature. Moral awareness is the process by which a person becomes aware of a moral dilemma and can, as a result, consider the moral implications involved (Bailey et al., 2010; Jones et al., 2003). Research has found that a number of judgment biases influence moral awareness (Schaub 1989; Jones et al. 2003); however, moral awareness is the first stage of moral reasoning (Jones et al. 2003; Bailey et al. 2010). On the other hand, moral intuition can proceed directly
to judgment and action before a person becomes conscious of the moral component of the judgment process (Haidt, 2001).

Emotion

MFT suggests a critical component of moral intuition is an emotional reaction to a situation. Haidt (2001) reports the findings of several experiments where participants’ judgments are accompanied by strong negative or positive emotions. Intuitions concerning ‘bad’ actions may be accompanied by a feeling of disgust; however, this emotional response is not purely affective, but is experienced as moral approbation (Feinberg, Willer, Antonenko, & John, 2012; Haidt, 2001): one experiment provides participants with a scenario that describes incest; in another, participants hear about or witness a person using a national flag to clean a toilet, which elicits a strong sense of disgust from participants.

Some accounting researchers have objected that accounting judgments do not usually involve issues likely to incite an emotional response (Bailey et al., 2010; Narvaez, 2008). However, other lines of accounting research have found a number of accounting judgments that are influenced by emotion (Bhattacharjee & Moreno, 2013). For instance, a recent review of experimental research concludes that professional skepticism is essentially an affective reaction to audit risk (Nolder & Kadous, 2014). Meanwhile, a field study with Canadian auditors concludes that an audit is considered completed when the auditors involved overcome their feelings of discomfort or fear arising from exposure to audit risk (Guénin-Paracini, Malsch, & Paillé, 2014).

Therefore, current audit research suggests that audit judgments do involve subjective, normative evaluations at an intuitive level, incorporating the auditor’s emotions. The process of normative evaluation is essentially a subjective assessment of the ‘goodness’ or ‘badness’ of the matter at hand. The fact that professional standards provide guidance regarding a set of desirable qualities for behavior,
such as objectivity (PCAOB, 2013), or evidence, such as sufficiency and appropriateness (AICPA, 2013), does not diminish the subjective nature of audit judgment in these cases, as these concepts are not defined in quantitative terms.

Moral Heuristics

Moral intuition operates through heuristics which allow the mind to process complex data quickly and economically. Heuristics work through non-conscious biases which substitute complex ‘target questions’ with simpler ‘heuristic questions’ that the mind can deal with more easily (Sunstein 2005; Lapsley and Hill 2008; Kahneman 2011). Heuristics may yield sub-optimal judgments (Haidt 2001; Sunstein 2005; Pinker 2008).

The suggestion that heuristic thinking is involved in moral judgment poses at least two distinct possibilities: (1) judgments concerning accounting ethics dilemmas may be influenced by heuristics that do not have an overt moral component; (2) accounting judgments that do not have an overt ethical dimension may still be influenced by a set of innate moral heuristics.

Accounting ethics research finds ample evidence of the first case: the outcomes of various accounting ethics issues are influenced by a range of judgment biases.

For example, positive and negative moods can influence intentions to commit fraud or blow the whistle on wrongdoing (Cianci & Bierstaker, 2009; Curtis, 2006); framing affects can influence accounting ethics judgments (Singer, Lyonski, Singer, & Hayes, 1991); and availability bias can influence the moral intensity of issues (Hayibor & Wasieleski, 2009).

---

4 Kahneman (2011) discusses the substitution of a demanding ‘target’ question with a less demanding heuristic. An example of a heuristic is attribute substitution, where a target question (e.g. what does the code of professional conduct require in this situation) is substituted with a simpler and superficially similar question (e.g. what would the partner-in-charge do?) (Lapsley and Hill 2008).
However, very little audit research examines the second possibility, that there are a set of moral heuristics that might affect audit judgment *per se*.

**Multiple Foundations**

Moral foundations are a set of fundamental or innate moral heuristics (Graham et al., 2012). Each moral foundation concerns one particular dimension of morality. Being innate, these dimensions are common to all; however, exposure to particular cultures and experiences as an individual matures informs the expression and emphasis of each dimension of morality (Haidt & Joseph, 2007). Even though moral foundations may incite inappropriate choices in a specific situation, they form deeply affective, non-conscious biases that contribute to quick, intuitive, normative assessments of situations, people, actions or decisions. These could be the actions or decisions of another person, or one’s own judgments and decisions.

MFT suggests that there are at least five dimensions of morality, or moral foundations: one’s sense of fairness to others and respect for justice or the law; care for others and the avoidance of harm; loyalty to the in-group; respect for those in authority; purity to a religious or ethical code (Graham et al., 2012). Individuals may place emphasis on different dimensions. For instance, evidence suggests that individuals who self-identify as political liberals in the United States, tend to prioritize the moral foundations of fairness and care, whereas those who identify as political conservatives tend to perceive the foundations of fairness, care, loyalty, purity and authority as equally important (Haidt & Joseph, 2007). Therefore, an individual’s moral foundations form a personality trait that may bias judgment.

Prior research on the moral foundations of business and accounting students suggests that the dimensions of loyalty and respect form one factor, rather than two distinct factors (Andersen et al., 2015). In addition, moral foundation research finds fairness is a more prominent concern than any of the
other moral foundations, with mean scores for fairness being significantly higher than any of the other dimensions of morality (Andersen et al., 2015). Critically, for a study investigating subordination of judgment, loyalty-respect is likely to align morality with subordination of judgment, while fairness is likely to align morality with a keen observance of the professional standards, as can be seen from the following discussion.

Loyalty-Respect

According to MFT, the moral foundation of loyalty is the fundamental, innate moral heuristic that equates loyalty to the in-group with morality (Graham et al., 2012; Haidt & Joseph, 2007). Meanwhile, the moral foundation of respect is the fundamental, innate moral heuristic that equates respect for a person in authority with morality (Graham et al., 2012; Haidt & Joseph, 2007).

In-group favoritism and agreement among members of a community leads to numerous benefits for that community, particularly the sharing of scarce resources and any activity that involves one individual risking one’s life for others; therefore, loyalty to the in-group is generalized as a moral good (Graham et al., 2012). A bias toward agreement with a person placed in authority leads to less struggle within the group, less dissipation of effort, and a greater chance of success in joint ventures. MFT argues that the biases of loyalty and respect develop over evolutionary time because persons who can quickly intuit the need to serve the in-group and obey superiors more often than not contribute to the success and survival of the species, even if those judgments are not always rationally optimal or suited to contemporary situations, such as an independent and objective audit (Graham et al., 2012; Haidt & Bjorklund, 2008).

Prior research suggests that loyalty-authority lead to a bias in favor of the in-group often at the expense of the out-group (Smith, Aquino, Koleva, & Graham, 2014). Complementary research that
manipulates loyalty salience, indicates that loyalty can lead to greater honesty between members of an in-group; however, cheating increases in regard to those with whom one is in competition (Hildreth et al., 2016). Audit research finds loyalty is a key component in client identification, leading to subordination of judgment to the client (Herda & Lavelle, 2015).

SIT suggests that social identity can arise without any prior interaction, and merely appointing a person to a team, organization or profession is sufficient to engender in-group bias (Ashforth et al., 2001). Research among organizational and accounting scholars finds that there is a strong sense of belong and social norms (King, 2002; Shafer, 2015), suggesting that this phenomenon could be more rather than less common among accounting professionals and auditing teams.

Loyalty-authority has clear implications for auditors’ tendencies to subordinate their judgment when a superior indicates a preference for an opinion that is contrary to the rules. However, when a superior does not state a preference, there is no moral tension. Therefore, I expect to find:

\textit{H3a: Loyalty-respect weakens the effect of PIS on subordination of judgment when the superior states a preference for an incorrect accounting treatment.}

\textit{H3b: Loyalty-respect has no effect when the superior states they have no opinion.}

Fairness

The moral foundation of fairness is the fundamental, innate moral heuristic that associates the upholding of laws and the equal treatment of others and a consideration of justice with morality (Graham et al., 2012; Haidt & Joseph, 2007). Fairness specifically heightens awareness of the rights of persons who are not members of the in-group (Smith et al., 2014).

As a professional, an auditor is likely to be cognizant of the professional code of conduct and auditing standards that prescribe auditor objectivity (PCAOB, 2013). However, an auditor with high sensitivity to fairness is more likely to react intuitively with disgust to a threat to auditor objectivity than
auditors with a lower sense of fairness. The connection between the professional code of conduct and the moral foundation of fairness is potentially strengthened by the professional expectation that auditors should serve the public interest. Research with accounting students suggests that, in general, the dimension of fairness is more prominent than other foundations (Andersen et al., 2015).

An auditor with a high level of fairness is more likely to perceive and react intuitively to the values, attributes and qualities of the profession embodied in the professional rules than an auditor with a low level of fairness. Therefore, PIS is likely to activate a moral bias in an auditor with a high innate sense of fairness. The moral bias in favor of observing rules at the expense of other concerns is likely to make the auditor more sensitive to threats to their professional objectivity than they would be otherwise. Therefore, fairness should strengthen the mitigating effect of PIS on auditor judgment, making it less likely for an auditor to subordinate their judgment to the opinion of a superior. However, in the absence of a superior’s opinion, there is no moral tension that might activate the auditor’s sense of fairness. Therefore, fairness will not influence audit judgment when the superior expresses no opinion. When the superior’s opinion is unknown, there is no moral tension between agreeing with the superior or upholding the correct accounting rule. The auditor will simply select the correct accounting rule whether or not they have the trait of fairness. As a result, I expect to find:

*H4a: Fairness strengthens the effect of PIS on subordination of judgment when the superior states a preference for an incorrect accounting treatment.
H4b: Fairness has no effect when the superior states they have no opinion.*

Figure 2A illustrates the strengthening and weakening effects of moral foundations under the condition that creates moral tension, when a superior states a preference for an incorrect accounting treatment. Figure 2B illustrates the same theoretical model when a superior does not states a preference. Figures 2A and 2B also show the operationalized variables discussed in the methodology (Chapter 3).
Fig. 2A: Model of Influence of Moral Foundations on Subordination of Judgment when a Superior Expresses an Opinion (PROCESS Model 2 per Hayes 2013)

WHEN THE SUPERIOR’S OPINION IS KNOWN:

MORAL FOUNDATIONS

Loyalty-
Respect

Fairness

H3a
H4a

PROFESSIONAL
IDENTITY SALIENCE
Brainstorming Task

SUBORDINATION
OF JUDGMENT
Alignment of
Recommendation

Fig. 2B: Model of Influence of Moral Foundations on Subordination of Judgment when a Superior Does Not Express an Opinion (PROCESS Model 2 per Hayes 2013)

WHEN THE SUPERIOR’S OPINION IS NOT KNOWN:

MORAL FOUNDATIONS

Loyalty-
Respect

Fairness

H3b
H4b

PROFESSIONAL
IDENTITY SALIENCE
Brainstorming Task

AUDIT JUDGMENT
Recommendation

Key:
CONCEPT
Manipulated Variable
Measured Variable
CHAPTER 3

METHODOLOGY

Design and Subjects

The study used a two-by-two between-subject experimental design with two measured independent variables. Participants performed a hypothetical task, assuming the role of a staff auditor assigned to audit expenditures on property, plant and equipment (PPE) (explained further under the Case Study section below). I administered the experiment online, using Qualtrics software, which randomly assigned participants to one of four versions of the experiment. The experiment included a professional identity salience (PIS) intervention, operationalized as a task rating the relative importance of a list of characteristics of professional auditors, and a manipulation of superior influence, operationalized as an audit manager’s opinion (MGR) about the treatment of the expenditures on PPE. Immediately following the case study, the software presented participants with a post-task survey that collected responses to the moral foundations questionnaire (MFQ) as well as several manipulation checks and demographic questions. The design and instrument are illustrated in Figure 3. The full instrument is reproduced in Appendix A.

Anecdotal evidence collected from past and present practitioners indicated that the audit of PPE is a task often assigned to junior-level auditors and auditing interns. Prior studies have found no significant difference between the performance of accounting students and professional accountants when presented with a similar judgment about PPE expenditures (Peytcheva & Gillett, 2011). Therefore, my participants were 96 accounting students, both graduate (39) and senior undergraduate students (37), at one private university and one public university in the Southwestern United States. In addition, I included questions in the instrument to control for participant’s experience in auditing, accounting, and the audit of PPE. Details of the sample are presented and analyzed in the discussion of results in Chapter 4.
Following a brief introduction to the study, participants completed a pre-task that manipulated PIS. I present one of two versions of the pre-task to all participants: the first version asked participants to rate the importance of each characteristic in a list of terms associated with being a good staff auditor; the alternative version asked participants to rate the importance of each characteristic in a list of terms associated with planning a good vacation. This resulted in two experimental groups: the first version of the pre-task yielded a PIS intervention group; the alternate version of the pre-task yielded a non-PIS group.

Bauer (2015) successfully manipulated PIS by asking participants to create a ‘mind map’, which is a kind of diagrammatic brainstorm, of the characteristics and attributes of a good professional. My PIS intervention was based on that used by Bauer. Appendix B provides a comprehensive list of all the changes I made to Bauer’s instrument. In pilot testing, responses from the undergraduate participants to the brainstorming task were too erratic to be sure that student participants were consistently primed with
PIS. Some participants listed key phrases, such as independence and objectivity, while others did not. By providing a list of specific characteristics for participants to rate, I controlled the terms used in the PIS intervention. Meanwhile, the alternative version also required participants to engage in a rating activity, ensuring that the level of mental fatigue or mental activation from doing the pre-task was similar in both experimental groups.

The Case Study

The case study was adapted from the experimental task used by Peytcheva and Gillet (2011). Appendix B gives a comprehensive list of all the changes I made to the Peytcheva and Gillet instrument. Figure 4 shows the components of the experiment. Included in the case study component were a mini-tutorial reminding participants of the rules that distinguish between expenditure on repairs and capital improvements, a diagram of the audit team to clearly communicate the roles played by the participant and the audit manager, the case evidence and the audit judgment questions.

The case study presented evidence concerning the capitalization or expensing of expenditures on property, plant and equipment (PPE). Participants assumed the role of a staff auditor charged with interpreting the information about three different events resulting in expenditure on PPE. These events were labelled as event A, B and C. The description of the events is given in Appendix A. The exercise did not involve evidence gathering. Generally Accepted Accounting Principles in the United States (US GAAP) clearly dictate that events A and C should be expensed, whereas event B should be capitalized.

While the task was designed to be appropriate for graduate accounting students, the case study incorporated questions at each stage of the case to check participants’ understanding of the scenario and the accounting rules governing capitalization of expenditure on PPE. In addition, a mini-tutorial was added to the case, taken from an intermediate accounting textbook, that listed the conditions under
which an expenditure on PPE should be capitalized rather than expensed in the period (Spiceland, Sepe, Nelson, & Thomas, 2016). The case evidence employed the same terminology in order to clarify which accounting rules applied.

Clarifying the rules not only guaranteed that participants were well prepared to tackle the judgment task, but helped ensure that the superior’s opinion did not constitute the only source of knowledge about accounting rules within the case (Peytcheva & Gillett, 2011). Pilot testing with undergraduates confirmed that the task was readily understood and the judgment task was appropriate (see discussion of pilot results below).

Superior Influence Manipulation (MGR)

The manipulation was adapted from that used by Peytcheva and Gillett (2011). Peytcheva and Gillet used the opinion of all the audit partners in the firm after fully considering the audit evidence. However, it is unrealistic to expect staff auditors to question and contradict the collective, considered opinion of the partners in an audit firm. The views of an audit manager would appear less final to a staff auditor, inviting disagreement. Therefore, I operationalized superior influence by using an audit manager’s opinion (MGR).

Further, I suggested that the audit manager had not fully considered all the audit evidence by stating that it was an “initial opinion.” Finally, I added a diagram of the audit team to clarify the level at which the audit manager in the audit hierarchy. In clarifying the nature of the superior and his views, I increased external validity and controlled for the perceived experience level of the superior, which prior research found to affect superior influence (Kim & Harding, 2016). The pilot study (discussed further below) confirmed that using a manager’s opinion was a successful manipulation of superior influence,
and results were consistent with those from prior research that used partners’ opinions (Peytcheva & Gillett, 2011).

The case study included a section of “further information” immediately prior to the judgment task that incorporated information about the opinion of the audit manager in the audit team. I used Qualtrics software to randomly assign each participant to one of two versions of the further information. As shown in Appendix A, the first version explicitly stated the audit manager believed event B should be expensed, whereas the alternate version explicitly stated the audit manager did not have an opinion about event B. This created two experimental treatment groups: the first version yielded a manager ‘expense opinion’ condition (labelled, $MGR = 1$); the alternate gave rise to a manager ‘no opinion’ condition (labelled, $MGR = 0$). The text was kept as consistent as possible between versions. Therefore, both versions drew equal attention to event B.

Critically, an expense opinion was in this case contrary to the correct US GAAP treatment of the expenditure item related to event B. Therefore, participants in the ‘expense opinion’ condition faced a choice between following the rules and following the opinion of the manager. In other words, the case provided a test of subordination of judgment in one condition, where agreeing with a superior would be objectively construed as contrary to professional rules. The ‘no opinion’ condition provided a control.

Dependent Variable (JB_3)

The dependent variable was an audit judgment concerning the accounting treatment of expenditures on PPE. The judgments involve questions that are expected to trigger moral and social sentiments in auditors. As such, responses are prone to social desirability bias, a measurement error arising from a systematic bias in favor of a socially acceptable response (Fisher, 1993; Randall & Fernandes, 1991). In order to mitigate social desirability bias, I guaranteed participants’ anonymity by
excluding identifying information from the instrument and administering the instrument online (Evans, Feng, Hoffman, Moser, & Van der Stede, 2015). In addition to emphasizing anonymity, Fisher (1993) demonstrated that posing indirect questions about socially sensitive matters tends to mitigate social desirability bias. This method also has the advantage of having been used in prior accounting ethics research (Curtis, 2006; Koh, Scully, & Woodliff, 2011). Therefore, I used two questions for each audit judgment, one direct and one indirect.  

As shown in Figure 4, the direct questions asked participants to reflect on the decision they would make, whereas the indirect questions asked participants to reflect on the recommendations they expect other staff auditors would make. Therefore, the direct question used a first-person interrogative and the indirect question used a third-person interrogative. The order in which the direct and indirect questions were presented was randomized to control for the possibility that question order might also systematically bias results.

The response given to the indirect question about event B was used as the dependent variable. Since this question concerned event B and was phrased in the third-person, the DV was labelled JB_3. The direct questions, using the first-person interrogative, were labelled, JA_1, JB_1 and JC_1. The remaining indirect questions were labelled, JA_3 and JC_3, for events A and C respectively.

Fig. 4: Audit Judgment Questions

<table>
<thead>
<tr>
<th>Event</th>
<th>Direct Form</th>
<th>Indirect Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, B, C</td>
<td>How likely is it that you would recommend that event [A, B or C] be expensed or capitalized?</td>
<td>How likely is it that other Staff Auditors would recommend that event [A, B or C] be expensed or capitalized?</td>
</tr>
</tbody>
</table>

The results suggest that the responses to JB_1 and JB_3 were significantly, positively correlated (see Table 4). In addition, research using the theory of planned behavior has shown that an individual’s perceptions and expectations of the beliefs and actions of others are predictors of an individual’s own actions (Ajzen, 1991; Beck & Ajzen, 1991; Buchan, 2005).
The results of a pilot study (discussed below) suggested that the answers participants gave with regard to events A and C were important indicators of the participant’s understanding and attentiveness to the task and were significant covariates in ANCOVA. Therefore, I collected the responses to the indirect questions about events A and C as control variables.

I allowed participants to scroll back to re-read case evidence while formulating the judgments. I did this to avoid any extraneous influence from memory or recall, since memory is not the subject of interest in this study. This was a significant departure from the prior research that requires participants to advance to a new screen or sheet of paper before reading the superior’s opinion and making their judgment; however, it is more reflective of audit practice. As mentioned, a comprehensive list of the changes I made to the instrument used by Peytcheva and Gillet (2011) is provided in Appendix B.

Whereas Peytcheva and Gillet (2011) use a binary scale (expense or capitalize) to measure audit judgment, I used a 7-point Likert scale with ‘definitely capitalize’ at one end, and ‘definitely expense’ at the other. Since I am investigating the inclination of auditors to subordinate judgment, the use of a Likert-scale is appropriate (Bamber & Iyer, 2007; Herda & Lavelle, 2015).

Post-task Questionnaire

I used a post-task survey to capture the moral foundations of participants. Participants answered the survey questions at the end to prevent the survey items from priming moral or professional salience prior to the case study. I used the nine items from Part 1 of the Moral Foundations Questionnaire (MFQ) that prior research has demonstrated capture the dimensions of loyalty, respect and fairness (Andersen et al., 2015; Graham et al., 2012). A combined measure of loyalty-respect (LOYAL) is consistent with prior research using accounting students (Andersen et al., 2015). Exploratory factor analysis on the pilot study
data and confirmatory factor analysis on the final sample (Table 2) both confirm that a combined factor of loyalty-respect (LOYAL) is most appropriate. Therefore, the post-task survey was the source of a combined measure of loyalty-respect (LOYAL) and a single measure of fairness (FAIR) used in the analysis of the influence of moral foundations on audit judgment.

Additional Controls and Manipulation Checks

Three questions were included to capture the relative strength of professional identification and manager identification. The precise verbiage can be seen in Appendix A. These questions were adapted from the manipulation checks used by Bauer (Bauer, 2015), and they were further adapted following pilot testing. I took the average of the three responses relating to “other accounting professionals” to create a measure of professional identification (PRO ID), and the average of the three items relating to “the audit manager” to create a measure of manager identification (MGR ID).

The PIS intervention treatments contrast thoughts of the work-place with thoughts of leisure time. As a result, emotion may be a significant difference between treatment groups. Emotion and mood can affect audit judgment (Bhattacharjee & Moreno, 2013), particularly in situations of moral tension (Curtis, 2006), or when subordination of judgment is a risk (E. Johnson, Lowe, & Reckers, 2015). To address the risk that a difference in positive affect influences the results, I included four items adapted from the PANAS scale to capture positive affect (PANAS) (Watson, Clark, & Tellegen, 1988). Pilot testing with undergraduates suggested that these four items formed one factor.

The post-task survey concluded with a number of basic demographic questions, including work experience, university and educational background, which was important in establishing that the

---

6 In pilot testing, I asked participants to indicate their identification with “the profession” rather than “other accounting professionals.” The average responses were the same across experimental conditions, indicating no difference due to the manipulation. The wording was changed to “other staff auditors” to use a less abstract context, which is in keeping with social identity theory.
experimental groups had similar compositions (see Appendix A) and to control for any differences in experience-level.

Pilot Testing

I piloted the study with 75 undergraduate students in three different sections of a senior-level undergraduate audit classes at a public university in the Southwestern United States. Exploratory factor analysis on the MFQ confirmed prior research on accounting students (Andersen et al., 2015), which suggests that loyalty and respect combine to form one factor, and that fairness is the single factor with the greatest reliability and mean scores. The results informed the choice of items to include in the proposed instrument as measures of loyalty-respect and fairness.

Manipulation check questions confirmed that participants in the pilot could correctly identify which manager opinion they received. The manipulation check for the PIS intervention was less conclusive. One of the manipulation check questions suggested that participants’ reported professional identity strength was greater in the PIS intervention condition. However, this result prompted changes to the PIS manipulation. The PIS manipulation in the pilot study asked participants to recall the most important professional characteristics in a brainstorming exercise. However, participants in the final study were asked to rate professional characteristics in a given list. As mentioned, this controlled the list of professional characteristics to which each participant was exposed.

ANCOVA suggested that there was an interaction between manager’s opinion and PIS on audit judgment. Specifically, the presence of a manager’s opinion resulted in subordination of judgment as predicted in $H1$; however, the subordination of judgment appeared less extreme in the PIS condition, as predicted by $H2$. 
Next, I examined the moderating effects of fairness and loyalty-respect on a split sample of those participants in the expense opinion condition. I used Model 2 of the PROCESS macro developed by Andrew F. Hayes, discussed further in Chapter 4 (Preacher & Hayes, 2004; Preacher, Rucker, & Hayes, 2007). The PROCESS macro allowed me to test the moderating effects of the two moral foundations, fairness (FAIR) and loyalty-respect (LOYAL), on the influence of the PIS intervention (PIS) on audit judgment (JB_3). The pilot study results suggested that the PIS intervention tended to mitigate the tendency to subordinate judgment when an auditor had a high level of fairness (FAIR), but not otherwise. That is to say, the conditional effect of PIS on the dependent variable when FAIR was high was negative and significant irrespective of the value of LOYAL (t-test = -2.052, 2-tailed p-val. = .048 for low levels of LOYAL; t-test = -2.852, 2-tailed p-val. = .007 for medium levels of LOYAL; and t-test = -2.002, 2-tailed p-val. = .054 for high levels of LOYAL). However, the conditional effect of PIS on the dependent variable was insignificant when FAIR was at a medium or low level. This is consistent with H4a.

Several refinements were made to the instrument as a result of the pilot study. These changes have been outlined above. In addition, all changes made subsequent to pilot testing are given in a separate section of Appendix B, which lists all changes I made to the components and manipulations used in the experiments conducted by Peytcheva and Gillet (2011) and Bauer (2015).
CHAPTER 4

RESULTS

Participants

Demographics and Groups

Out of 80 original participants, four were excluded for not adequately completing the experimental task. One participant was excluded due to an incomplete task. Three participants were excluded because they failed to correctly answer all manipulation check questions and they spent too little time on the task. Based on the pilot study and observing the performance of participants completing the exercise in a controlled setting\(^7\), ten minutes was a reasonable minimum amount of time to read all parts of the case and answer the questions. The three excluded participants had spent significantly less than 10 minutes on the task, and their responses to the manipulation check questions were incorrect. Therefore, the final sample consisted of 76 participants, consisting of 39 graduate students from a private university and 37 undergraduate students from a public university (both institutions being in the Southwestern United States).

Table 1A lists mean scores and standard deviations for demographic data and control variables by experimental group. Table 1B lists mean scores and standard deviations for demographic data and control variables by education level (graduate or undergraduate). I tested for differences in means scores to the control variables between experimental groups and between by conducting a MANOVA for all continuous variables, such as number of months’ of work experience (\textit{AUDIT}) and time taken on the experimental task (\textit{TASKT}), and I conducted logistic regression on the binary control variables for gender (\textit{FEM}), educational level (\textit{GRAD}), and experience of the audit of PPE (\textit{PPE}). All p-values quoted in this paper are for the 2-tailed tests. Logistic regression is reported with the 2-sided asymptotic significance statistic.

\(^7\) Each participant from the private university completed the task during one of two allocated class periods, and I was able to observe their activity and their pace of progress through the exercise.
### Table 1A: Descriptive Statistics by Experimental Groups (N=76)

<table>
<thead>
<tr>
<th></th>
<th>No Opinion</th>
<th>Yes PIS</th>
<th>No Opinion</th>
<th>Yes PIS</th>
<th>MGR</th>
<th>PIS</th>
<th>MGR x PIS</th>
<th>p-val.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No PIS</td>
<td>Yes PIS</td>
<td>No PIS</td>
<td>Yes PIS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Basic Demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>26</td>
<td>16</td>
<td>17</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEM</td>
<td>18 (69%)</td>
<td>9 (56%)</td>
<td>7 (41%)</td>
<td>8 (47%)</td>
<td>.369</td>
<td>.239</td>
<td>-.042</td>
<td>.115</td>
</tr>
<tr>
<td>GRAD</td>
<td>17 (65%)</td>
<td>6 (38%)</td>
<td>8 (47%)</td>
<td>8 (47%)</td>
<td>-.393</td>
<td>1.000</td>
<td>1.147</td>
<td>.229</td>
</tr>
<tr>
<td>PPE</td>
<td>19 (73%)</td>
<td>14 (88%)</td>
<td>14 (82%)</td>
<td>11 (65%)</td>
<td>1.340</td>
<td>1.147</td>
<td>-.001</td>
<td>.973</td>
</tr>
<tr>
<td><strong>Mean S.D.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Experience (months)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUDIT</td>
<td>1.510 (.540)</td>
<td>1.125 (1.857)</td>
<td>1.118 (1.453)</td>
<td>.751 (.389)</td>
<td>.042</td>
<td>.001</td>
<td>.973 (.172)</td>
<td>.400</td>
</tr>
<tr>
<td>OTHER</td>
<td>9.125 (2.333)</td>
<td>5.750 (9.490)</td>
<td>7.588 (9.206)</td>
<td>.221 (.640)</td>
<td>.001</td>
<td>.973</td>
<td>.327</td>
<td></td>
</tr>
<tr>
<td>Time Spent on Task</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIST (sec)</td>
<td>93.08 (313.73)</td>
<td>61.93 (26.82)</td>
<td>79.48 (81.71)</td>
<td>.759 (.389)</td>
<td>.042</td>
<td>.001</td>
<td>.973 (.172)</td>
<td>.400</td>
</tr>
<tr>
<td>TIME (min)</td>
<td>23.26 (16.96)</td>
<td>26.34 (21.39)</td>
<td>23.48 (5.63)</td>
<td>1.537 (.219)</td>
<td>1.511</td>
<td>.638</td>
<td>.223 (.638)</td>
<td></td>
</tr>
<tr>
<td>Independent and Control Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAIR</td>
<td>4.731 (.870)</td>
<td>4.417 (7.05)</td>
<td>4.646 (.769)</td>
<td>4.883 (.773)</td>
<td>1.087</td>
<td>.043</td>
<td>2.197 (.143)</td>
<td></td>
</tr>
<tr>
<td>LOYAL</td>
<td>3.955 (.733)</td>
<td>3.761 (7.23)</td>
<td>3.962 (.739)</td>
<td>4.009 (.992)</td>
<td>.193</td>
<td>.018</td>
<td>.922 (.340)</td>
<td></td>
</tr>
<tr>
<td>JA_1</td>
<td>5.577 (1.724)</td>
<td>5.625 (1.360)</td>
<td>5.294 (1.863)</td>
<td>5.588 (1.839)</td>
<td>.159</td>
<td>.182</td>
<td>.094 (.760)</td>
<td></td>
</tr>
<tr>
<td>JA_3</td>
<td>5.538 (1.555)</td>
<td>5.188 (1.642)</td>
<td>5.059 (1.676)</td>
<td>5.176 (1.667)</td>
<td>.417</td>
<td>.904</td>
<td>.380 (.540)</td>
<td></td>
</tr>
<tr>
<td>JC_1</td>
<td>5.038 (1.822)</td>
<td>5.063 (1.982)</td>
<td>4.529 (2.375)</td>
<td>5.647 (1.539)</td>
<td>.007</td>
<td>1.590</td>
<td>1.459 (.231)</td>
<td></td>
</tr>
<tr>
<td>JC_3</td>
<td>5.231 (1.583)</td>
<td>5.188 (1.424)</td>
<td>4.588 (2.093)</td>
<td>5.412 (1.698)</td>
<td>.275</td>
<td>.958</td>
<td>1.182 (.280)</td>
<td></td>
</tr>
<tr>
<td>PANAS</td>
<td>3.606 (.785)</td>
<td>3.891 (.931)</td>
<td>4.015 (.658)</td>
<td>3.426 (1.107)</td>
<td>.018</td>
<td>.552</td>
<td>4.571 (.036)**</td>
<td></td>
</tr>
<tr>
<td><strong>Mean S.D.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manipulation Check Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MGR ID</td>
<td>4.257 (1.136)</td>
<td>4.125 (1.166)</td>
<td>4.845 (1.179)</td>
<td>4.646 (9.40)</td>
<td>4.554</td>
<td>.018</td>
<td>.016 (.898)</td>
<td></td>
</tr>
<tr>
<td>PRO ID</td>
<td>4.847 (.865)</td>
<td>4.772 (7.38)</td>
<td>4.706 (1.100)</td>
<td>4.666 (1.035)</td>
<td>.313</td>
<td>.687</td>
<td>.006 (.937)</td>
<td></td>
</tr>
</tbody>
</table>

*a. 2-tailed p-values for the individual F-Tests for MANOVA / Wald Chi-squared test for Logistic Regression.*

**Legend:**
- **FAIR** Average of three items from the Moral Foundations Questionnaire (Graham et al. 2011) designed to capture *fairness* (6-point scale ranging from "not at all relevant" to 6 = "extremely relevant")
- **LOYAL** Average of three items from the Moral Foundations Questionnaire (Graham et al. 2011) designed to capture *loyalty-respect* (6-point scale ranging from "not at all relevant" to 6 = "extremely relevant")
- **JA 1** Response to question: "how likely is it that you would recommend that event A be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")
- **JA 3** Response to question: "how likely is it that other Staff Auditors would recommend that event A be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")
- **JC 1** Response to question: "how likely is it that you would recommend that event C be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")
- **JC 3** Response to question: "how likely is it that other Staff Auditors would recommend that event C be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")
- **GRAO** Categorical variable assigned the value 1 when the participant was a *graduate* student; and, zero when an undergraduate
- **FEM** Categorical variable assigned the value 1 when the participant was *female*; and, zero, when male
- **PANAS** Average of four items adapted from the PANAS scale (Watson et al. 1988) designed to capture *positive affect* (7-point scale ranging from 1 = "not at all" to 7 = "extremely")
- **PPE** Categorical variable assigned the value 1 when the participant had *audit* experience (including any internship experience in audit)
- **OTHER** No. of months of *other* (non-audit) accounting experience (inc. internship experience in accounting)
- **MGR ID** Average of three items designed to capture *manager identification strength* (7-point scale ranging from 1 = "not at all" to 7 = "completely")
- **PRO ID** Average of three items designed to capture *professional identification strength* (7-point scale ranging from 1 = "not at all" to 7 = "completely")
- **PIST** Time taken on the pre-task, which was either the 'PIS intervention' rating activity or the 'non intervention' rating activity (in seconds)
- **TIME** Time taken on the experimental task (in minutes)

---

Legend:
- * test significant at the .1 level
- ** test significant at the .05 level

---

32
Table 1B: Descriptive Statistics by Educational Level (N=76)

<table>
<thead>
<tr>
<th>Basic Demographics</th>
<th>Descriptive Stats. by Educational Level</th>
<th>Diff. Between Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Undergraduate</td>
<td>Graduate</td>
</tr>
<tr>
<td>N</td>
<td>37</td>
<td>39</td>
</tr>
<tr>
<td>FEM</td>
<td>19 51%</td>
<td>23 59%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Work Experience (months)</th>
<th>Mean</th>
<th>S.D.</th>
<th>Mean</th>
<th>S.D.</th>
<th>F-Test</th>
<th>p-val. *</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUDIT</td>
<td>.088</td>
<td>.494</td>
<td>2.256</td>
<td>1.477</td>
<td>72.045</td>
<td>.000 **</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time Spent on Task (sec)</th>
<th>Mean</th>
<th>S.D.</th>
<th>Mean</th>
<th>S.D.</th>
<th>F-Test</th>
<th>p-val. *</th>
</tr>
</thead>
<tbody>
<tr>
<td>PISt (sec)</td>
<td>113.491</td>
<td>146.525</td>
<td>69.363</td>
<td>51.841</td>
<td>3.127</td>
<td>.081 *</td>
</tr>
<tr>
<td>TIME (min)</td>
<td>55.094</td>
<td>125.722</td>
<td>17.929</td>
<td>3.982</td>
<td>3.407</td>
<td>.069 *</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent and Control Variables</th>
<th>Mean</th>
<th>S.D.</th>
<th>Mean</th>
<th>S.D.</th>
<th>F-Test</th>
<th>p-val. *</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAIR</td>
<td>4.649</td>
<td>.810</td>
<td>4.709</td>
<td>.788</td>
<td>.108</td>
<td>.743</td>
</tr>
<tr>
<td>LOYAL</td>
<td>3.959</td>
<td>.774</td>
<td>3.855</td>
<td>.735</td>
<td>.365</td>
<td>.547</td>
</tr>
<tr>
<td>JA_1</td>
<td>5.243</td>
<td>1.690</td>
<td>5.795</td>
<td>1.657</td>
<td>2.064</td>
<td>.155</td>
</tr>
<tr>
<td>JA_3</td>
<td>5.000</td>
<td>1.732</td>
<td>5.538</td>
<td>1.448</td>
<td>2.170</td>
<td>.145</td>
</tr>
<tr>
<td>JC_1</td>
<td>5.054</td>
<td>1.825</td>
<td>5.077</td>
<td>2.057</td>
<td>.003</td>
<td>.959</td>
</tr>
<tr>
<td>JC_3</td>
<td>5.243</td>
<td>1.442</td>
<td>5.000</td>
<td>1.919</td>
<td>.387</td>
<td>.536</td>
</tr>
<tr>
<td>PANAS</td>
<td>3.878</td>
<td>.826</td>
<td>3.564</td>
<td>.921</td>
<td>2.444</td>
<td>.122</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Manipulation Check Variables</th>
<th>Mean</th>
<th>S.D.</th>
<th>Mean</th>
<th>S.D.</th>
<th>F-Test</th>
<th>p-val. *</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGR ID</td>
<td>4.388</td>
<td>1.208</td>
<td>4.504</td>
<td>1.054</td>
<td>.201</td>
<td>.655</td>
</tr>
<tr>
<td>PRO ID</td>
<td>4.766</td>
<td>1.086</td>
<td>4.753</td>
<td>.748</td>
<td>.004</td>
<td>.951</td>
</tr>
</tbody>
</table>

---

Legend:
- FAIR: Average of three items from the Moral Foundations Questionnaire (Graham et al. 2011) designed to capture fairness (6-point scale ranging from "not at all relevant" to 6 = "extremely relevant")
- LOYAL: Average of three items from the Moral Foundations Questionnaire (Graham et al. 2011) designed to capture loyalty-respect (6-point scale ranging from "not at all relevant" to 6 = "extremely relevant")
- JA_1: Response to question: "how likely is it that you would recommend that event A be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")
- JA_3: Response to question: "how likely is it that other Staff Auditors would recommend that event A be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")
- JC_1: Response to question: "how likely is it that you would recommend that event C be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")
- JC_3: Response to question: "how likely is it that other Staff Auditors would recommend that event C be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")
- PANAS: Average of four items adapted from the PANAS scale (Watson et al. 1988) designed to capture positive affect (7-point scale ranging from 1 = "not at all" to 7 = "extremely")
- MGR ID: Categorical variable assigned the value 1 when the participant was female; and zero, when male
- AUDIT: No. of months of audit experience (including any internship experience in audit)
- OTHER: No. of months of other (non-audit) accounting experience (inc. internship experience in accounting)
- MGR ID: Average of three items designed to capture manager identification strength (7-point scale ranging from 1 = "not at all" to 7 = "completely")
- PRO ID: Average of three items designed to capture professional identification strength (7-point scale ranging from 1 = "not at all" to 7 = "completely")
- PIST: Time taken on the pre-task, which was either the 'PIS intervention' rating activity or the 'non intervention' rating activity (in seconds)
- TIME: Time taken on the experimental task (in minutes)

* a 2-tailed p-values for the individual F-Tests for MANOVA / Wald Chi-squared test for Logistic Regression.
* * test significant at the .1 level
* ** test significant at the .05 level
Table 1A shows only two variables are significantly different across the experimental groups, namely the measure of positive affect (PANAS) and the measure of manager identification strength (MGR ID). I discuss the implications of differences in manager identification strength in the discussion of the manipulation below. The measure of positive affect by taking the average of the four items adapted from the PANAS scale (Watson et al., 1988) and shown in Appendix A, which I then labelled PANAS. MANOVA suggests that the interaction term (MGR x PIS) is a significant predictor of differences in PANAS, with an F-test statistic of 4.571 (2-tailed p = .036). The concern was that the PIS manipulation task might result in a difference in positive affect in participants, and that difference in positive affect might influence moral and audit judgment (Bhattacharjee & Moreno, 2013). Therefore, I added PANAS as a control variable.

Table 1B reveals several differences between undergraduate and graduate participants with regard to work experience, both in audit (AUDIT) and in other accounting roles (OTHER), and in the time participants devoted to the task (TIME). In terms of work experience, the number of months of audit experience (AUDIT) was the most pronounced and critical difference with the MANOVA giving rise to an F-test statistic of 72.045 (2-tailed p < .001). Most graduate students in the sample had recently completed an internship in audit, whereas the undergraduates had not. In addition, graduates devoted more time to the experimental task, having completed the task in a controlled, classroom environment, such that the MANOVA resulted in an F-test statistic of 3.407 (2-tailed p = .069). While there are no significant differences between experimental groups in these regards, I included a control for the source of the sample (graduate or undergraduate). The controls are discussed further below.
Participant Understanding and Effort

The time participants spent completing both the experimental task \((TIME)\) and the pre-task \((PIST)\) were recorded. Table 1A indicates that there were no significant differences for \(TIME\) and \(PIST\) between experimental groups. However, Table 1B indicates that undergraduate participants devoted marginally less time to the experimental task than graduate participants \((F=3.407, 2\text{-tailed } p = .081)\). Table 4 shows that the time taken on the task was not significantly correlated with the audit judgments or any other variable; however, I included \(TIME\) as a covariate in the tests of hypotheses.

Several questions were included in the post-task survey to ascertain the participant’s understanding of the implications for auditors in practice and their confidence in their ability to complete the experimental task. Each item was scored on a 7-point Likert scale where a high value indicated agreement. Participants indicated that they understood the instructions and that they were generally confident of their understanding and ability. For example, the mean response for “find the task easy” was 4.8 \((\text{S.D.} = 1.2)\); the mean response for “auditors are under pressure to agree with their superior” was 5.2 \((\text{S.D.} = 1.1)\); and the mean response for “having sufficient knowledge” was 5.4 \((\text{S.D.} = 1.0)\).

Events A and C involved audit judgments of a similar nature to the dependent variable (discussed below). Therefore, participants’ responses regarding the correct treatment of events A and C served as an indicator of the participants’ understanding of the case study instructions and the accounting regulations, and that the participant was attentive to the task at hand. I recorded the responses to the indirect (third-person) questions regarding events A and C \((JA_3 \text{ and } JC_3 \text{ respectively})\) for each group, as reported in Table 1A. The mean score for each question was above 5.0 (on a 7-point Likert scale), where a high number reflects the correct treatment of expensing the expenditures in events A and C. Table 1A and 1B show that there were no significant differences between experimental groups or
graduate and undergraduate participants. Therefore, I conclude that participants were adequately prepared, knowledgeable and attentive to handle the experimental task.

Manipulation Checks

Manipulation of PIS

The instrument contained two manipulations: a manipulation of a manager’s opinion and a manipulation of the PIS condition. The PIS manipulation involved performing one of two different activities immediately prior to the main experimental task: either (1) rating the importance of various characteristics of an audit profession, or (2) rating the importance of various characteristics of a vacation. Following prior literature (Bamber & Iyer, 2002, 2007; Bauer, 2015; Postmes, Haslam, & Jans, 2013), I added three questions in the post-task survey to capture professional identity strength and three questions to capture manager identity strength (as shown in Appendix A). Theory indicates that identity strength at any given moment will be influenced by the state of salience (Ashforth et al., 2001; Bauer, 2015); therefore, my expectation was that the PIS intervention would increase the measures of professional identity strength and/or decrease the measures of manager identity strength (Bauer, 2015).

Exploratory factor analysis with a Varimax rotation containing all six items suggested that there were two factors (i.e. two factors with Eigenvalues greater than one). All three items designed to capture professional identity loaded on the first factor (factor loadings: .768, .707, and .807), and all three designed to capture manager identification loaded on the second factor (factor loadings: .801, .718, .826). There were no indications of cross loading. I then tested the reliability of the two factors using Cronbach’s alpha, and I found that the scale reliability for the professional identity strength items was $\alpha = .656$ (95% confidence interval: .496 to .771), and the scale reliability for the manager identity strength items was $\alpha = .695$ (95% confidence interval: .553 to .797). Since 0.7 fell comfortably within the 95%
confidence intervals for both scales, I concluded that both scales were reliable measures for use as manipulation checks (Iacobucci & Duhachek, 2003). Therefore, I took the average of the three professional identification questions to create a composite measure, PRO ID, and the three manager identification questions to form a composite measure, MGR ID. The manipulation of PIS (PIS) was not significantly correlated with either professional identity strength (PRO ID) or manager identification strength (MGR ID) (see Table 4 below).

Next, I examined participants’ responses to the PIS rating task (PIS_1… PIS_10) and the time devoted to the task (PIST) to ascertain whether participants in the PIS intervention condition (N=33) had been sufficiently engaged by the manipulation task. Based on observing participants who completed the task in a controlled setting\(^8\), 15 seconds was a reasonable minimum amount of time to complete the rating task. Only two participants took fewer than 30 seconds on the rating task. I concluded that all participants in the final sample spent sufficient time on the PIS task. Table 2 shows the average ratings participants gave to each characteristic. The key professional characteristics of professional skepticism, independent thinking, and objectivity were all above 5.0 (7-point Likert scale), indicating that participants regarded these as important or very important characteristics for an auditor.

---

\(^8\) The graduate participant from the private university completed the task during one of two allocated class periods, and I was able to observe their activity and their pace of progress through the exercise. 15 seconds was the shortest time that one of these participants devoted to the rating task in the PIS Implementation condition.
Table 2: Analysis of PIS Task Responses (N = 33)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Mean</th>
<th>S.D.</th>
<th>Min</th>
<th>Max</th>
<th>p-val.</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIS_1 Independent thinking</td>
<td>5.182</td>
<td>.983</td>
<td>2.000</td>
<td>6.000</td>
<td>.183</td>
<td></td>
</tr>
<tr>
<td>PIS_2 Professional skepticism</td>
<td>5.818</td>
<td>.465</td>
<td>4.000</td>
<td>6.000</td>
<td>.009 **</td>
<td></td>
</tr>
<tr>
<td>PIS_3 Objectivity</td>
<td>5.333</td>
<td>1.021</td>
<td>1.000</td>
<td>6.000</td>
<td>.562</td>
<td></td>
</tr>
<tr>
<td>PIS_4 Asking questions</td>
<td>5.636</td>
<td>.489</td>
<td>5.000</td>
<td>6.000</td>
<td>.189</td>
<td></td>
</tr>
<tr>
<td>PIS_5 Following instructions</td>
<td>5.455</td>
<td>.666</td>
<td>4.000</td>
<td>6.000</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>PIS_6 Following a plan</td>
<td>5.364</td>
<td>.699</td>
<td>4.000</td>
<td>6.000</td>
<td>.577</td>
<td></td>
</tr>
<tr>
<td>PIS_7 Being a good team player</td>
<td>5.455</td>
<td>.617</td>
<td>4.000</td>
<td>6.000</td>
<td>1.000 ^</td>
<td></td>
</tr>
<tr>
<td>PIS_8 Gathering evidence</td>
<td>5.667</td>
<td>.540</td>
<td>4.000</td>
<td>6.000</td>
<td>.142</td>
<td></td>
</tr>
<tr>
<td>PIS_9 Efficiency</td>
<td>5.242</td>
<td>.751</td>
<td>4.000</td>
<td>6.000</td>
<td>.215</td>
<td></td>
</tr>
<tr>
<td>PIS_10 Effectiveness</td>
<td>5.576</td>
<td>.561</td>
<td>4.000</td>
<td>6.000</td>
<td>.407</td>
<td></td>
</tr>
</tbody>
</table>

a. 2-tailed p-value for t-tests of difference between mean and mean for PIS_7
b. One participant entered this value; otherwise, 4.000 was the minimum value in the range
c. List of professional characteristics rated by participants in the PIS intervention condition

MANOVA (not shown) suggested that there were no significant differences between experimental groups, or between graduates and undergraduates for professional skepticism and objectivity, though the rating of independent thinking was different between manager opinion conditions (F = 4.345, 2-tailed p = .046) and between graduates and undergraduates (F = 3.918, 2-tailed p = .057). Importantly, the average rating for professional skepticism (PS) was significantly higher than the average rating for being a good “team player” (PS µ = 5.818 versus “team player” µ = 5.455). This suggested that participants in the PIS intervention condition thought about the list of professional characteristics and recognized the relative importance of professional skepticism. Therefore, I concluded that the PIS manipulation was successful.

Manipulation of Manager Opinion

The manipulation of manager opinion involved participants reading cases with two different scenarios: (1) the manager opined that event B should be expensed (contrary to the accounting rules); (2)
the manager stated that they had not formed an opinion regarding event B. Most participants correctly identified the source of the opinion (72 out of 76). While one person identified the source as a senior and three participants identified the source as the other staff auditor, none of the participants indicated that the superior was the audit partner. All four incorrect participants were undergraduates. I ran all subsequent analysis mentioned in this paper both with and without these four participants included. None of the significant interactions were changed.

Table 1A shows that manager identification strength (MGR ID) is significantly higher for those participants in the ‘expense opinion’ condition than in the ’no opinion’ condition (F = 4.554, 2-tailed p = .036). Table 4, which shows the correlation matrix for all experimental variables, indicates there is a significant positive correlation between manager opinion condition (MGR) and manager identification strength (MGR ID) (ρ = .240, 2-tailed p = .037). Therefore, I concluded that the manager opinion manipulation was successful.

Moral Foundations

Confirmatory Factor Analysis

I performed confirmatory factor analysis on responses to the items from Part 1 of the MFQ designed to capture fairness, loyalty and respect. The items designed to capture loyalty (MFQ1_3; MFQ1_9; MFQ1_14) and those designed to capture respect (MFQ1_4; MFQ_10; MFQ1_15) were entered into several models (not shown) as separate factors; however, the factor correlation of the two

---

9 The MFQ has two parts. Both parts utilize a question prompt followed by a series of 16 questions. Part 1 and Part 2 use different question prompts, and EFA on the pilot study results suggested that Part 1 and Part 2 resulted in different constructs. Therefore, I used only questions from Part 1 in the analysis above.

10 Therefore, the model reported in Table 3 contains items pertaining to only three of the five moral foundations in MFT. However, I did conduct other confirmatory factor analyses that included the items designed to capture ‘care’ and ‘purity’ in order to confirm the factor loadings for loyalty-respect and fairness were consistent. Since ‘care’ and ‘purity’ are not the focus of the current study, I have not presented the results of the full MFQ model.

39
resulting latent variables was very high ($\rho = .927$), suggesting multicollinearity. Since the factor correlation between loyalty and respect exceeded 0.8, I tested models that combined the two factors in one latent variable (Grewal, Cote, & Baumgartner, 2004; Kenny, 2012). Goodness of fit was improved by combining fairness and loyalty. A combined factor for loyalty-respect was consistent with exploratory factor analysis conducted on the pilot study results (Chapter 3) and prior research that used the full MFQ with 136 business and accounting students (Andersen et al., 2015). Therefore, I combined loyalty and respect in the model shown in Table 3.

Table 3A shows the factor loadings for the measured variables on the two latent variables included in the final model, fairness ($FAIR$) and loyalty-respect ($LOYAL$) along with Cronbach’s alpha for each measure. All factor loadings are statistically significant. The factor loading for $MFQI \_4$ is low (.459), which might have caused issues for model fit and reliability. However, Cronbach’s alpha for fairness is .715 and loyalty is .718, so the measures appear to be reliable (Cronbach, 1951; Nunnally, 1978).

Table 3B reports the goodness-of-fit statistics for the final model. In keeping with prior research, I reported four tests for goodness-of-fit: relative $\chi^2$ (RCS or CMIN/df), root mean square error if approximation (RMSEA), standardized root mean-square residual (SRMR) $^{11}$, and comparative fit index (CFI) (Andersen et al., 2015). The model has RCS of 1.349, RMSEA of .068, SRMR of .074 and CFI of .975. To indicate good fit, a model should have RCS less than 2 (Byrne, 2013), RMSEA around .06 (Hu & Bentler, 1999) or between .05 and0.08 (Kline, 2011), and CFI above .90 (Hu & Bentler, 1999), or even above .95 (Byrne, 2013). Therefore, the model presented in Table 3 has good fit. Further, model fit is comparable to that in Andersen et al. (2015), which samples 162 accounting and business students.

---

$^{11}$ I used AMOS, which requires the activation of a plugin to create the estimates of (SRMR). [http://www-01.ibm.com/support/docview.wss?uid=swg21477535](http://www-01.ibm.com/support/docview.wss?uid=swg21477535)
and the three factor model in Graham et al. (2011), which samples 34,476 members of the public.

Therefore, I conclude that the model has good fit, and the resulting latent variables for fairness and loyalty-respect are consistent with the prior research.

Table 3: Confirmatory Factor Analysis on Moral Foundations (N=76)

| Panel A: Factor Loadings for the Measurement Model |
| Stnd. Factor Loading | S.E. | 2-tailed p-value | Cron. alpha | List of Items |
| Fairness (FAIR) | | | |
| MFQ1_13 | .671 | .715 | Whether or not someone was denied his or her rights |
| MFQ1_2 | .678 | .294 | <.001 | Whether or not some people were treated differently than others |
| MFQ1_8 | .685 | .267 | <.001 | Whether or not someone acted unfairly |
| Loyalty-respect (LOYAL) | | | |
| MFQ1_4 | .459 | .718 | Whether or not someone showed a lack of respect for authority |
| MFQ1_9 | .881 | .482 | <.001 | Whether or not someone did something to betray his or her group |
| MFQ1_14 | .772 | .536 | <.001 | Whether or not someone showed a lack of loyalty |

| Panel B: Goodness-of-fit Statistics |
| Statistic | Value |
| Relative Chi-square (RCS = CMIN/df) | 1.349 |
| Root Mean Square Error of Approximation (RMSEA) | .068 |
| Standardized Root Mean-Square Residual (SRMR) | .074 |
| Comparative Fit Index (CFI) | .975 |

a. Taken from Part 1 of the Moral Foundations Questionnaire (Graham 2011). Each item is a response to the question: "When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking?" And, responses were given on a 6-point scale ranging from 1 = not at all relevant to 6 = extremely relevant.

Correlation Matrix

I created two measures for regression analysis by taking the average of the items that loaded on each factor in CFA, and labelled the two measures FAIR and LOYAL. Table 4 shows the Pearson correlation for all experimental variables, including LOYAL and FAIR. The correlation of LOYAL and FAIR appears to be significant and positive ($\rho = 0.445$; 2-tailed p < .000). This suggests that participants with higher loyalty tended to possess higher fairness. Neither LOYAL nor FAIR appear correlated with the dependent variable (JB_3). Interestingly, FAIR is significantly, positively correlated with PRO ID, which may suggest a link between high levels of fairness and high professional identity strength in general ($\rho = .426$; 2-tailed p < .000).
Other Variables

Dependent Variable (JB_3)

The audit judgments for the correct accounting treatment of the expenditures in events A, B and C are measured using 7-point Likert-scales. A low score reflects a recommendation to capitalize the expenditure; a high score reflects a recommendation to expense the expenditure. Since the manager’s opinion referred to event B, the dependent variable was one of the questions relating to event B. The responses regarding events A and C were used as control variables as explained below.

As show in Figure 8, the audit judgment questions for each event were asked in two forms: one direct, first-person question for each event (JA_1, JB_1 and JC_1); and one indirect, third-person question for each event (JA_3, JB_3, and JC_3). Table 3 shows Pearson correlations for the variables used in the experimental analysis along with others that were used to control for anticipated issues. With respect to audit judgment, the responses to the direct questions (JA_1, JB_1, and JC_1), were highly, significantly and positively correlated with the responses to the indirect questions (JA_3, JB_3, and JC_3). For JA_1 and JA_3, \( \rho = .833 \) (2-tailed \( \rho < .001 \)); for JB_1 and JB_3, \( \rho = 0.711 \) (2-tailed \( \rho < .001 \)); and for JC_1 and JC_3, \( \rho =0.842 \) (2-tailed \( \rho < .001 \)). This finding is consistent with the theory that responses to indirect questions (responses to questions about a third person) reflect personal judgments and intentions to act (Fisher, 1993). The audit judgement phrased as an indirect question, asking what another staff accountant (i.e. a third-person) was likely to recommend regarding event B, was used as the dependent variable (JB_3).
Table 4: Pearson Correlations Matrix (N=76)

|        | JB_1   | JB_3   | MGR   | PIS   | FAIR   | LOYAL  | JA_1  | JA_3  | JC_1  | JC_3  | GRAD   | FEM    | PANAS  | PPE   | AUDIT | OTHER | MGR ID | PRO ID | PIST   |
|--------|--------|--------|-------|-------|--------|--------|-------|-------|-------|-------|--------|--------|--------|-------|-------|-------|-------|--------|-------|--------|
| JB_1   | 1      |        |       |       |        |        |       |       |       |       |        |        |        |       |       |       |       |        |       |        |
| JB_3   | .711** | 1      |       |       |        |        |       |       |       |       |        |        |        |       |       |       |       |        |       |        |
| MGR    | .269*  | .282*  | 1     |       |        |        |       |       |       |       |        |        |        |       |       |       |       |        |       |        |
| PIS    | .055   | .116   | .119  | 1     |        |        |       |       |       |       |        |        |        |       |       |       |       |        |       |        |
| FAIR   | -0.054 | -0.021 | .097  | -0.025| 1      |        |       |       |       |       |        |        |        |       |       |       |       |        |       |        |
| LOYAL  | -0.013 | .003   | .037  | -0.020| .526** | 1      |       |       |       |       |        |        |        |       |       |       |       |        |       |        |
| JA_1   | -0.103 | -0.051 | -0.046| .042  | .204   | .080   | 1     |       |       |       |        |        |        |       |       |       |       |        |       |        |
| JA_3   | -0.130 | -0.087 | -0.090| -0.052| .091   | .004   | .833**| 1     |       |       |        |        |        |       |       |       |       |        |       |        |
| JC_1   | -0.266*| -0.253*| .011  | .136  | .023   | .065   | .145  | .162  | 1     |       |        |        |        |       |       |       |       |        |       |        |
| JC_3   | -0.105 | -0.213 | -0.063| .096  | .099   | .113   | .136  | .110  | .842**| 1     |        |        |        |       |       |       |       |        |       |        |
| GRAD   | -0.029 | -0.013 | -0.077| -0.156| .038   | -0.070| .165  | .169  | .006  | .072  | 1      |       |        |       |       |       |       |        |       |        |
| FEM    | -0.11 | -0.202 | -0.066| .339**| .217   | -.065  | -.076 | .003  | .016  | .077  | .833** | 1      |        |       |       |       |       |        |       |        |
| PANAS  | -0.148 | -0.003 | -0.117| -0.045| .053   | .035   | .090  | .090  | .006  | -.056 | -.702**| .036   | -.165  | -.449**| 1    |       |       |        |        |        |        |
| PPE    | -0.048 | -0.041 | -0.069| -0.013| .184   | -.022  | .156  | .160  | -.034 | -.091 | .048   | .232** | -.173  | -.210  | .073  | 1    |       |       |        |        |        |
| MGR ID | .204   | .255*  | .240* | .042  | .079   | .002   | .265* | .213  | .115  | .223  | .052   | .027   | -.145  | -.109  | .082  | -.142| 1    |       |       |        |        |        |
| PRO ID | -.048  | -.075  | -.071 | -.040 | .426** | .099   | .121  | .103  | .196  | .206  | -.007 | .197   | -.099  | -.090  | .056  | .331*| .267**| 1    |       |       |        |        |        |
| PIST   | .020   | .046   | -.009 | -.077 | -.069  | -.046  | -.108 | -.070 | .112  | .129  | -.201 | .118   | .107   | .109   | -.161 | .069 | .128  | .041 | 1    |       |       |        |        |        |
| TIME   | -.101  | -.119  | -.145 | -.110 | -.098  | -.084  | .099  | .070  | .147  | .104  | -.210 | -.134  | .158   | .115   | -.157 | -.095| .069  | .037 | .007 | 1    |       |        |        |

* Correlation is significant at the 0.05 level (2-tailed).  ** Correlation is significant at the 0.01 level (2-tailed).

**Legend:**
- JB 1 DV = Response to question: "how likely is it that you would recommend that event B be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")
- JB 3 DV = Response to question: "how likely is it that other Staff Auditors would recommend that event B be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")
- MGR Categorial variable assigned the value 1 for the 'expense opinion' condition (when the audit manager suggests that event B should be expensed); and, zero for the 'no opinion' condition
- PIS Categorial variable assigned the value 1 for the 'PIS intervention' condition (when the pre-task involves rating characteristics of a good professional); and, zero, for the 'no intervention' condition
- FAIR Average of three items from the Moral Foundations Questionnaire (Graham et al. 2011) designed to capture fairness (6-point scale ranging from 1 = "not at all relevant" to 6 = "extremely relevant")
- LOYAL Average of three items from the Moral Foundations Questionnaire (Graham et al. 2011) designed to capture loyalty-respect (6-point scale ranging from 1 = "not at all relevant" to 6 = "extremely relevant")
- JA 1 Response to question: "how likely is it that you would recommend that event A be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")
- JA 3 Response to question: "how likely is it that other Staff Auditors would recommend that event A be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")
- JC 1 Response to question: "how likely is it that you would recommend that event C be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")
- JC 3 Response to question: "how likely is it that other Staff Auditors would recommend that event C be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")
- GRAD Categorial variable assigned the value 1 when the participant was a graduate student; and, zero when an undergraduate
- FEM Categorial variable assigned the value 1 when the participant was female; and, zero, when male
- PANAS Average of four items adapted from the PANAS scale (Watson et al. 1988) designed to capture positive affect (7-point scale ranging from 1 = "not at all" to 7 = "extremely")
- PPE Categorial variable assigned the value 1 when individual had experience auditing PPE; and, zero, when individual does not
- AUDIT No. of months of audit experience (including any internship experience in audit)
- OTHER No. of months of other (non-audit) accounting experience (incl. internship experience in accounting)
- MGR ID Average of three items designed to capture manager identification strength (7-point scale ranging from 1 = "not at all" to 7 = "completely")
- PRO ID Average of three items designed to capture professional identification strength (7-point scale ranging from 1 = "not at all" to 7 = "completely")
- PIST Time taken on the pre-task, which was either the PIS intervention rating activity or the non intervention rating activity (in seconds)
- TIME Time taken on the experimental task (in minutes)
Independent Variables (MGR and PIS)

The categorical variable representing the manager’s opinion condition (MGR) is assigned the value of zero for participants in the ‘no expense’ condition, and one for participants in the ‘expense opinion’ condition. Table 4 shows that the independent variable for manager opinion condition (MGR) is significantly, positively correlated with the audit judgment that forms the dependent variable (JB_3) \( \rho = .282, \) 2-tailed \( p = .014 \). This provides support for \( H1 \), which suggests that participants in the manager ‘expense opinion’ condition (MGR = 1) are more likely to recommend expensing event B (higher score on the Likert scale), than are participants in the manager ‘no opinion’ condition (i.e. MGR = 0).

The categorical variable representing the PIS intervention manipulation (PIS) is assigned the value of zero for participants in the vacation rating condition (i.e. no PIS), and one for the participants in the profession rating exercise (i.e. PIS intervention). Table 4 indicates that PIS is not correlated with the dependent variable (JB_3); however, further analysis is necessary that controls for factors that are significantly different between experimental groups, or that might interact with the dependent variable need to be considered.

Control Variables

Significant F-tests in the MANOVA analysis (Tables 1A and 1B) or significant correlations (Table 4) indicate a variable that needs to be controlled. The analysis of Tables 1A and 1B, shown above, indicated that control variables for positive affect and the source of the participants (undergraduate or graduate) were important. Therefore, I included the average score of the four-items used to measure positive affect (PANAS) as a control of the influence of positive affect in all tests of hypotheses. I performed reliability analysis on the four items comprising PANAS, and Cronbach’s alpha was .803, indicating a high level of reliability (Iacobucci & Duhachek, 2003; Nunnally, 1978). In
addition, I created a categorical variable for the educational level of the participants (GRAD). An undergraduate student was assigned the value zero, and a graduate participant was assigned the value one. Table 4 does not indicate that PANAS or GRAD are correlated with the dependent variable (JB_3) or the experimental conditions (MGR or PIS). However, both variables are included as covariates in the tests of hypotheses. I also included TIME (found to be significantly different between the undergraduate and graduate participants) as a covariate in the tests of hypotheses.

Participants’ recommendations regarding events A and C were good indicators of participants’ understanding of the case study and the accounting rules apart from the influence of the manager’s opinion, as well as their individual attention to the study. Table 4 reveals that the audit judgment for event C was associated with the audit judgment for event B, but the audit judgment for event A was not. Specifically, the first-person question regarding event C (JC_1) was significantly, negatively correlated with JB_3 at the .05 level of significance (ρ = -2.53, 2-tailed p = .027). Meanwhile, the third-person question regarding event C (JC_3) was significantly, negatively correlated with JB_3 at the .1 level of significance (ρ = -.213, 2-tailed p = .065). A negative correlation indicated that the participant responded consistently to both events B and C, since event B should have been capitalized and event C should have been expensed. In order to be consistent with the form of the dependent variable, I used the indirect, third-person question for event C (JC_3) as a covariate in the tests of hypotheses presented below.

Table 4 reveals that the dependent variable is correlated with management identification strength (MGR ID) (ρ = .255, 2-tailed p = .026). However, MGR ID and PRO ID were designed as manipulation checks, and the significant variation in MGR ID may be a result of the manipulation of management opinion (MGR), which is one of the independent variables. Therefore, MGR ID is not included as a covariate in the tests of hypotheses reported below. However, I did perform supplementary analysis that
included \textit{MGR ID} as a covariate (not reported), and no combination of \textit{MGR ID} with the other covariates made a difference to the significance of the results reported in the tests of hypotheses reported below.

Table 4 also reveals that fairness (\textit{FAIR}) is correlated with both being female (\textit{FEM}) and professional identification strength (\textit{PRO ID}). Since \textit{FEM} is assigned the value one for female participants, the positive correlation of \textit{FEM} and \textit{FAIR} suggests that female participants tended to report higher levels of fairness than male participants. In addition, the positive correlation between \textit{PRO ID} and \textit{FAIR} suggests an association between high levels of fairness and professional identity. However, since \textit{FAIR} is an independent variable, it was unnecessary to include \textit{FEM} or \textit{PRO ID} as covariates. I did perform supplementary analysis with \textit{FEM} and \textit{PRO ID} as covariates (not reported), but no combination of these covariates altered the significance of the results reported in the tests of hypotheses below.

Tests of Hypotheses

\textit{H1} and \textit{H2} – The Influence of Manager Opinion and PIS Intervention on Subordination of Judgment

\textit{H1} proposes that a superior’s opinion will influence auditor judgment, when it is explicitly given. However, \textit{H2} proposes that a reminder of professional identity, such as the PIS intervention, will mitigate the influence of a superior’s opinion.

Figure 5 labels the four experimental groups in which participants were placed. The dependent variable (\textit{JB_3}) is the response to the indirect question, which asks participants to predict the recommendation that another staff auditor would make in the given situation\textsuperscript{12}. High scores for \textit{JB_3} indicate that the participant recommended expensing event B, rather than capitalizing event B as

\textsuperscript{12} As discussed in the methodology, social desirability bias should be controlled by asking participants to indicate how they believe others would behave, rather than asking them directly how they think they would behave (Fisher, 1993). In addition, the theory of planned behavior suggests that an individual’s perceptions of others’ beliefs are predictors of an individual’s own behavior (Beck & Ajzen, 1991).
accounting rules dictate. Therefore, high values for $JB_3$ from participants in the ‘expense opinion’ condition imply that the participant was in agreement with the manager’s opinion.

Fig. 5: Experimental Groups

<table>
<thead>
<tr>
<th></th>
<th>No Opinion</th>
<th>Expense Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Intervention</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>PIS Intervention</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 5, Panel B, shows ANCOVA with manager opinion ($MGR$) and PIS intervention ($PIS$) as predictors of $JB_3$. The main effect, $MGR$, is significant ($F = 5.718$, 2-tailed $p = .020$) and Panel A and Figure 7 confirm that the estimated marginal mean for group 3 is higher than for group 1. This suggests that participants who received no PIS intervention were more likely to recommend expensing event B when the manager expressed an expense opinion than when they expressed no opinion. These findings support $H1$.

Figure 7 graphs the interaction between $PIS$ and $MGR$. However, neither $PIS$ nor the interaction term, $MGR \times PIS$, are significant predictors of $JB_3$ in the ANCOVA (Table 5, Panel B). $H2$ predicts that auditors who receive the PIS intervention are less likely to recommend expensing event B than group 3 irrespective of whether they are in the ‘expense condition’ (group 4) or in the ‘no opinion’ condition (group 2). In other words, the mean of $JB_3$ for each of the groups, 1, 2 and 4 should be significantly lower than the mean for group 3. This arrangement of groups is illustrated in Figure 6. In order to test this prediction, I used a planned contrast, assigning the values -1, -1, +3, -1 to groups 1, 2, 3 and 4 respectively. Then, I conducted a post hoc planned contrast of the difference between each
experimental group\textsuperscript{13} (Panel C). The results show no significant difference between the audit judgments for groups 2 and 4; however, the mean values of $JB_3$ for groups 2 and 4 are not significantly lower than the mean value for group 3 (contrast $ii. \Delta \mu = .566$, 2-tailed $p = .278$; contrast $iii. \Delta \mu = .412$, 2-tailed $p = .422$). Therefore, $H2$ is not supported.

\textbf{Fig. 6: Prediction for the Influence of Manager’s Opinion (MGR) on Audit Judgment under Different PIS Intervention Conditions}

\textbf{Fig. 7: Results for the Influence of Manager’s Opinion (MGR) on Audit Judgment under Different PIS Intervention Conditions}

\textsuperscript{13} The model used to calculate the estimated marginal means (Panel A) and ANCOVA (Panel B) included the covariates, $JC_3$, \textit{GRAD}, \textit{PANAS}, \textit{TIME}. The planned contrasts (Panel C) were performed using Fisher’s LSD post hoc test in SPSS to control for the familywise error rate. Covariates could not be included in the model for the planned contrasts; however, Panel B confirms that none of the covariates were significant in ANCOVA.
Table 5: The Influence of Manager’s Opinion (MGR) and PIS on Audit Judgment (N=76)

Panel A: Means for Each Experimental Condition

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>Manager Condition</th>
<th>PIS Condition</th>
<th>N</th>
<th>Est. Margin Mean</th>
<th>Std. Error</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No Opinion</td>
<td>No Intervention</td>
<td>26</td>
<td>2.530</td>
<td>.293</td>
<td>1.945</td>
<td>3.116</td>
</tr>
<tr>
<td>2</td>
<td>No Opinion</td>
<td>PIS Intervention</td>
<td>16</td>
<td>3.329</td>
<td>.373</td>
<td>2.586</td>
<td>4.073</td>
</tr>
<tr>
<td>3</td>
<td>Expense Opinion</td>
<td>No Intervention</td>
<td>17</td>
<td>3.929</td>
<td>.375</td>
<td>3.180</td>
<td>4.678</td>
</tr>
<tr>
<td>4</td>
<td>Expense Opinion</td>
<td>PIS Intervention</td>
<td>17</td>
<td>3.596</td>
<td>.364</td>
<td>2.870</td>
<td>4.323</td>
</tr>
</tbody>
</table>

Panel B: Results of Two-way ANCOVA with Manager Opinion and PIS as Independent Variables

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares b</th>
<th>df</th>
<th>Mean Square</th>
<th>F-test</th>
<th>p-val. e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>35.650</td>
<td>7</td>
<td>5.093</td>
<td>2.362</td>
<td>.032 **</td>
</tr>
<tr>
<td>Intercept</td>
<td>29.259</td>
<td>1</td>
<td>29.259</td>
<td>13.572</td>
<td>.000 **</td>
</tr>
<tr>
<td>MGR</td>
<td>12.328</td>
<td>1</td>
<td>12.328</td>
<td>5.718</td>
<td>.020 **</td>
</tr>
<tr>
<td>PIS</td>
<td>.920</td>
<td>1</td>
<td>.920</td>
<td>.427</td>
<td>.516</td>
</tr>
<tr>
<td>MGR * PIS</td>
<td>5.240</td>
<td>1</td>
<td>5.240</td>
<td>2.431</td>
<td>.124</td>
</tr>
<tr>
<td>JC_3</td>
<td>4.766</td>
<td>1</td>
<td>4.766</td>
<td>2.211</td>
<td>.142</td>
</tr>
<tr>
<td>GRAD</td>
<td>.059</td>
<td>1</td>
<td>.059</td>
<td>.027</td>
<td>.870</td>
</tr>
<tr>
<td>PANAS</td>
<td>2.102</td>
<td>1</td>
<td>2.102</td>
<td>.975</td>
<td>.327</td>
</tr>
<tr>
<td>TIME</td>
<td>4.912</td>
<td>1</td>
<td>4.912</td>
<td>2.278</td>
<td>.136</td>
</tr>
<tr>
<td>Error</td>
<td>146.600</td>
<td>68</td>
<td>2.156</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>985.000</td>
<td>76</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>182.250</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Panel C: Planned Contrasts Between Each Pair of Experimental Groups

<table>
<thead>
<tr>
<th>Contrast</th>
<th>Prediction</th>
<th>Groups</th>
<th>Δμ</th>
<th>S.E.</th>
<th>p-val. f</th>
<th>LLCI d</th>
<th>ULCI d</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>Sig. +</td>
<td>3</td>
<td>1</td>
<td>1.402</td>
<td>.464</td>
<td>.003 **</td>
<td>.478</td>
</tr>
<tr>
<td>ii</td>
<td>Sig. +</td>
<td>3</td>
<td>2</td>
<td>.566</td>
<td>.518</td>
<td>.278</td>
<td>-.467</td>
</tr>
<tr>
<td>iii</td>
<td>Sig. +</td>
<td>3</td>
<td>4</td>
<td>.412</td>
<td>.510</td>
<td>.422</td>
<td>-.606</td>
</tr>
<tr>
<td>iv</td>
<td>Not Sig.</td>
<td>1</td>
<td>2</td>
<td>-.837</td>
<td>.473</td>
<td>.081 *</td>
<td>-1.779</td>
</tr>
<tr>
<td>v</td>
<td>Not Sig.</td>
<td>1</td>
<td>4</td>
<td>-.991</td>
<td>.464</td>
<td>.036 **</td>
<td>-1.916</td>
</tr>
<tr>
<td>vi</td>
<td>Not Sig.</td>
<td>2</td>
<td>4</td>
<td>-.154</td>
<td>.518</td>
<td>.767</td>
<td>-1.188</td>
</tr>
</tbody>
</table>

a. Covariates appearing in the model are evaluated at the following values: JC_3 = 5.118, GRAD = .513, PANAS = 3.717, TIME = 36.023.
b. R Squared = .196 (Adjusted R Squared = .113)
c. Planned contrasts were performed using Fisher’s LSD post hoc test in SPSS to control for familywise error rate. Covariates could not be included in this analysis; however, Panel B confirms that none of the covariates were significant in ANCOVA.
d. All confidence interval statistics are for the 95% CI (LLCI = lower level confidence interval and ULCI = upper level confidence interval)
e. Tests of significance report the 2-tailed p-value ( * significance at the .1 level; ** significance at the .05 level)

Legend:

JB 3 DV -- Response to question: "how likely is it that other Staff Auditors would recommend that event B be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")

MGR Categorical variable assigned the value 1 for the 'expense opinion' condition (when the audit manager suggests that event B should be expensed); and, zero for the 'no opinion' condition

PIS Categorical variable assigned the value 1 for the 'PIS intervention' condition (when the pre-task involves rating characteristics of a good professional); and, zero for the 'no intervention' condition

JC 3 Response to question: "how likely is it that other Staff Auditors would recommend that event C be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")

GRAD Categorical variable assigned the value 1 when the participant was a graduate student; and, zero when an undergraduate

PANAS Average of four items adapted from the PANAS scale (Watson et al. 1988) designed to capture positive affect (7-point scale ranging from 1 = "not at all" to 7 = "extremely")

TIME Time taken on the experimental task (in minutes)
Further, inspection of Table 5, Panel C, reveals that the mean of \( JB_3 \) for group 1 is significantly lower than for groups 2 and 4 (contrast \( iv \Delta \mu = -.837, \) 2-tailed \( p = .081; \) contrast \( v \Delta \mu = -.991, \) 2-tailed \( p = .036 \)). This suggests that the PIS intervention actually increased the likelihood that a participant would recommend expensing event B irrespective of the manager’s opinion. One possible interpretation of these results is that the PIS intervention made auditors more likely to recommend the wrong accounting treatment. However, it is important to note that the mean scores for \( JB_3 \) for groups 2 and 4 were around the mid-point of the 7-point Likert scale: for group 2, \( \mu = 3.329 \) and S.D. = .373; for group 2, \( \mu = 3.596 \) and S.D. = .364. The mid-point of the Likert scale is equivalent to a recommendation of ‘unsure.’ The implications of these findings are discussed further in Chapter 5.

**H3 and H4 – The Moderating Influence of Moral Foundations**

**H3a** proposes that loyalty-respect will weaken the mitigating effect of PIS on subordination of judgment when the superior states a preference for an incorrect accounting treatment; however, **H3b** proposes that there will be no effect when the superior does not state a preference. Therefore, **H3a** will be supported if \( LOYAL \) moderates the effect of \( PIS \) on the dependent variable (\( JB_3 \)) in such a way that \( JB_3 \) increases (i.e. participants are more likely to recommend expensing event B) for participants in the ‘expense opinion’ condition. **H3b** will be supported if \( LOYAL \) is not a moderator in the ‘no opinion’ condition.

**H4a** proposes that fairness will strengthen the mitigating effect of PIS on subordination of judgment when the superior states a preference for an incorrect accounting treatment; however, **H4b** proposes that there will be no effect when the superior does not state a preference. Therefore, **H4a** will be supported if \( FAIR \) moderates the effect of \( PIS \) on the dependent variable (\( JB_3 \)) in such a way that \( JB_3 \) decreases (i.e. participants are less likely to recommend expensing event B) for participants in the
‘expense opinion’ condition. $H4b$ will be supported if $FAIR$ is not a moderator in the ‘no opinion’ condition.

In order to analyze the interactions involved in $H3$ and $H4$, I required a model that tested the moderation of fairness and loyalty-respect simultaneously. Model 2 of the PROCESS macro (illustrated in Figures 2A and 2B) was developed by Andrew Hayes to analyze moderation effects, like those hypothesized between $PIS$ and $FAIR$ or between $PIS$ and $LOYAL$ (Hayes, 2013; Preacher & Hayes, 2004; Preacher et al., 2007). Model 2 uses an ordinary least squares regression model that includes the interaction terms $PIS \times LOYAL$ and $PIS \times FAIR$, including the three-way interaction. In addition to multivariate regression analysis, Model 2 calculates three different levels for each of the two moderating variables ($LOYAL$ and $RESPECT$). The macro then calculates and reports the conditional effect of $PIS$ on $JB_3$ at each of the nine possible combinations of the three levels for each of the two continuous variables ($LOYAL$ and $FAIR$) to create an analysis of moderation effects shown in Table 6. The PROCESS macro has been used in other recent accounting literature (Herda & Martin, 2016).

To test $H3a$ and $H4a$, I used Model 2 of the PROCESS macro on the sub sample of 34 participants in the manager ‘expense opinion’ condition, with $JB_3$ as the dependent variable, $PIS$, $LOYAL$ and $FAIR$ as independent variables and $JC_3$, $GRAD$, $PANAS$ and $TIME$ as covariates. This model is illustrated in Figure 2A.

---

14 The three levels are defined at the mean (the medium level), one standard deviation above the mean (the high level), and one standard deviation below the mean (the low level). Table 6 shows values for $LOYAL$ and $FAIR$. These values are mean centered, such that the mean is set to zero, one standard deviation above the mean is positive, and one standard deviation below the mean is negative. These values represent, the high, low and medium conditions for $LOYAL$ and $FAIR$.

15 In addition, I conducted a separate ordinary least squares regression of the same model (not shown) in order to examine the residuals. The error terms appeared to be heteroscedastic. Therefore, I used the sub-routine included in the PROCESS macro to estimate heteroscedasticity-consistent standard errors (Hayes & Cai, 2007).
Table 6: Regression of PIS and Moral Foundations on Audit Judgment (JB_3) for the Manager ‘Expense Opinion’ Treatment (N=34)

Panel A: Model Summary

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>R-sq</th>
<th>MSE</th>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>p-val. a</th>
</tr>
</thead>
<tbody>
<tr>
<td>constant</td>
<td>.530</td>
<td>.281</td>
<td>2.895</td>
<td>1.333</td>
<td>9</td>
<td>24</td>
<td>.272</td>
</tr>
</tbody>
</table>

Panel B: Model Detail

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>t-test</th>
<th>p-val. a</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOYAL</td>
<td>.223</td>
<td>.686</td>
<td>-2.413</td>
<td>.024 **</td>
<td>.730</td>
<td>9.349</td>
</tr>
<tr>
<td>PIS</td>
<td>-.093</td>
<td>.804</td>
<td>-1.545</td>
<td>.128</td>
<td>-1.573</td>
<td>1.567</td>
</tr>
<tr>
<td>PIS x LOYAL</td>
<td>-.034</td>
<td>1.463</td>
<td>-1.16</td>
<td>.248</td>
<td>-1.193</td>
<td>1.638</td>
</tr>
<tr>
<td>FAIR</td>
<td>-.367</td>
<td>.655</td>
<td>-1.545</td>
<td>.128</td>
<td>-1.718</td>
<td>.985</td>
</tr>
<tr>
<td>PIS x FAIR</td>
<td>-1.314</td>
<td>1.392</td>
<td>-1.944</td>
<td>.055</td>
<td>-4.187</td>
<td>1.560</td>
</tr>
<tr>
<td>JC_3</td>
<td>-.334</td>
<td>.194</td>
<td>-1.725</td>
<td>.097 *</td>
<td>-1.734</td>
<td>.066</td>
</tr>
<tr>
<td>GRAD</td>
<td>.333</td>
<td>.705</td>
<td>1.725</td>
<td>.086</td>
<td>-1.788</td>
<td>1.121</td>
</tr>
<tr>
<td>TIME</td>
<td>.002</td>
<td>.006</td>
<td>-1.458</td>
<td>.147</td>
<td>-.015</td>
<td>.011</td>
</tr>
<tr>
<td>PANAS</td>
<td>.193</td>
<td>.480</td>
<td>.402</td>
<td>.691</td>
<td>-1.797</td>
<td>1.183</td>
</tr>
</tbody>
</table>

Panel C: Conditional effect of PIS on Audit Judgment at values of the moderators

<table>
<thead>
<tr>
<th>FAIR b</th>
<th>LOYAL b</th>
<th>Effect</th>
<th>SE</th>
<th>t-test</th>
<th>p-val. a</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>-.769</td>
<td>-.789</td>
<td>-.943</td>
<td>1.458</td>
<td>.647</td>
<td>.524</td>
<td>-2.067</td>
<td>3.953</td>
</tr>
<tr>
<td>-.769</td>
<td>.000</td>
<td>.916</td>
<td>1.512</td>
<td>.606</td>
<td>.550</td>
<td>-2.204</td>
<td>4.037</td>
</tr>
<tr>
<td>-.769</td>
<td>.789</td>
<td>.890</td>
<td>2.262</td>
<td>.394</td>
<td>.698</td>
<td>-3.778</td>
<td>5.558</td>
</tr>
<tr>
<td>.000</td>
<td>-.789</td>
<td>-.067</td>
<td>1.286</td>
<td>-.052</td>
<td>.959</td>
<td>-2.720</td>
<td>2.587</td>
</tr>
<tr>
<td>.000</td>
<td>.000</td>
<td>.093</td>
<td>.804</td>
<td>-.116</td>
<td>.909</td>
<td>-1.753</td>
<td>1.567</td>
</tr>
<tr>
<td>.000</td>
<td>.789</td>
<td>1.520</td>
<td>1.076</td>
<td>.079</td>
<td>.938</td>
<td>-3.257</td>
<td>3.017</td>
</tr>
<tr>
<td>.769</td>
<td>-.789</td>
<td>1.520</td>
<td>1.076</td>
<td>.079</td>
<td>.938</td>
<td>-3.257</td>
<td>3.017</td>
</tr>
<tr>
<td>.769</td>
<td>.000</td>
<td>1.139</td>
<td>.968</td>
<td>.343</td>
<td>1.133</td>
<td>.343</td>
<td>1.133</td>
</tr>
<tr>
<td>.769</td>
<td>.789</td>
<td>1.340</td>
<td>-.843</td>
<td>.408</td>
<td>1.340</td>
<td>.408</td>
<td>1.340</td>
</tr>
</tbody>
</table>

The above analysis utilizes the 'Model 2' PROCESS Macro (Hayes, 2013)

- a. Tests of significance report the 2-tailed p-value (* significance at the .1 level; ** significance at the .05 level)
- b. LOYAL and FAIR are mean centered (zero = the mean; the +ve is one SD above the mean; the -ve is one SD below the mean)

Legend:

- **JB_3** DV -- Response to question: “how likely is it that other Staff Auditors would recommend that event B be expensed or capitalized (7-point scale ranging from 1 = “certainly capitalized” to 7 = “certainly expensed”)
- **MGR** Categorial variable assigned the value 1 for the ‘expense opinion’ condition (when the audit manager suggests that event B should be expensed); and, zero for the ‘no opinion’ condition
- **PIS** Categorial variable assigned the value 1 for the ‘PIS intervention’ condition (when the pre-task involves rating characteristics of a good professional); and, zero for the ‘no intervention’ condition
- **FAIR** Average of three items from the Moral Foundations Questionnaire (Graham et al. 2011) designed to capture fairness (6-point scale ranging from “not at all relevant” to 6 = “extremely relevant”)
- **LOYAL** Average of three items from the Moral Foundations Questionnaire (Graham et al. 2011) designed to capture loyalty-respect (6-point scale ranging from “not at all relevant” to 6 = “extremely relevant”)
- **JC_3** Response to question: “how likely is it that other Staff Auditors would recommend that event C be expensed or capitalized (7-point scale ranging from 1 = “certainly capitalized” to 7 = “certainly expensed”)
- **PANAS** Average of four items adapted from the PANAS scale (Watson et al. 1988) designed to capture positive affect (7-point scale ranging from 1 = "not at all" to 7 = "extremely")
- **GRAD** Categorial variable assigned the value 1 when the participant was a graduate student; and, zero when an undergraduate
- **TIME** Time taken on the experimental task (in minutes)
Table 6 reports the results for Model 2. The coefficient for the direct effect of FAIR on JB_3 is negative (B = -.367, 2-tailed p = .581). The coefficient for the direct effect of LOYAL on JB_3 is positive (B = +.223, 2-tailed p = .748). These effects are in the direction predicted; however, neither FAIR nor LOYAL are significant predictors of audit judgement. Therefore, the results presented in Table 6 do not support H3a and H4a.

To test H3b and H4b, I used Model 2 of the PROCESS macro (Hayes, 2013) on the sub sample of 42 participants in the ‘no opinion’ condition (i.e. when MGR = 0). Table 7 presents the results. Panel B indicates that the interaction term, PIS x FAIR is negative and significant at the .05 level (B = -1.558, 2-tailed p = .041). Table 7 also shows that the direct effects of FAIR and LOYAL on JB_3 are not significant.

Further, Panel C indicates that FAIR and LOYAL interact with PIS at particular levels of FAIR and LOYAL. More specifically, when LOYAL is moderate or high and FAIR is low, PIS tends to result in higher JB_3. When LOYAL is high and FAIR is low, the effect of PIS on JB_3 is +2.697 (2-tailed p = .010). When LOYAL is moderate and FAIR is low, the effect of PIS on JB_3 is +2.030 (2-tailed p = .008). This finding is inconsistent with H3b and H4b, which predict no influence from moral foundations when the manager has not expressed an opinion.

Interestingly, moral foundations appear to interact with the PIS intervention to exert an influence on audit judgment even when the audit manager expressed no opinion. The mean scores for participant with high loyalty in the PIS intervention condition tend toward the mid-point of the scale. Therefore, participants with a high sense of loyalty coupled with a low sense of fairness may have exhibited a higher degree of ambiguity or greater uncertainty with regard to the application of accounting rules than those participants with a high sense of fairness. In this case, the PIS intervention may have reminded participants of specific professional characteristics that resonate with that participant’s moral
foundations: being a “team player” or “following instructions” with a participant that has high levels of loyalty; objectivity or professional skepticism with a participant that has high levels of fairness. Of course, a particular participant may be high in both loyalty-respect and fairness, and Table 4 suggested this may be the case for many of the participants.

In order to test $H3a$ and $H4a$, I again used Model 2 of the PROCESS macro (Hayes, 2013). I present the results in Table 8. Panel B indicates that the direct effect of $LOYAL$ on audit judgment is positive and significant ($B = .332, 2$-tailed $p = .041$). Therefore, participants with a high level of loyalty-respect are more likely to recommend expensing event B than are participants with a low level of loyalty-respect. Therefore, high loyalty-respect leads to more agreement with the audit manager’s opinion than low loyalty-respect. Meanwhile, the direct effect of $FAIR$ on audit judgment is negative and significant ($B = -.527, 2$-tailed $p = .008$). Therefore, participants with a high level of fairness are less likely to recommend expensing event B than are participants with a low level of fairness. This suggests that high fairness leads to less agreement with the audit manager than low fairness. These results are consistent with $H3a$ and $H4a$; however, they do not support $H3a$ and $H4a$ because loyalty-respect and fairness do not interact with the PIS to moderate the influence a PIS intervention has on audit judgment.
Table 7: Regression of PIS and Moral Foundations on Audit Judgment (JB_3) for the Manager 'No Opinion' Condition (N=42)

Panel A: Model Summary

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>R-sq</th>
<th>MSE</th>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>p-val. a</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.540</td>
<td>.291</td>
<td>1.576</td>
<td>1.306</td>
<td>9</td>
<td>32</td>
<td>.273</td>
</tr>
</tbody>
</table>

Panel B: Model Detail

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>t-test</th>
<th>p-val. a</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>constant</td>
<td>2.658</td>
<td>1.249</td>
<td>2.128</td>
<td>.041 **</td>
<td>.114</td>
<td>5.202</td>
</tr>
<tr>
<td>LOYAL</td>
<td>.082</td>
<td>.329</td>
<td>.250</td>
<td>.804</td>
<td>-.589</td>
<td>.753</td>
</tr>
<tr>
<td>PIS</td>
<td>.756</td>
<td>.471</td>
<td>1.607</td>
<td>.118</td>
<td>-.203</td>
<td>1.716</td>
</tr>
<tr>
<td>PIS x LOYAL</td>
<td>.919</td>
<td>.771</td>
<td>1.192</td>
<td>.242</td>
<td>-.651</td>
<td>2.488</td>
</tr>
<tr>
<td>FAIR</td>
<td>-.166</td>
<td>.299</td>
<td>-.555</td>
<td>.583</td>
<td>-.774</td>
<td>.443</td>
</tr>
<tr>
<td>PIS x FAIR</td>
<td>-1.558</td>
<td>.732</td>
<td>-.2129</td>
<td>.041 **</td>
<td>-3.050</td>
<td>-.067</td>
</tr>
<tr>
<td>JC_3</td>
<td>.021</td>
<td>.163</td>
<td>.127</td>
<td>.899</td>
<td>-.312</td>
<td>.353</td>
</tr>
<tr>
<td>GRAD</td>
<td>.053</td>
<td>.576</td>
<td>.091</td>
<td>.928</td>
<td>-1.120</td>
<td>1.225</td>
</tr>
<tr>
<td>TIME</td>
<td>-.011</td>
<td>.017</td>
<td>-.651</td>
<td>.520</td>
<td>-.046</td>
<td>.024</td>
</tr>
<tr>
<td>PANAS</td>
<td>.070</td>
<td>.289</td>
<td>.243</td>
<td>.810</td>
<td>-.519</td>
<td>.660</td>
</tr>
</tbody>
</table>

Panel C: Conditional effect of PIS on Audit Judgment at values of the moderators

<table>
<thead>
<tr>
<th>FAIR b</th>
<th>LOYAL b</th>
<th>Effect</th>
<th>SE</th>
<th>t-test</th>
<th>p-val. a</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>-.817</td>
<td>-.727</td>
<td>1.362</td>
<td>.834</td>
<td>1.633</td>
<td>.112</td>
<td>-.337</td>
<td>3.061</td>
</tr>
<tr>
<td>-.817</td>
<td>.000</td>
<td>2.030</td>
<td>.722</td>
<td>2.810</td>
<td>.008 **</td>
<td>.558</td>
<td>3.501</td>
</tr>
<tr>
<td>-.817</td>
<td>.727</td>
<td>2.697</td>
<td>.987</td>
<td>2.732</td>
<td>.010 **</td>
<td>.686</td>
<td>4.708</td>
</tr>
<tr>
<td>.000</td>
<td>-.727</td>
<td>.089</td>
<td>.656</td>
<td>.136</td>
<td>.893</td>
<td>-1.248</td>
<td>1.425</td>
</tr>
<tr>
<td>.000</td>
<td>.000</td>
<td>.756</td>
<td>.471</td>
<td>1.607</td>
<td>.118</td>
<td>-.203</td>
<td>1.716</td>
</tr>
<tr>
<td>.000</td>
<td>.727</td>
<td>1.424</td>
<td>.800</td>
<td>1.780</td>
<td>.085 *</td>
<td>-2.206</td>
<td>3.054</td>
</tr>
<tr>
<td>.817</td>
<td>-.727</td>
<td>-1.184</td>
<td>.938</td>
<td>-1.262</td>
<td>.216</td>
<td>-3.096</td>
<td>.727</td>
</tr>
<tr>
<td>.817</td>
<td>.000</td>
<td>.517</td>
<td>.798</td>
<td>-.648</td>
<td>.522</td>
<td>-2.143</td>
<td>1.109</td>
</tr>
<tr>
<td>.817</td>
<td>.727</td>
<td>.151</td>
<td>1.010</td>
<td>.149</td>
<td>.882</td>
<td>-1.907</td>
<td>2.209</td>
</tr>
</tbody>
</table>

The above analysis utilizes the 'Model 2' PROCESS Macro (Hayes, 2013).

a. Tests of significance report the 2-tailed p-value (* significance at the .1 level; ** significance at the .05 level)
b. Values for quantitative moderators are the mean and plus/minus one SD from mean.

Legend:

JB 3 DV -- Response to question: "how likely is it that other Staff Auditors would recommend that event B be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")"

MGR Categorial variable assigned the value 1 for the 'expense opinion' condition (when the audit manager suggests that event B should be expensed); and, zero for the 'no opinion' condition

PIS Categorial variable assigned the value 1 for the 'PIS intervention' condition (when the pre-task involves rating characteristics of a good professional); and, zero for the 'no intervention' condition

FAIR Average of three items from the Moral Foundations Questionnaire (Graham et al. 2011) designed to capture fairness (6-point scale ranging from "not at all relevant" to 6 = "extremely relevant")

LOYAL Average of three items from the Moral Foundations Questionnaire (Graham et al. 2011) designed to capture loyalty-respect (6-point scale ranging from "not at all relevant" to 6 = "extremely relevant")

JC 3 Response to question: "how likely is it that other Staff Auditors would recommend that event C be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")"

PANAS Average of four items adapted from the PANAS scale (Watson et al. 1988) designed to capture positive affect (7-point scale ranging from 1 = "not at all" to 7 = "extremely")

GRAD Categorical variable assigned the value 1 when the participant was a graduate student; and, zero when an undergraduate

TIME Time taken on the experimental task (in minutes)
Table 8: Regression of PIS and Moral Foundations on Audit Judgment (JB_3) for the Manager ‘Expense Opinion’ Condition for an Expanded Sample (N=91)

### Panel A: Model Summary

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>R-sq</th>
<th>MSE</th>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>p-val.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.522</td>
<td>.273</td>
<td>2.356</td>
<td>4.694</td>
<td>9</td>
<td>81</td>
<td>💼.000 **</td>
</tr>
</tbody>
</table>

### Panel B: Model Detail

<table>
<thead>
<tr>
<th>Effect</th>
<th>B</th>
<th>SE</th>
<th>t-test</th>
<th>p-val.</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>5.563</td>
<td>.992</td>
<td>5.609</td>
<td>.000 **</td>
<td>3.589</td>
<td>7.536</td>
</tr>
<tr>
<td>LOYAL</td>
<td>.332</td>
<td>.160</td>
<td>2.075</td>
<td>.041 **</td>
<td>.014</td>
<td>.650</td>
</tr>
<tr>
<td>PIS</td>
<td>.041</td>
<td>.346</td>
<td>.117</td>
<td>.907</td>
<td>-6.49</td>
<td>.730</td>
</tr>
<tr>
<td>PIS x LOYAL</td>
<td>-.189</td>
<td>.322</td>
<td>-.587</td>
<td>.559</td>
<td>-.831</td>
<td>.452</td>
</tr>
<tr>
<td>FAIR</td>
<td>-.527</td>
<td>.194</td>
<td>-2.720</td>
<td>.008 **</td>
<td>-.913</td>
<td>-.142</td>
</tr>
<tr>
<td>PIS x FAIR</td>
<td>-.342</td>
<td>.407</td>
<td>-.842</td>
<td>.403</td>
<td>-1.151</td>
<td>.467</td>
</tr>
<tr>
<td>JC_3</td>
<td>-.358</td>
<td>.097</td>
<td>-3.680</td>
<td>.000 **</td>
<td>-.551</td>
<td>-.164</td>
</tr>
<tr>
<td>GRAD</td>
<td>-.350</td>
<td>.224</td>
<td>-1.567</td>
<td>.121</td>
<td>-.795</td>
<td>.095</td>
</tr>
<tr>
<td>TIME</td>
<td>-.003</td>
<td>.002</td>
<td>-1.442</td>
<td>.153</td>
<td>-.007</td>
<td>.001</td>
</tr>
<tr>
<td>PANAS</td>
<td>.088</td>
<td>.216</td>
<td>.407</td>
<td>.685</td>
<td>-.343</td>
<td>.519</td>
</tr>
</tbody>
</table>

### Panel C: Conditional effect of PIS on Audit Judgment at values of the moderators

<table>
<thead>
<tr>
<th>FAIR</th>
<th>LOYAL</th>
<th>Effect</th>
<th>SE</th>
<th>t-test</th>
<th>p-val.</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>-.992</td>
<td>-1.104</td>
<td>.589</td>
<td>.595</td>
<td>.990</td>
<td>.325</td>
<td>-594</td>
<td>1.773</td>
</tr>
<tr>
<td>-.992</td>
<td>.000</td>
<td>.380</td>
<td>.605</td>
<td>.629</td>
<td>.531</td>
<td>-.823</td>
<td>1.583</td>
</tr>
<tr>
<td>-.992</td>
<td>1.104</td>
<td>.171</td>
<td>.794</td>
<td>.216</td>
<td>.830</td>
<td>-1.409</td>
<td>1.751</td>
</tr>
<tr>
<td>.000</td>
<td>-1.104</td>
<td>.250</td>
<td>.461</td>
<td>.542</td>
<td>.590</td>
<td>-.667</td>
<td>1.167</td>
</tr>
<tr>
<td>.000</td>
<td>.000</td>
<td>.041</td>
<td>.346</td>
<td>.117</td>
<td>.907</td>
<td>-.649</td>
<td>.730</td>
</tr>
<tr>
<td>.000</td>
<td>1.104</td>
<td>-.168</td>
<td>.530</td>
<td>-.318</td>
<td>.752</td>
<td>-1.223</td>
<td>.886</td>
</tr>
<tr>
<td>.992</td>
<td>-1.104</td>
<td>.090</td>
<td>.630</td>
<td>-.143</td>
<td>.887</td>
<td>-1.343</td>
<td>1.163</td>
</tr>
<tr>
<td>.992</td>
<td>.000</td>
<td>-.299</td>
<td>.447</td>
<td>-.668</td>
<td>.506</td>
<td>-1.189</td>
<td>.591</td>
</tr>
<tr>
<td>.992</td>
<td>1.104</td>
<td>-.508</td>
<td>.507</td>
<td>-1.002</td>
<td>.319</td>
<td>-1.516</td>
<td>.500</td>
</tr>
</tbody>
</table>

The above analysis utilizes the ‘Model 2’ PROCESS Macro (Hayes, 2013)

a. Tests of significance report the 2-tailed p-value (* significance at the .1 level; ** significance at the .05 level)
b. Values for quantitative moderators are the mean and plus/minus one SD from mean.

**Legend:**

- **JB 3** DV -- Response to question: "how likely is it that other Staff Auditors would recommend that event B be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")
- **MGR** Categorical variable assigned the value 1 for the expense opinion condition (when the audit manager suggests that event B should be expensed); and, zero for the 'no opinion' condition
- **PIS** Categorical variable assigned the value 1 for the PIS intervention condition (when the pre-task involves rating characteristics of a good professional); and, zero for the 'no intervention' condition
- **FAIR** Average of three items from the Moral Foundations Questionnaire (Graham et al. 2011) designed to capture fairness (6-point scale ranging from 'not at all relevant' to 6 = "extremely relevant")
- **LOYAL** Average of three items from the Moral Foundations Questionnaire (Graham et al. 2011) designed to capture loyalty-respect (6-point scale ranging from 'not at all relevant' to 6 = "extremely relevant")
- **JC 3** Response to question: "how likely is it that other Staff Auditors would recommend that event C be expensed or capitalized (7-point scale ranging from 1 = "certainly capitalized" to 7 = "certainly expensed")
- **PANAS** Average of four items adapted from the PANAS scale (Watson et al. 1988) designed to capture positive affect (7-point scale ranging from 1 = "not at all" to 7 = "extremely")
- **GRAD** Categorical variable assigned the value 1 when the participant was a graduate student; and, zero when an undergraduate
- **TIME** Time taken on the experimental task (in minutes)
CHAPTER 5

CONCLUSIONS AND FUTURE RESEARCH

Conclusions

PIS Intervention

The results support \( H1 \) and the findings of prior research (Peytcheva & Gillett, 2011) that auditors tend to subordinate their judgment to the expressed opinion of a superior, even when this opinion involves a departure from US GAAP. However, the results do not support \( H2 \); therefore, the PIS intervention does not appear to mitigate the tendency of auditors to subordinate judgment to that of a superior. The results of the planned contrasts indicate that auditors receiving the PIS intervention may actually be biased toward expensing the expenditure – the wrong accounting treatment – even when the manager has not expressed an opinion.

However, it is not clear from this study whether the PIS intervention induced a bias toward an incorrect audit judgment, or whether it led to a bias toward indecision on the part of the staff auditor. The average scores of participants in the PIS treatment condition were close to the mid-point on the scale between ‘expense’ and ‘capitalize’. This result is more consistent with participants being less confident of a correct accounting treatment, than being more confident of an incorrect accounting treatment. It is possible that the PIS intervention piqued participants’ attitudes of professional skepticism, resulting in greater questioning behavior. Greater questioning behavior would also be consistent with prior research with less experienced auditors (Bonner, 1990; Shelton, 1999). Therefore, the precise influence of PIS on subordination of judgment needs further investigation.

Moral Foundations

While \( H3a \) and \( H4a \) are not supported, the results do suggest that moral foundations influence audit judgment in cases where there is an underlying moral tension. In particular, loyalty-respect tends
to increase the likelihood of agreement with a superior when that superior’s opinion is known, while an auditor’s sense of fairness tends to decrease the likelihood of subordination of judgment under the same condition. However, the moderating influence of moral foundations appears to be a direct effect. This is a slight departure from $H3a$ and $H4a$, which predict that moral foundations have an indirect effect. Theory and pilot testing suggested that the PIS intervention was necessary to ‘activate’ fairness; however, it appears that fairness, as well as loyalty-respect, exert an influence independent of the PIS intervention.

These results may reflect the influence of work experience. Undergraduate students in the pilot required a reminder of profession identity in order for moral foundations to be activated, whereas graduate students in the final study, who have been exposed to the work of an auditor, come to an audit task with an implicit appreciation for the moral tension inherent in audit judgments. Further testing with professionals to contrast levels of experience would be beneficial.

Interestingly, moral foundations also influence audit judgment when the manager expresses no opinion. This is not consistent with $H3b$ and $H4b$. The results suggest that auditors with a high sense of loyalty-respect and a low sense of fairness respond to a PIS intervention by exhibiting more flexibility or uncertainty with regard to the application of accounting rules than do those with a high sense of fairness. This is not to say that auditors with a low sense of fairness will not follow the rules, but that they tend toward a recommendation of ‘unsure’ or ‘undecided’ when given a reminder of their professional identity. This suggests that auditors should be careful about the application of PIS interventions in practice, and that moral foundations exert biases on audit judgments.
Study Limitations

The measure of the audit judgment effectively combines the elements of audit judgment and the level of confidence in that judgment. Further analysis could be conducted with a separate dependent variables measuring audit judgment and confidence-level. Including a further two treatment conditions may also help. A ‘capitalize opinion’ condition could be added, whereby the superior suggests the correct accounting treatment. A final control group without any mention of the manager would allow a comparison between ‘no opinion’ and ‘expressed lack of opinion’.

The current study is further limited by the relative inexperience and homogeneity of its participants. Further research with more experienced auditors, as well as auditors with a greater range of experience, is required to ascertain whether inexperience and indecision compound the issue of subordination of judgment. One recent study considered the influence that the superior’s experience has on auditors’ subordination of judgment (Herda & Martin, 2016). Having participants with a wide range of audit experience would offer a better test of the effect of a subordinate’s experience on the likelihood of subordination of judgment.

Participants performed the case study online, using survey software. This method enabled me to capture a large number of responses, increasing statistical validity. I also gave instructions for participants to complete the exercise in a single sitting, and I was able to identify and exclude participants who had spent either too little or too much time on the exercise. However, it was still difficult to control for exogenous variables from the participant’s environment, the time of day they performed the task, and short interruptions which may have impaired the experimental manipulations due to cognitive interference or recency bias. This study could be improved by conducting the experiment in a controlled setting. However, the influence of exogenous variables was likely to have biased against finding results from the manipulations used in this study.
The current study elicits information about participant’s intentions and attitudes toward behaviors, but does not capture actual behavior. The theory of planned behavior suggests that attitudes to behavior help form an intention to act, which is a significant predictor of actual behavior (Ajzen, 1991, 2005). In addition, the objective of the present study is to investigate the effect of moral intuitions on audit judgment, rather than subsequent behavior. Therefore, it is sufficient to capture attitudes. However, further research is required to examine how moral foundations translate into behavior.

Future Research

The results demonstrate that moral foundations influence audit judgment. Research by moral psychologists suggest that moral foundations are essentially habits, and social interaction, narrative and reflective learning through a focus on virtue may be effective ways of shaping and developing appropriate moral foundations (Haidt & Joseph, 2007). Accounting research has already begun to consider virtue and reflective learning in accounting education and practice (Francis, 1990; Mintz, 1995). The current study demonstrates the importance of delving more deeply into these areas in order to improve accounting education and professional development.

Prior research has considered the effect of judgment biases on an ethical judgment, limiting the scope of moral judgment to a relatively narrow subset of accounting issues that are overtly ‘ethical’ (Bailey et al., 2010; Jones et al., 2003). However, the present study suggests that there is merit in viewing morality as a set of heuristics that affect professional judgment in a manner analogous with other cognitive and affective biases. Therefore, this study may be part of a paradigm shift in accounting ethics research away from a narrow definition of accounting ethics to consider how moral heuristics, such as moral foundations, might impact professional judgment and decision making per se.
**[PIS MANIPULATION]**

**WARM UP TASK**

Shortly, you will be provided with auditing evidence and be asked to make a judgement. First, complete the following warm-up task…

<table>
<thead>
<tr>
<th>PIS</th>
<th>Please rate the importance of each of the following aspects of being a good staff auditor:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Independent thinking</td>
</tr>
<tr>
<td></td>
<td>- Professional skepticism</td>
</tr>
<tr>
<td></td>
<td>- Objectivity</td>
</tr>
<tr>
<td></td>
<td>- Asking questions</td>
</tr>
<tr>
<td></td>
<td>- Following instruction</td>
</tr>
<tr>
<td></td>
<td>- Following a plan</td>
</tr>
<tr>
<td></td>
<td>- Being a good team player</td>
</tr>
<tr>
<td></td>
<td>- Gathering evidence</td>
</tr>
<tr>
<td></td>
<td>- Efficiency</td>
</tr>
<tr>
<td></td>
<td>- Effectiveness</td>
</tr>
</tbody>
</table>

[A 6-point Likert scale ranging from “Not at all important” to “Extremely important”]

Is there anything else you believe is important to being a good staff auditor?

<table>
<thead>
<tr>
<th>NO PIS</th>
<th>Please rate the importance of each of the following aspects in planning a good vacation:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Considering the weather / climate</td>
</tr>
<tr>
<td></td>
<td>- The time of year</td>
</tr>
<tr>
<td></td>
<td>- Finding the best accommodation</td>
</tr>
<tr>
<td></td>
<td>- Opportunities for adventure</td>
</tr>
<tr>
<td></td>
<td>- Opportunities for relaxation</td>
</tr>
<tr>
<td></td>
<td>- The cost</td>
</tr>
<tr>
<td></td>
<td>- Who to go with</td>
</tr>
<tr>
<td></td>
<td>- Reading reviews / getting recommendations</td>
</tr>
<tr>
<td></td>
<td>- Gathering evidence</td>
</tr>
<tr>
<td></td>
<td>- Following a plan</td>
</tr>
</tbody>
</table>

[A 6-point Likert scale ranging from “Not at all important” to “Extremely important”]

Is there anything else you believe is important to planning a good vacation?

---

16 Adaptation of PIS manipulation applied in Experiment 2 by (Bauer, 2015).
INITIAL IMPRESSIONS:

Before you begin the case, here is a list of words that describe feelings or emotions. Please indicate the extent to which you feel this way right now, that is, at the present moment:

1. Interested
14. Inspired
17. Attentive
    Happy

[On a 7-point Likert scale: not at all; very slightly; a little; moderately; quite a bit; a lot; extremely].

---

17 3 positive affect items from the PANAS scale (Watson et al., 1988).
THE CASE STUDY

Background:

Suppose that you are a staff auditor working on the annual audit of a cable and wire company. Property, Plant, and Equipment represents a substantial portion of the total assets of the company.

Here is a diagram of the audit team showing the regular lines of reporting. The role you play in the exercise is staff auditor no. 2:

Please indicate below the role you will play in the audit team shown above to demonstrate your understanding:

- The Audit Partner
- The Audit Manager
- The Senior Auditor
- A Staff Auditor

---

18 This case is adapted from (Peytcheva & Gillett, 2011). The review comments detail and explain the changes / adoptions to the case P&G presented to participants.
The following is a summary of the relevant US GAAP taken from an accounting textbook:\(^{19}\):

"Many long lived assets require expenditures to repair, maintain or improve them. In general, a choice must be made between capitalizing the expenditures by either increasing the asset's net book value or creating a new asset, or expensing them in the period in which they are incurred. Conceptually, we can refer to the matching concept that requires the capitalization of expenditures that are expected to produce benefits beyond the current fiscal year."

"Expenditures related to assets can increase future benefits in the following ways:
1. An extension of the useful life of the asset.
2. An increase in the operating efficiency of the asset resulting in either an increase in the quantity of goods or services produced or a decrease in future operating costs
3. An increase in the quality of the goods or services produced by the asset."

On the other hand, "[repairs and maintenance] expenditures are made to maintain a given level of benefits provided by the asset and do not increase future benefits... Expenditures for these activities should be expensed in the period they are incurred."

---

\(^{19}\) The review of US GAAP is quoted from an Intermediate Accounting text book with which the students involved in the pilot should be familiar (Spiceland et al., 2016). The explanation conforms with the latest US GAAP.
YOUR TASK:

As one of the staff auditors, you have been asked to collect and examine evidence pertaining to K&H, Inc., a wire and cable company, and use your judgment to make recommendations about the proper treatment of specific accounting events in the area of Property, Plant and Equipment.

CASE EVIDENCE:

K&H, Inc.

K&H, Inc. has been in its plant facility for twenty years. Although the plant is still functional, it requires ongoing capital improvements and repairs. The company’s plant asset book value is currently $450,000, as indicated below:

<table>
<thead>
<tr>
<th>Original Cost</th>
<th>$ 1,350,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accumulated Depreciation</td>
<td>(900,000)</td>
</tr>
<tr>
<td>Book value</td>
<td>$  450,000</td>
</tr>
</tbody>
</table>

During the year currently being audited, the following expenditures were made involving the plant facility (assume all amounts are material):

A. The entire plant was repainted at a cost of $47,000.

B. A plumbing leak in March caused the entire plant to be shut down for a week. A $73,000 renovation and overhaul of the plumbing system was completed that will reduce operating costs in future years.

C. The company purchased, at a major discount, several months’ supply of machine lubricants and cleaners for a total cost of $23,000.
**FURTHER INFORMATION:**

Consider all amounts in the case to be material.

<table>
<thead>
<tr>
<th></th>
<th>During a lunch time meeting, the audit team discussed the plumbing renovations (event B). During the discussion, the Audit Manager stated that his initial opinion is that the expenditure of $73,000 should be recorded as an expense in the current period, not capitalized.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXP.</td>
<td>NONE</td>
</tr>
<tr>
<td>During a lunch time meeting, the audit team discussed the plumbing renovations (event B). During the discussion, the Audit Manager stated that he has not formed an initial opinion as to whether the expenditure of $73,000 should be recorded as an expense in the current period or capitalized.</td>
<td></td>
</tr>
</tbody>
</table>

Please indicate the opinion of the audit manager shown above:

- The audit manager thinks that the expenditure in event B should be expensed  
  - []
- The audit manager thinks that the expenditure in event B should be capitalized  
  - []
- The audit manager expresses no opinion  
  - []

Please indicate which member of the audit team is expressing their opinion:

- The Audit Partner  
  - []
- The Audit Manager  
  - []
- The Senior Auditor  
  - []
- The other Staff Auditor  
  - []

---

20 Adapted from (Peytcheva & Gillett, 2011)
[DVs – OPINIONS]:

[Each item uses a 7-point Likert scale from “Certainly Capitalized” to “Certainly Expensed”]

With regard to event A (repainting), please indicate your judgment in answer to the following questions:

- How likely is it that you would recommend that event A be expensed or capitalized?
- How likely is it that other Staff Auditors would recommend that event A be expensed or capitalized?

With regard to event B (renovation of plumbing), please indicate your judgment in answer to the following questions:

- How likely is it that you would recommend that event B be expensed or capitalized?
- How likely is it that other Staff Auditors would recommend that event B be expensed or capitalized?

With regard to event C (discounted supplies), please indicate your judgment in answer to the following questions:

- How likely is it that you would recommend that event C be expensed or capitalized?
- How likely is it that other Staff Auditors would recommend that event C be expensed or capitalized?

[The order of the direct and indirect questions for each event was randomized]
Please indicate the extent to which your characteristics align or overlap with those of the following:

- The audit manager
- Other accounting professionals

[On a 7-point Likert scale ranging from “Not at all” to “Completely”]

Please indicate the extent to which you feel a sense of duty or obligation to the following:

- The audit manager
- Other accounting professionals

[On a 7-point Likert scale ranging from “Not at all” to “Completely”]

Please indicate the extent to which you identify with each of the following:

- The audit manager
- Other accounting professionals

[On a 7-point Likert scale ranging from “Not at all” to “Completely”]

To what extent did the information in the case make you think about the following rules of the accounting profession?

- Auditor independence
- Auditor objectivity
- The subordination of judgment

[On a 7-point Likert scale ranging from “Not at all” to “Completely”]

---

21 Adapted from the manipulation checks (Venn Diagrams) used by (Bauer, 2015).
22 Adapted from single-item scale validated by (Postmes et al., 2013).
[CHECKS OF TASK APPROPRIATENESS AND REALISM]

To what extent has this case made you think about the values and qualities of the audit manager?
[A 7-point bi-polar scale contrasting “Very little” with “Very much”]

How much did the opinion of the audit manager affect your judgment?
[A 7-point bi-polar scale contrasting “Very little” with “Very much”]

In what ways did the audit manager's opinion affect your judgment?

How much do you think the opinion of the audit manager would affect the judgment of other staff auditors?
[A 7-point bi-polar scale contrasting “Very little” with “Very much”]

Please indicate your agreement or disagreement with the following statements:

I believe I will actually benefit today if I agree with the audit manager in the case
I felt real pressure while answering the case to simply agree with the audit manager in the case

If this were a real case, the staff auditor would probably feel pressure to agree with whatever the audit manager thought
If this were a real case, the staff auditor would benefit personally by agreeing with whatever the audit manager thought
On the whole, staff auditors are under pressure to agree with their superiors
On the whole, it benefits staff auditors’ careers to agree with their superiors

This was a difficult assignment
I found the task easy
There were good arguments for both capitalizing and expensing the plumbing renovations in the case
There was a clear solution to the case
The explanation of the rules provided in the case was sufficient to complete the case
I have sufficient accounting knowledge to answer the question

The fact event B involved a leak made it sound like a repair
The fact event B involved a complete renovation made me think it should be capitalized

[A 7-point Likert scale ranging from “Strongly disagree” to “Strongly agree”]
When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking? Please rate each statement using this scale:

MFQ1_2 Whether or not some people were treated differently than others
MFQ1_3 Whether or not someone’s action showed love for his or her country
MFQ1_4 Whether or not someone showed a lack of respect for authority
MFQ1_8 Whether or not someone acted unfairly
MFQ1_9 Whether or not someone did something to betray his or her group
MFQ1_10 Whether or not someone conformed to the traditions of society
MFQ1_13 Whether or not someone was denied his or her rights
MFQ1_14 Whether or not someone showed a lack of loyalty
MFQ1_15 Whether or not an action caused chaos or disorder

[A 6-point Likert: not at all relevant; not very relevant; slightly relevant; somewhat relevant; very relevant; extremely relevant]

23 Taken from the MFQ (Graham et al., 2012). This scale was downloaded from: http://www.moralfoundations.org/questionnaires
[DEMOGRAPHICS]

Please indicate your gender
- Male  [ ]
- Female [ ]

Please indicate any / all of the following classes you have completed prior to this semester:
- An Undergraduate Auditing class [ ]
- A Graduate Auditing class [ ]
- Intermediate Accounting [ ]

Were you in the undergraduate auditing class, ACCT 4400, at the University of North Texas in Fall, 2015?
- Yes [ ]
- No [ ]

Indicate the class(es) in which you are currently enrolled:
- ACCT 5120 “Using Information Systems in Accounting” at UNT
- ACCT 5450 “Seminar in Internal Auditing” at UNT
- Another accounting course at UNT
- ACCT 71273 “Advanced Auditing and Assurance” at TCU
- Another Accounting course at TCU

If you recently completed an internship in accounting (i.e. in the past 6 months), in what area?
- Primarily in Auditing
- Primarily in Tax
- Equally split between audit and tax
- Primarily in another area of accounting (e.g. in consulting or in industry)
- No (I have not recently completed an internship in accounting)

Have you ever completed an internship or have you had any other work experience?
- Yes [ ]
- No [ ]

If you answered yes to the question(s) above, please indicate the approximate number of months you worked in each of the following areas (you should enter the number of months for every area that applies):
- Months in external auditing
- Months in another area of public accounting practice (e.g. tax)
- Months in internal auditing
- Months in another area of in-house accounting (e.g. management accounting)
- Months in another area of business

Have you ever been involved in the audit of plant, property and equipment?
- Yes [ ]
- No [ ]
APPENDIX B

LIST OF CHANGES MADE TO INSTRUMENTS FROM PRIOR LITERATURE
1. Changes Made Prior to the Pilot Study

To the Bauer (2015) Instrument – PIS Intervention

<table>
<thead>
<tr>
<th>Change</th>
<th>Reason / Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>I changed the PIS manipulation from a mind-mapping task to a brainstorming task.</td>
<td>Brainstorming is essentially the same as mind-mapping for the purposes of this exercise. However, trainee auditors in the United States are already familiar with brainstorming exercises from their educational experiences, and it is a task performed in audit practice. Therefore, the task required far less explanation.</td>
</tr>
<tr>
<td>Immediately following the PIS Manipulation, I added three positive affect items from the PANAS plus “happy”.</td>
<td>To control for the differences in positive affect from thinking about vacations versus work.</td>
</tr>
<tr>
<td>I adapted the manipulation check questions for professional and client identification to focus on manager identification.</td>
<td>My study contrasts the influences of PIS and manager, rather than PIS and client.</td>
</tr>
<tr>
<td>I replaced the terminology, “values, attributes and qualities,” with the word, “characteristics.”</td>
<td>The term “values” may prime moral thinking prior to the judgment task. The term “characteristics” is less arbitrary and better understood than “attributes.”</td>
</tr>
</tbody>
</table>

To the Peytcheva & Gillet (2011) Instrument – Superior Opinion Treatment & Judgment Task

<table>
<thead>
<tr>
<th>Change</th>
<th>Reason / Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>I presented a diagram of the audit team, followed by several check questions.</td>
<td>This is to better communicate the composition of the team and the role being played, in case the less experienced students are unfamiliar or confused about the task.</td>
</tr>
<tr>
<td>I inserted a mini-tutorial taken from an intermediate accounting text book reviewing the rules for the capitalization or expensing of expenditures on PPE.</td>
<td>This was done to ensure that everyone was working from the same knowledge-base. Knowledge difference is not a subject under investigation in this study.</td>
</tr>
<tr>
<td>I presented all information on one scrollable sheet, which included the superior’s opinion, while the participant made their judgment.</td>
<td>P&amp;G require participants to make a judgment before the information about the audit partners’ opinion is known, then ask participants to recall their prior judgment. These steps were designed to test whether auditors changed their minds. I did not wish to test this, meanwhile requiring participants to recall prior judgments would have introduced endogenous factors connected with memory coding and recall.</td>
</tr>
<tr>
<td>These following changes made the superior manipulation more realistic, and errored on the side of not finding results: 1. I removed the detailed rationale for the superior’s opinion. 2. I change the source of the superior’s opinion from “the Audit Partners in the firm” to “the Audit Manager” 3. I change the basis of the superior’s opinion from “based on the evidence” to an “initial opinion.”</td>
<td>P&amp;G present the superior’s opinion as the final, considered opinion of the audit partners in the firm. They also provide a rationale for going against US GAAP that appears to be based on SOX. It is unlikely that a staff auditor would be placed in the position to question the final, considered opinion the partners in an audit firm. There is a danger that the superior opinion manipulation is not a realistic test for staff auditors.</td>
</tr>
<tr>
<td>Change</td>
<td>Reason / Issue</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>I replaced the background to the case used by P&amp;G with a short tutorial taken from an intermediate textbook, explaining US GAAP regarding expenditures on PPE. I also changed the words describing the plumbing expenditure from, “a complete renovation and overhaul of the plumbing system had to be undertaken in the following two months, at a total cost of $73,000,” to say, “a complete renovation and overhaul of the plumbing system that will result in reduced future operating costs was conducted at a total cost of $73,000.” This change ensured the judgment task used the same language found in the regulations.</td>
<td>While all participants should have sufficient familiarity with the US GAAP rules regarding accounting for P.P.E., there is potential for lack of practice to affect recall of the rules. In addition, I wanted to avoid the superiors’ opinion to be the authoritative source of knowledge.</td>
</tr>
<tr>
<td>I remove any suggestion that answers will be reviewed by superiors or instructors, and I maintain the anonymity of participants.</td>
<td>P&amp;G give their results to the audit partners in the participants’ firm to review. Since I am studying a moral issue, I wish to avoid the effects of social desirability bias.</td>
</tr>
<tr>
<td>I included both direct and indirect questions for each judgment task (e.g. what would other staff auditors do?)</td>
<td>Social desirability may bias responses to a direct question.</td>
</tr>
<tr>
<td>I ask participants to state what they are likely to “recommend.”</td>
<td>P&amp;G ask participants to “make a decision”, but this seems too final for a staff auditor.</td>
</tr>
<tr>
<td>I asked participants to make recommendations about the accounting for all three events presented in the case using a Likert scale rather than a binary choice (expense or capitalize).</td>
<td>A Likert-scale is a more appropriate way to capture the inclination to agree with or acquiesce to others (Bamber &amp; Iyer, 2007; Herda &amp; Lavelle, 2015; Robertson, 2010; Stefaniak et al., 2012).</td>
</tr>
<tr>
<td>Changed the order of the events, so that the DV was the judgment re event B, rather than event C.</td>
<td>Placing the critical judgment task in the middle of a set of three makes that event stand out less than placing it at the end of the list.</td>
</tr>
</tbody>
</table>
2. Changes Made Following the Pilot Study

*To the Bauer (2015) Instrument – PIS Intervention*

<table>
<thead>
<tr>
<th>Change</th>
<th>Reason / Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>I changed the PIS manipulation from a brainstorming task to a rating task, with a list of specific professional characteristics, such as independence, objectivity and skepticism.</td>
<td>The manipulation checks in the pilot did not suggest any differences between experimental treatments. Changing the PIS intervention task to a rating task helped control for individual differences. All participants received the same list of professional characteristics. The rating task was similar to the other tasks in the instrument, so it was easier to understand and created less mental fatigue than a brainstorming task. Therefore, the intervention placed less reliance on participants’ memory, experience, attentiveness and pre-existing professional identity.</td>
</tr>
<tr>
<td>I replaced the words “the accounting profession” in the identity strength manipulation check questions with the words “other accounting professionals.”</td>
<td>The manipulation checks in the pilot did not suggest any differences between experimental treatments. To improve the measurement of the manipulation, the words “the profession” are rather abstract. SIT suggests that people tend to identify with a social group through creating an imaginary, prototypical individual representing that group. Therefore, using the more concrete phrase “other accounting professionals” may help to capture any differences in professional identity.</td>
</tr>
<tr>
<td>Change</td>
<td>Reason / Issue</td>
</tr>
<tr>
<td>--------</td>
<td>----------------</td>
</tr>
<tr>
<td>I randomized the presentation order of the direct and indirect questions for each judgment task.</td>
<td>There may be an order effect created by asking a direct question followed by an indirect question in every task.</td>
</tr>
<tr>
<td>I further edited the language in the manager opinion manipulation so that both conditions made it clear that the manager’s opinion was his “initial opinion.”</td>
<td>There was concern after the pilot that the manager’s expression of an opinion in one case, and lack thereof in another, may manipulate the stage of the audit process rather than manager’s opinion. By stating that both opinions were “initial” opinions, it is clearer that the staff auditor’s work and judgment could influence the audit.</td>
</tr>
</tbody>
</table>
REFERENCES


PCAOB. (2013). ET 102.05 Subordination of Judgment by a Member.


