

**WHY AUDITORS ARE UNABLE TO SEE THEIR OWN BEHAVIOR AS OTHERS DO:  
UNDERSTANDING A POTENTIAL BLIND SPOT**

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# **WHY AUDITORS ARE UNABLE TO SEE THEIR OWN BEHAVIOR AS OTHERS DO: UNDERSTANDING A POTENTIAL BLINDSPOT**

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## **ABSTRACT**

Auditors are obligated to perform audits that are both effective and efficient. Audit firms train their auditors to avoid behaviors such as taking shortcuts (i.e., ignoring inconsistencies that they observe in the audit workpapers) when taking the shortcut could cause the firm to miss a material error and/or be viewed negatively by others. This study examines why auditors sometimes take shortcuts that put their firms at risk of issuing an incorrect audit opinion, despite their firm's training and the threat of receiving a negative performance evaluation. Using an experiment, I examine (1) why auditors who face the dilemma of whether to take the shortcut (actors) are likely to view taking the shortcut more favorably than do other auditors and non-auditors who observe their dilemma (observers), (2) why auditors are likely to view a decision to take the shortcut less negatively than do non-auditors, and (3) whether auditors recognize that others are likely to perceive taking the shortcut as more unethical than do auditors. I find that being directly involved in the dilemma (being an actor versus an observer) causes auditors to perceive a lower likelihood that taking a shortcut could cause the audit firm to miss a material error. I also find that having an auditing background (being an auditor versus a non-auditor) causes auditors to perceive a lower likelihood that taking the shortcut will harm investors. These differences in perception cause auditor actors to perceive taking a shortcut as less unethical than do auditor observers, and auditor observers to view it as less unethical than do non-auditor observers. I

demonstrate that understanding factors that cause individuals to view the ethicality of taking the shortcut differently is important because individuals' ethicality judgments influence their intended behavior. Finally, my findings suggest that auditors fail to recognize that non-auditors perceive taking the shortcut more negatively than do auditors. I discuss implications of these findings for audit firm training and for auditors' ability to objectively assess the costs and benefits of their behavior.

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## PREFACE

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## 1.0 INTRODUCTION

Auditors have a responsibility to detect material misstatements in their clients' financial statements to provide investors comfort that they can rely on those financial statements. Because issuing an incorrect audit report is costly, audit firms have an incentive to ensure that their professionals perform effective audits and that non-auditors, such as those who might serve on a jury, do not view their professionals' behavior as unethical. Many audit firms report that professionals at all levels within the firm are incentivized to avoid behaviors that increase the firm's risk of issuing an incorrect audit opinion (Westermann, Cohen and Trompeter 2014). Furthermore, audit firms provide extensive training so that their professionals understand that behaviors such as failing to tell their superiors about inconsistencies that they identify in the audit workpapers could cause the firm to miss detecting a material error and could be viewed negatively by others. However, despite these measures, SEC proceedings and PCAOB inspection reports continue to identify situations in which auditors fail to adequately address inconsistencies in the audit evidence. This study examines why auditors may ignore inconsistencies that they identify (hereafter referred to as taking a "shortcut"), even when doing so could lead to an incorrect audit opinion. Specifically, the study examines (1) why auditors who face the dilemma of whether to take the shortcut (i.e., actors) are likely to view taking the shortcut more favorably than do other auditors and non-auditors who observe their dilemma (i.e., observers), (2) why

auditors are likely to view a decision to take the shortcut less negatively than do non-auditors, and (3) whether auditors recognize that non-auditors are likely to perceive taking the shortcut as more unethical than do auditors.

Chapter 2 discusses the background and motivation for this study. While prior research examines whether auditors' incentives influence their accounting judgments, that research typically does not examine whether those incentives bias auditors' perceptions of the potential consequences and ethicality of their behavior.<sup>1</sup> Furthermore, these studies do not examine whether auditors anticipate that others may view the potential consequences and ethicality of their behavior more negatively than the auditor does. If auditors do not recognize when their behavior could be viewed negatively by others, auditors may fail to appreciate the potential costs of their behavior. Failing to appreciate these costs could lead auditors to engage in behaviors that put their audit firms at substantial risk, exposing them to potential SEC and PCAOB sanctions, legal costs, and loss of reputation. Therefore, understanding factors that prevent auditors from reaching unbiased assessments of the potential consequences and perceived ethicality of their behavior is important. Furthermore, it is a necessary first step for developing interventions to reduce the risk of inappropriate auditor behavior.

Chapter 3 presents theory and develops my hypotheses. I draw on prior behavioral ethics, psychology and auditing literature to predict that one's direct involvement in a decision to take a shortcut (being an actor versus an observer) and his or her prior auditing background (being an auditor versus a non-auditor) will influence his or her perceptions of the potential consequences of doing so. Understanding why these individuals perceive the potential

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<sup>1</sup> For purposes of this study, ethicality refers to an individual's perception of whether an act is right or wrong.

consequences of taking the shortcut differently is important because I predict that their perceptions influence whether they view taking the shortcut as being unethical which, in turn, drives their judgments regarding what they would do, or think they would do, in the dilemma. Finally, I predict that auditors do not realize that non-auditors view taking the shortcut as more unethical than do auditors.

Chapter 4 describes the experimental design and procedures. Participants read a case about an audit senior who identifies a discrepancy in the audit workpapers. The discrepancy suggests that the audit team may have failed to detect a material error in the client's financial statements.<sup>2</sup> However, as is often the case in the natural environment, it is ambiguous whether a material error actually exists. Therefore, the audit senior faces the dilemma of whether to tell his or her superior about the discrepancy so that it can be investigated before the issuance of the client's financial statements and the audit report.

Between subjects, I manipulate participants' level of involvement in the dilemma (Actor versus Observer). Nested within the Observer condition, one group of participants has an auditing background, while another group does not. This nested design results in three conditions – Auditor Actor, Auditor Observer, and Non-Auditor Observer.<sup>3</sup> Including Auditor Observers in my design serves two functions. First, it allows me to isolate the effect that being directly involved in a dilemma has on auditors' perceptions and intended behavior. Second, it allows me

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<sup>2</sup> To confirm this assumption, another group of audit seniors reviewed the case materials. As reported in Chapter 6, all of these seniors agreed that the discrepancy suggests that there could be a material error in the client's financial statements and that the audit senior described in the case should tell his or her superior about the discrepancy.

<sup>3</sup> I do not examine a condition with Non-Auditor Actors because non-auditors would never be personally involved in the type of dilemma examined in this study.

to hold constant one's level of involvement in the dilemma (as an observer) in order to isolate the effect that having an auditing background has on how one perceives the dilemma.

All participants respond to questions regarding two factors related to the effectiveness and the ethicality of taking the shortcut.<sup>4</sup> To assess participants' intended behavior, actors are asked how likely it is that they will tell their superior about the discrepancy, whereas observers are asked how likely it is that they would tell their superior if they had been the one who found the discrepancy. Finally, to examine whether auditors make unbiased assessments of how non-auditors perceive taking a shortcut, auditor participants are asked to predict how non-auditors respond to the ethicality question, and are provided with an economic incentive to make accurate predictions.

Chapter 5 reports the experimental results. I find that auditor actors perceive a lower likelihood that taking the shortcut could cause the audit firm to miss a material error than do auditor and non-auditor observers. I also find that auditors, regardless of whether they are actors or observers, perceive a lower likelihood that investors could be harmed by the shortcut than do non-auditors. These differences in perceptions cause auditor actors to view taking the shortcut as less unethical than do auditor observers, who view the shortcut as less unethical than do non-auditor observers. Importantly, I also find that ethicality judgments mediate the relationship between participant type (i.e., auditor actor, auditor observer, non-auditor observer) and intended behavior. These results suggest that auditor actors view taking a shortcut differently from non-auditors for two reasons: (1) their direct involvement in the dilemma causes them to reach lower judgments of the likelihood of a material error and (2) having prior auditing experience causes

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<sup>4</sup> Specifically, all participants assess the likelihood that taking the shortcut could (1) cause the audit firm to miss a material error in the client's financial statements, and (2) harm investors. Participants are also asked the extent to which they agree that taking the shortcut is clearly unethical.

them to perceive a lower likelihood of investor harm. Finally, I demonstrate that auditors in my setting underestimate the extent to which non-auditors perceive taking a shortcut as unethical.

In Chapter 6 I report the results of two supplemental analyses. The first reports responses obtained from another group of audit seniors who reviewed the same materials as did Auditor Observers, but who were explicitly asked what the audit senior should do. This analysis was performed, in part, to demonstrate that auditors believe that the discrepancy in the workpapers suggests that there could be a material error in the client's financial statements and that the audit senior described in the case should tell his or her superior about the discrepancy. Given the high degree of ambiguity often present on actual audits, my theoretical development focuses on a case with a relatively high level of ambiguity. For completeness, my second supplemental analysis examines a setting in which it is much less ambiguous that a material error actually exists. The results in the low ambiguity setting confirm my expectation that ambiguity is a necessary condition for auditors to be able to distort their perceptions of their own behavior.

My results identify circumstances in which auditors may be unable to make unbiased assessments of the consequences and perceived ethicality of their behaviors. Chapter 7 summarizes my results, discusses the contributions and limitations of this study and proposes possible avenues for future research.

## **2.0 BACKGROUND AND MOTIVATION**

### **2.1 CHAPTER OVERVIEW**

This chapter discusses the background and motivation for this study. The chapter begins by discussing an auditor's obligations. Section 2.3 presents an overview of literature that examines how individuals' perceptions of whether their behavior is consistent with their obligations are shaped. Section 2.4 presents my research questions. Finally, Section 2.5 explains how this study increases our understanding of why auditors sometimes engage in behaviors that their peers and non-auditors view as inconsistent with an auditor's obligations.

### **2.2 THE AUDITOR'S OBLIGATIONS AND INCENTIVES**

Miller and Bahnson (2004) state that auditors have a responsibility to detect material misstatements and, therefore, to provide investors comfort that they can rely on the audited financial statements. The notion that auditors should avoid actions that lead to ineffective audits is incorporated throughout the American Institute of Certified Public Accountant's (AICPA's) Code of Ethics and Professional Conduct. These rules convey that "in serving the public interest"

auditors should do what is right and just (ET Section 53) and “act against self-interest and ignore the various economic and social incentives affecting them.”

Many auditing firms publicly acknowledge their duty to perform effective audits and, therefore, to protect investors from harm. For example, on its website, KPMG states that:

“An independent audit of financial statements is one of the foundations for the effective operation of the capital markets. Audit quality is vital for maintaining trust in the financial reporting process and the integrity of financial information.”<sup>5</sup>

Given the importance of the auditor’s obligation to the public, there are significant incentives in place (e.g., legal liability, regulatory sanctions, loss of reputation) that are designed to ensure that audit firms perform quality audits. Because audit firms want to avoid the costs associated with issuing an incorrect audit opinion, they must provide their auditors with incentives to minimize the risk of an audit failure. Many firms report that such incentives exist at all levels within the audit firm (Westermann et al. 2014). For example, partners have an incentive to ensure the quality of a firm’s audits because, as equity holders of the firm, their wealth is reduced as a result of any sanctions placed against the firm. Furthermore, in most firms, audit partners face direct penalties (monetary fines and reputational damage) when they are the engagement partner on a failed audit. For managers and senior managers, the reputational damage of involvement on a failed audit delays or prevents their promotion to partner. Finally, in most auditing firms, audit staff and seniors’ wealth is based on their performance evaluations. Therefore, if their work resulted in the audit failure, they too may face penalties in the form of unfavorable performance evaluations.

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<sup>5</sup> <https://www.kpmg.com/US/en/services/Audit/Pages/providing-a-quality-audit.aspx>

Audit firms believe that their incentive systems and training programs, make it unlikely that their auditors would act in a manner inconsistent with their professional and ethical obligations (Ernst & Young 2012). However, despite this belief, the most common audit errors identified in SEC proceedings and PCAOB inspection reports involve situations in which individual auditors take “shortcuts,” some of which resulted in the issuance of incorrect audit opinions.

### **2.3 OVERVIEW OF PRIOR LITERATURE**

This study draws on prior behavioral ethics, psychology and auditing literature to examine why auditors sometimes engage in behaviors that are inconsistent with their obligations despite their firms’ training and the threat of receiving a negative performance evaluation. When evaluating whether a behavior is inconsistent with an auditor’s ethical obligations, individuals tend to consider whether the behavior could cause the audit firm to miss a material error and whether the behavior could harm investors (Coram et al. 2008; Jones 1991).

It is generally assumed that auditors, like other individuals, are able to make unbiased assessments of the potential consequences of their behavior (e.g., DeAngelo, 1981; Antle, 1982; Antle, 1984; Magee & Tseng, 1990) and, therefore, that individuals who are provided with the same information should arrive at similar judgments regarding the consequences and ethicality of taking a shortcut in audit procedures. However, research in psychology (Pronin, Puccio, and Ross 2002; Epley 2014) suggests that two people can look at the same situation and interpret it very differently because individuals’ perceptions are often influenced by factors such as their

involvement in the situation and by their background. Therefore, even when provided with the same information, individuals may have different views regarding the potential consequences and, therefore, the ethicality of taking a shortcut.

Research in behavioral ethics further suggests that individuals are less likely to engage in, or to believe that they would engage in, behaviors that they perceive as being unethical (Singhapakdi et al. 1996). Therefore, if individuals' perceptions about what constitutes appropriate behavior differ, their judgments regarding what they would do, or think they would do, when actually faced with a dilemma are likely to differ as well. Taken together, this research suggests a potential reason why auditors sometimes engage in behaviors that their peers and non-auditors recognize as inconsistent with an auditor's obligations.

## **2.4 RESEARCH QUESTION**

This study examines how two factors – an individual's involvement in a dilemma (an actor versus an observer), and an individual's auditing background (an auditor versus a non-auditor) – influence his or her perceptions regarding the consequences and ethicality of taking a shortcut. It then examines how these perceptions influence what individuals do, or think they would do, when faced with a decision of whether to take a shortcut. Finally, it examines whether auditors recognize that non-auditors are likely to view taking the shortcut more negatively than the auditor does.

## 2.5 MOTIVATION

In order for the threat of sanctions and audit training to be effective, auditors must recognize when their behavior could be viewed as inconsistent with their obligations (Bazerman, Loewenstein and Moore 2002). Examining factors that cause auditors to become blind to the fact that their behavior could be viewed negatively may help explain why auditors sometimes engage in questionable behaviors.

Understanding how an auditor's involvement in a dilemma (an actor versus an observer) influences the way in which he or she perceives the dilemma may also help explain why audit firms' training efforts are not always effective. Typical ethics training relies heavily on case studies that describe dilemmas faced by another auditor. Auditors in these training sessions spend a significant amount of time discussing what the auditor described in the case should do.<sup>6</sup> This approach assumes that if auditors recognize that a given behavior is wrong when they evaluate it as an observer, they should be able to do so if they later become involved in a similar situation. However, this assumption may not be a good one if being directly involved in a dilemma impairs auditors' ability to recognize when a shortcut could lead to an incorrect audit opinion. Therefore, even when auditor observers believe they would not take an action that is inconsistent with their obligations, their actual behavior may differ from their intended behavior when they are directly involved in a dilemma.

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<sup>6</sup> This description of firms' ethics training is based on prior personal experience and interviews with two partners from two Big-4 audit firms.

Finally, prior research does not directly examine audit seniors' and non-auditors' perceptions regarding the potential impact that an auditors' behavior could have on investors. A significant stream of literature examines how auditors' incentives influence their behavior. However, if auditors do not appreciate the extent to which taking a shortcut could harm investors, they are less likely to view doing so as being wrong even when they have no incentive to take the shortcut. Therefore, understanding differences in auditors' and non-auditors' perceptions could provide another reason (beyond incentives) for the audit expectations gap identified in prior auditing literature (Cohen 1978; Reffett et al. 2012).

### **3.0 THEORY AND DEVELOPMENT OF HYPOTHESES**

#### **3.1 CHAPTER OVERVIEW**

Chapter 3 presents relevant theory and develops my hypotheses. Chapter 3.2 develops my first hypothesis which predicts that individuals' involvement in the dilemma (actor versus observer) influences their perceptions of the likelihood that ignoring the discrepancy would cause a material error. Chapter 3.3 develops my second hypothesis, which predicts that an individual's auditing background (auditor versus non-auditor) will influence his/her perceptions regarding the likelihood that ignoring the discrepancy could harm investors. Chapter 3.4 presents a set of hypotheses (H3a through H3c) which predict that the differences in perception predicted by my first two hypotheses will lead to systematic differences in participants' ethicality judgments. Chapter 3.5 develops my fourth hypothesis which predicts that differences in participants' ethicality judgments mediate the relationship between participant type (Auditor Actor versus Auditor Observer versus Non-Auditor Observer) and their judgments regarding what they will do (Actors) and what they think they would do (Observers) in the dilemma. Chapter 3.6 develops my final set of hypotheses (H5a and H5b) which predicts that auditors do not recognize that non-auditors perceive taking the shortcut more negatively than auditors do.

### **3.2 INFLUENCE OF INVOLVEMENT IN THE DILEMMA (ACTOR VERSUS OBSERVER) ON PERCEPTIONS OF THE LIKELIHOOD OF MATERIAL ERROR (H1)**

Research in psychology (Epley 2014; Trope and Liberman 2010) suggests that the way individuals perceive a dilemma is often influenced by their involvement in it. When evaluating a dilemma in which they are not directly involved (i.e., when they are an observer), individuals tend to focus on what is “right” and ignore practical concerns such as the actor’s incentives. Because observers are unlikely to focus on practical concerns, their judgments and their information processing tends not to be influenced by such concerns (Trope and Liberman 2010).

Conversely, when individuals are directly involved in a dilemma, their pragmatic concerns tend to be more salient. Studies such as Tenbrunsel et al. (2010) and Liberman and Trope (2010) suggest that as incentives and rewards become more salient, individuals tend to process information in ways that support acting in their self interest. Furthermore, because individuals are often unaware of this biased information processing (Bazerman et al. 2002; Bazerman and Moore 2008), they may even fail to recognize that their behavior is inconsistent with their obligations. This is particularly true in situations characterized by high ambiguity because ambiguity makes it easier for individuals to plausibly justify inappropriate behavior (Dana, Weber and Kuang, 2007; Dana, Loewenstein and Weber 2012; Bazerman and Gino, 2012; Tenbrunsel and Messick 2004; Haisley and Weber 2010; Schweitzer and Hsee 2002). For example, Haisley and Weber (2010) conduct an experiment in which participants must choose whether to engage in self-interested behavior that could cause someone else to experience a negative outcome. They find that participants are more likely to engage in self-interested behavior when the likelihood of the negative outcome is ambiguous (i.e., the probability could be

anywhere between 0% and 100%) versus a “known” uncertainty (i.e., a 50% chance). Haisley and Weber (2010) hypothesize that higher degrees of ambiguity make it more likely that individuals will be able to plausibly view their behavior as being “not that bad.”

A significant amount of auditing research examines whether auditors are subconsciously influenced by their pragmatic concerns. The auditor participants involved in these studies are typically responsible for making a decision (i.e., they are actors). These studies find that auditors are often influenced by their incentives, particularly when there is a high degree of ambiguity about the decision. For example, when the appropriate accounting treatment of an item is ambiguous, auditors are inclined to agree with their client’s preferred treatment (Hackenbrack and Nelson, 1996; Kadous, Kennedy and Peecher, 2003; Moore, Tanlu and Bazerman, 2010) and junior auditors’ judgments tend to be consistent with the preferred view of those responsible for evaluating them (e.g., Peecher 1996; Cohen and Trompeter 1998; Wilks 2002). These findings suggest that when auditors are directly involved in a dilemma, they tend to interpret information in a way that allows them to act self-interestedly.

When trying to understand how auditor actors perceive a decision to take a shortcut, one needs to determine the types of pragmatic concerns and incentives that could influence an audit senior’s judgments. As mentioned earlier, performance evaluations largely determine the wealth of individuals at lower levels of the audit firm (Peytcheva 2008). Audit firms report that audit seniors have an incentive to avoid behaviors that could lead to an incorrect audit opinion because they audit seniors will receive unfavorable performance evaluations if they engage in such behaviors (Westermann et al. 2014).

However, despite the threat of receiving a negative performance evaluation, there are several reasons why an audit senior might consider taking a shortcut to be in his or her best

interest. First, audit seniors are responsible for ensuring that the audit tasks they are assigned are completed in a timely manner. Investigating a discrepancy in the workpapers will take more time and effort than would simply ignoring the discrepancy, and could cause the audit senior to miss a deadline. Most audit seniors recognize that failing to meet deadlines, which are salient in the current setting, may result in angry clients and lower performance evaluations from their superiors. Second, as suggested by Tan and Libby (1997) and Asare et al. (2009), audit seniors' lack of tacit managerial knowledge (i.e., an understanding of both the economics of auditing and relationships with clients) and lack of litigation consciousness may prevent them from realizing that superiors who emphasize meeting deadlines do not necessarily intend for them to sacrifice quality to do so. Third, studies such as Brazel et al. (2014) find that audit seniors correctly anticipate that their supervisors will assign them lower performance evaluations when they choose to perform extra audit work to investigate a "red flag" if their investigation does not ultimately identify a misstatement. This suggests that audit seniors may have an immediate incentive to ignore ambiguous "red flags." Fourth, if an audit senior chooses not to investigate the discrepancy there is a chance that no one will ever find out that the auditor knew about the discrepancy but failed to do anything about it. Therefore, senior auditors may believe they can avoid bearing any personal costs if they choose to ignore a discrepancy. Finally, because the potential costs of taking a shortcut (a negative performance review if the material error is subsequently discovered) are delayed, audit seniors are likely to be disproportionately influenced by the immediate benefits of taking the shortcut even when sanctions are present.

Based on the preceding discussion, I expect that actors will process information in a way that supports taking the shortcut, and therefore, will perceive the likelihood that taking the

shortcut could cause the audit firm to miss a material error differently from observers. Specifically, I hypothesize the following:

**H1: Actors will perceive a lower likelihood that taking the shortcut will cause the audit firm to miss a material error than observers do.**

### **3.3 INFLUENCE OF BACKGROUND (AUDITOR VERSUS NON-AUDITOR) ON PERCEPTIONS OF LIKELIHOOD OF INVESTOR HARM (H2)**

My first hypothesis focuses on actors' versus observers' perceptions. My second hypothesis examines how differences in participants' auditing backgrounds (auditors versus non-auditors) influence their perceptions regarding the likelihood that a shortcut could harm investors. To my knowledge, no research examines auditors' and non-auditors' perceptions regarding the likelihood that an individual auditor's behavior could harm investors. However, understanding these perceptions is important because, as explained further below, research suggests that the more salient the potential harm caused by a behavior, the more likely that behavior is to be viewed as unethical (Jones 1991).

Based on risk perception and behavioral ethics research (e.g., Hayibor and Wasieleski 2009; Tversky and Kahneman 1973), I expect differences in auditors' and non-auditors' backgrounds to cause non-auditors to perceive a greater likelihood of investor harm than auditors do. This literature suggests that individuals may rely on an availability heuristic when estimating the likelihood that an act will harm another. When individuals have direct experience with a particular event (i.e., an audit), their estimates tend to be based on their prior experiences. The general public often becomes aware that investors suffered harm only after they learn that a company's financial statements were restated because a misstatement was detected. However,

not all misstatements that occur are ultimately detected, and relative to all audits performed, the total number of restatements is relatively miniscule. Auditors' day-to-day experience makes salient to them that a restatement is a relatively rare event, and they are very unlikely to personally experience a situation in which their audit clients' investors are harmed by an auditor's behavior. In contrast, since non-auditors do not have direct experience with the audit process they are likely to base their estimates on indirect information such as that obtained from media coverage. Therefore, given the significant amount of press coverage related to a few high-profile financial reporting scandals, non-auditors' perceptions of potential harm to investors are likely to be higher than auditors'.

Note that it is possible that non-auditors overestimate the likelihood of investor harm. This study does not examine whose perceptions regarding harm are more accurate, but rather, examines how one's auditing background influences one's perceptions of harm. Based on the foregoing, I predict the following:

**H2: Auditors will perceive a lower likelihood that taking the shortcut will harm investors than non-auditors do.**

### **3.4 INFLUENCE OF THE PERCEIVED LIKELIHOOD OF MATERIAL ERROR AND INVESTOR HARM ON ETHICALITY JUDGMENTS (H3A THROUGH H3C)**

Research (Jones 1991; Hayibur and Wasieleski 2009; Coram et al. 2008) suggests that individuals' perceptions regarding the likelihood that taking a shortcut could lead to a misstatement and/or harm investors will influence whether they view taking the shortcut as unethical. For example, Jones (1991) finds that individuals view behavior that is likely to harm others as more unethical than behavior that poses little or no risk of harm. In Coram et al.'s

(2008) study, auditor participants' ethicality judgments are driven by their perceptions of the likelihood that an act could lead to an erroneous audit opinion. That study cites Jones (1991) and acknowledges that ethicality judgments could also be influenced by perceptions of the likelihood of investor harm, but Coram et al. (2008) do not test this assertion.

Given that the act in my study is similar to the acts examined by Coram et al. (2008), I expect the differences in perceptions predicted in H1 (likelihood of material error) and H2 (likelihood of investor harm) to lead to systematic differences in participants' ethicality judgments. Panel A of Figure 1 illustrates that H3a predicts that auditor actors' ethicality judgments will be lower than those of non-auditor observers' for two reasons: (1) because actors are predicted to perceive a lower likelihood of material error than do observers, and (2) because auditors are predicted to perceive a lower likelihood of investor harm than do non-auditors. Therefore, my overall prediction regarding the three groups' ethicality judgments is as follows:

**H3a: Auditor actors will view taking the shortcut as less unethical than do auditor observers who will view taking the shortcut as less unethical than do non-auditor observers.**

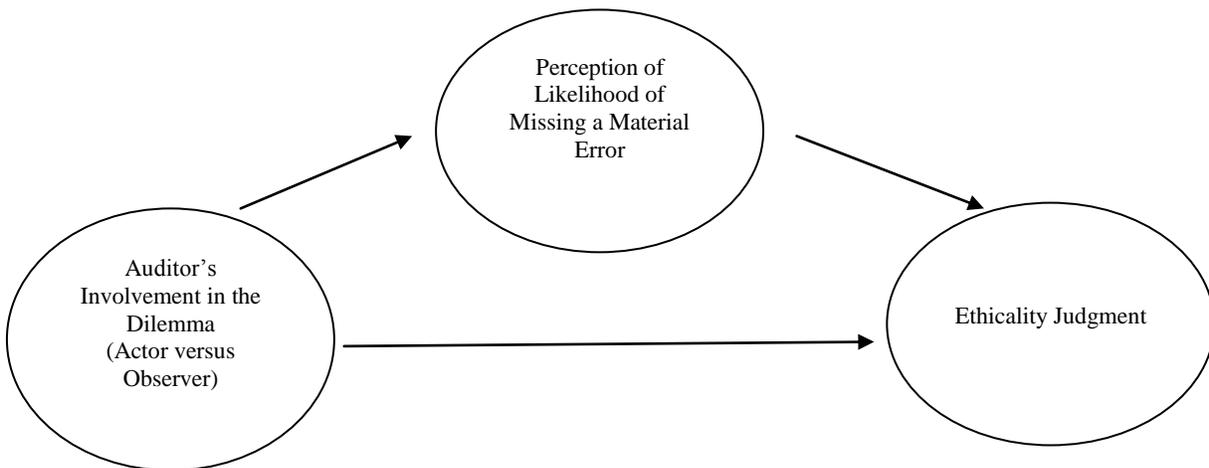
**Figure 1.**

Summary of H1 Through H3

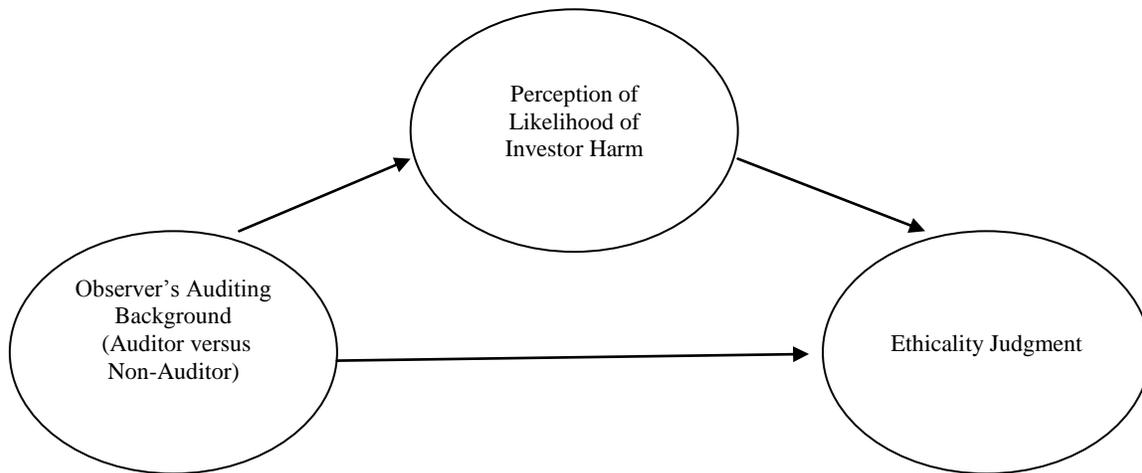
PANEL A: Summary of H1, H2 and H3a

<b>H1:</b> Perception of likelihood of material error <sup>a</sup> :	Auditor Actor	<	Auditor Observer	<	Non-Auditor Observer
<b>H2:</b> Perception of likelihood of investor harm <sup>b</sup> :	Auditor Actor	<	Auditor Observer	<	Non-Auditor Observer
<b>H3a:</b> Perception of how unethical a decision to take the shortcut is <sup>c</sup> :	Auditor Actor	<	Auditor Observer	<	Non-Auditor Observer

PANEL B: **H3b** - Perception of Likelihood of Missing a Material Error Mediates the Effect of Auditors' Involvement in the Dilemma (Actor versus Observer) on Their Ethicality Judgments<sup>d</sup>



PANEL C: **H3c** - Perception of Likelihood of Investor Harm Mediates the Effect of Observers' Background (Auditor versus Non-Auditor) on Their Ethicality Judgments<sup>e</sup>



(a) Participants are asked how likely it is that taking the shortcut would cause the audit firm to miss a material error. Responses are given on a 7-point scale ranging from -3 (Extremely Unlikely) to 3 (Extremely Likely), with a mid-point of 0 (Neither Unlikely Nor Likely). H1 predicts that participants in the Actor condition will perceive a lower likelihood than will participants in the Observer conditions.

(b) Participants are asked how likely it is that investors would be harmed if the shortcut is taken. Responses are given on a 7-point scale ranging from -3 (Extremely Unlikely) to 3 (Extremely Likely), with a mid-point of 0 (Neither Unlikely Nor Likely). H2 predicts that Auditor participants will perceive a lower likelihood than will Non-Auditor participants.

(c) Participants are asked the extent to which they agree that taking the shortcut is clearly unethical. Responses are given on a 7-point scale ranging from -3 (Completely Disagree) to 3 (Completely Agree), with a mid-point of 0 (Neutral). The higher the response, the more participants agree that taking the shortcut is clearly unethical. H3 predicts that Auditor Actors will view taking the shortcut as less unethical than Auditor Observers who will view taking the shortcut as less unethical than will Non-Auditor Observers.

(d) H3b predicts that perceptions regarding the likelihood of material error mediate the relationship between auditors' involvement in the dilemma (actor versus observer) and their ethicality judgments.

(e) H3c predicts that perceptions regarding the likelihood of investor harm mediate the relationship between observers' auditing background (auditor versus non-auditor) and their ethicality judgments.

To test how both their involvement in the dilemma and their auditing background contribute to participants' views of ethicality, I separately examine whether each of these factors mediates ethicality judgments, while holding the other factor constant. Thus, H3b predicts that the difference between auditor actors' and auditor observers' perceptions of the likelihood of a material error drives the difference in their ethicality judgments (see Panel B of Figure 1), and H3c predicts that the difference between auditor observers' and non-auditor observers' perceptions of the potential harm to investors drives the difference in their ethicality judgments (see Panel C of Figure 1). H3b and H3c predict these specific mediation effects as follows:

**H3b: Within auditors, the influence of involvement in the dilemma (actor versus observer) on ethicality judgments is mediated by perceptions of the likelihood that taking the shortcut could cause the audit firm to miss detecting a material error.**

**H3c: Within observers, the influence of audit background (auditor versus non-auditor) on ethicality judgments is mediated by perceptions of the likelihood that taking the shortcut could harm investors.**

### **3.5 INFLUENCE OF ETHICALITY JUDGMENTS ON INTENDED BEHAVIOR (H4)**

Most models of ethical decision making (e.g., Jones 1991; Hunt and Vitell 1986; Rest 1986; Fishbein and Ajzen 1975) propose that individuals' behavior will be driven by their ethicality judgments. Specifically, individuals are less likely to engage in, or think that they would engage in, behaviors that they believe are clearly unethical. While there are some studies that provide empirical evidence that individuals' ethicality judgments directly influence their decision making (Singhapakdi et al. 1996), little evidence exists in

auditing settings.<sup>7</sup> In this study, I ask actors (participants who face the dilemma) what they *will* do, and I ask observers what they think they *would* do if they were the one who had found the discrepancy. I refer to these decisions as “intended behavior.” I predict the following:

**H4: The influence of individuals’ type (auditor actor versus auditor observer versus non-auditor observer) on their intended behavior is mediated by their ethicality judgments.**

### **3.6 AUDITORS’ ABILITY TO RECOGNIZE THAT NON-AUDITORS VIEW TAKING THE SHORTCUT MORE NEGATIVELY THAN AUDITORS DO (H5A AND H5B)**

Prior research suggests that individuals tend to believe that they see events “objectively” and as they are in “reality” (Pronin et al. 2002, Babcock et al. 1995). Furthermore, individuals tend to assume that others share their views and arrive at judgments in the same way that they do (Griffin and Ross 1991; Pronin et al. 2002). Based on this literature, I predict that all auditors will think that non-auditors perceive a decision to take a shortcut in the same way the auditor does. However, because H3a predicts a larger difference in the ethicality judgments of auditor actors and non-auditor observers than between auditor observers and non-auditors, I predict that auditor actors will underestimate non-auditors’ ethicality judgments to a greater extent than do auditor observers. My specific hypotheses are as follows:

**H5a: Even when provided with an incentive to predict accurately, both auditor actors and auditor observers will underestimate the extent to which non-auditors perceive a decision to take a shortcut as unethical.**

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<sup>7</sup> For example, studies such as Coram et al. (2008) examine auditors’ ethicality judgments, but they do not examine how these judgments influence subsequent behavior.

**H5b: Auditor actors will underestimate non-auditors' ethicality judgments more than will auditor observers.**

## **4.0 METHOD**

### **4.1 CHAPTER OVERVIEW**

Chapter 4 presents the research design and procedures. More specifically, Section 4.2 provides a summary of the experimental setting. Section 4.3 presents the experimental design and Section 4.4 provides information regarding the auditor and non-auditor participants in each condition. Finally, Section 4.5 explains the experimental procedures used in this study.

### **4.2 SETTING**

Participants read a case in which an audit senior identifies a discrepancy in the audit workpapers.<sup>8</sup> Therefore, this audit senior must decide whether to tell his or her superior about the discrepancy so that it can be investigated prior to the release of the client's financial statements. The information given to participants about the discrepancy is presented in

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<sup>8</sup> Similar to Gold et al. (2014), the audit senior in my case identifies the discrepancy during the "tidying up" phase of the audit. This phase occurs after all audit work is complete and the audit workpapers have gone through a detailed review by managers and partners (i.e., the audit senior's superiors), but before the issuance of the audit firm's report and the release of the client's financial statements.

Appendix A. The discrepancy relates to two workpapers documenting the audit work performed with respect to the client's warranty reserve estimate. The first workpaper documents the assumptions (i.e., number of defective products, cost to repair each defective product) used by management in arriving at its estimate. This workpaper shows management's calculation of the estimated range of potential warranty costs (based on these assumptions) and then documents that management booked an amount equal to the mid-point of that range. The second workpaper documents procedures performed by the audit firm to verify the reasonableness of management's assumptions, including information gathered from third parties regarding the likely number of defective products and the cost to repair each one. This workpaper also includes a range of potential warranty costs based on the information gathered from the third parties. The first workpaper includes a tick mark, written by a member of the audit team, stating that the assumptions used by management in arriving at its estimate agreed to information obtained from the third parties. However, based on the information documented in the second workpaper, this does not appear to be true (i.e., there is a discrepancy in the information included in the two workpapers).

The discrepancy is such that it is ambiguous whether the client's financial statements are actually misstated. As shown in Appendix A, there is some overlap between management's estimate and the estimate based on the third party information. Furthermore, the range of both management's estimate and that supported by the third party information is relatively wide, suggesting that the estimate itself is inherently uncertain.

In addition to providing information regarding the discrepancy, the case materials provide background information about the client and the current year's audit engagement. Specifically, the case describes the client's management as "competent, trustworthy and cooperative" and

states that the client's internal controls are, and have always been, effective. It is noted that there have never been any disputes between the audit firm and the client, and that the audit firm did not identify any material errors or omissions in the client's financial statements during the current year's audit. Furthermore, the audit partner has already communicated to client management that he expects to issue a clean audit opinion, and has asked the audit team to ensure that the client can issue its financial statements in the next few days.

### **4.3 EXPERIMENTAL DESIGN**

Table 1 illustrates the nested design of my experiment. Between subjects, I manipulate participants' levels of involvement in the dilemma (Actor versus Observer). Nested within the Observer condition, one group of participants has an auditing background, while another group does not. This nested design results in three conditions – Auditor Actor, Auditor Observer, and Non-Auditor Observer. I manipulate participants' involvement in the dilemma by providing Actors with a case that is written in the first person and ask them to assume that they are the auditor described in the case. Participants in Observer conditions receive the same case, but it is written in the third person. These participants are told to assume that they have no relationship with the audit senior, the audit firm, or the client described in the case. Designing the experiment in this way allows me to isolate the separate influences of auditors' direct involvement in a dilemma and their auditing background on how they perceive the dilemma and how they believe others perceive it.

**Table 1.**  
Experimental Design

Participant's Involvement in the Dilemma:		
Observer's Auditing Background:	<u>Actor</u>	<u>Observer</u>
Auditor	<b>CONDITION 1</b> n=26	<b>CONDITION 2</b> n=21
Non-Auditor	<b>n/a</b>	<b>CONDITION 3</b> n=21

#### 4.4 PARTICIPANTS

Participants, all of whom are unknown to the researcher, are 47 audit seniors<sup>9</sup> and 21 adults with no prior audit experience. The audit seniors were recruited via LinkedIn and completed the study online. Auditor participants have an average of 3.6 years of experience, and there is no difference in years of experience between participants in the Auditor Actor and Auditor Observer conditions. Non-auditor participants were recruited at the same time as the auditor participants, primarily via emails sent to individuals listed on a community email

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<sup>9</sup> A majority of the audit senior participants (85%) are employed by Big-4 audit firms. There are no significant differences in Big-4 and Non Big-4 participants' responses.

distribution list.<sup>10</sup> All non-auditor participants completed the study online. A question in the post-experimental questionnaire confirmed that the non-auditor participants had no prior auditing experience.

Participants in the Non-Auditor Observer condition are significantly older (mean age = 37.9) than participants in the Auditor Actor and the Auditor Observer conditions (mean age = 26.7 and mean age = 27.1, respectively). However, age was not significantly related to any of the dependent measures used in my analyses and my results do not change when participant age is included as a control variable.

#### **4.5 EXPERIMENTAL PROCEDURES**

The specific steps of the experiment are shown in Figure 2. Once participants respond to an item, they are unable to go back and change prior responses. At the start of the experiment, all participants are asked to review the case materials and assess the likelihood that the audit firm would miss detecting a material error if the audit senior decides not to tell his or her superior about the discrepancy.<sup>11</sup> Responses are given on a 7-point scale ranging from -3 (Extremely Unlikely) to 3 (Extremely Likely), with a mid-point of 0 (Neither Unlikely Nor Likely). Next, all participants are asked the extent to which they agree that taking the shortcut is clearly unethical. Responses are given on a 7-point scale ranging from -3 (Completely Disagree) to 3

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<sup>10</sup> Three non-auditor participants were recruited at a public library, but still completed the study online.

<sup>11</sup> Participants in the Auditor Actor condition are asked how likely it is that the audit firm would miss a material error “if you decide not to tell your superior about the discrepancy.”

(Completely Agree), with a mid-point of 0 (Neutral).<sup>12</sup> Auditor Participants then predict how Non-Auditors responded to this question. To induce participants to provide accurate predictions, they are paid based on the accuracy of their responses. Specifically, they are told that if their predictions equal the average response given by the non-auditor participants, their participant number will be entered into a drawing to win one of ten \$100 Amazon gift cards.<sup>13</sup> All participants then assess the likelihood that investors could be harmed if the audit senior decides to ignore the discrepancy. Responses are given on a 7-point scale ranging from -3 (Extremely Unlikely) to 3 (Extremely Likely), with a mid-point of 0 (Neither Unlikely Nor Likely). Finally, participants complete a post-experimental questionnaire.

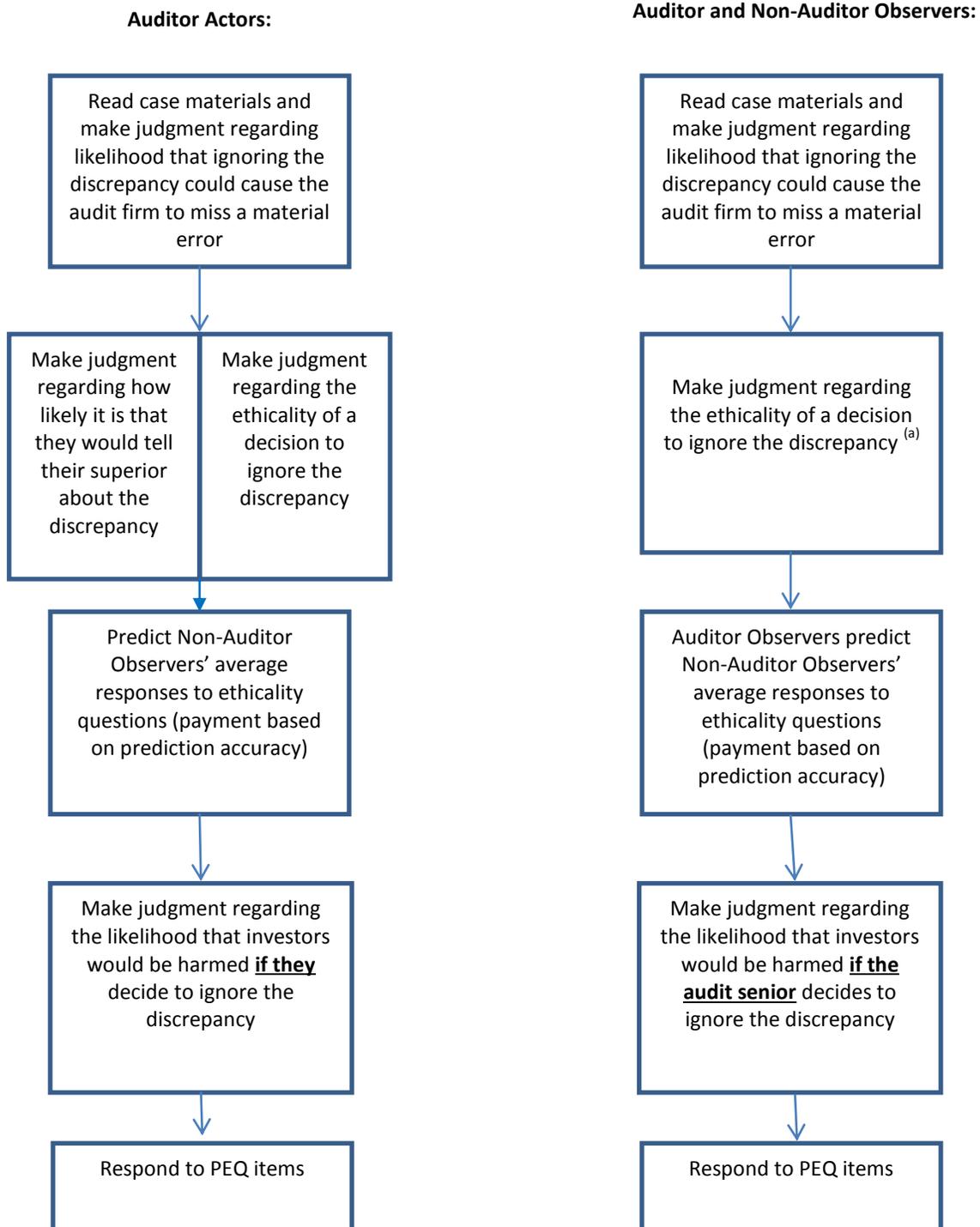
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<sup>12</sup> Note that the higher a participant's response to this item, the more unethical he/she perceives taking the shortcut to be.

<sup>13</sup> In order to ensure participant anonymity and confidentiality, winners were identified by their participant numbers and the experimenter never received any identifying information.

**Figure 2.**

Experimental Timeline



(a) In a supplemental analysis (described in Section V), a second group of Auditor Observers perform the same steps as do Auditor Observers in the primary experiment. However, before responding to the ethicality question, these auditors are asked the extent to which they agree that the audit senior should tell his/her superior about the discrepancy. This supplemental analysis confirms that even when not asked this extra question (as was the case in the primary experiment) Auditor Observers spontaneously consider it in forming their ethicality judgments.

## **5.0 EXPERIMENTAL RESULTS**

### **5.1 CHAPTER OVERVIEW**

This chapter reports the results of the tests of my hypotheses. Formal statistical tests of H1, H2, H3a through H3c, H4, and H5a and H5b are presented in Sections 5.2, 5.3, 5.4, 5.5, and 5.6, respectively.

### **5.2 TEST OF H1**

H1 predicts that auditors who are directly involved in deciding whether to take a shortcut (Actors), will perceive a lower likelihood that taking the shortcut will cause the audit firm to miss a material error than do other auditors and non-auditors who observe the auditor's dilemma (Observers). The primary dependent measure used to test this hypothesis is participants' responses to the question regarding the likelihood of missing a material error.<sup>14</sup> Table 2, Panel A presents descriptive statistics.

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<sup>14</sup> Recall that participants are asked how likely it is that taking the shortcut would cause the audit firm to miss a material error. Responses are given on a 7-point scale ranging from -3 (Extremely Unlikely) to 3 (Extremely Likely), with a mid-point of 0 (Neither Unlikely Nor Likely).

**Table 2.**

## Descriptive Statistics for Primary Dependent Measures

PANEL A: Mean (Standard Deviation) of Likelihood of Missing a Material Error <sup>(a)</sup>

Auditing Background	Involvement in the Dilemma:	
	Actor	Observer
Auditor	0.15 (1.12)	1.48 <sup>(d)</sup> (1.03)
Non-Auditor	N/A	1.81 <sup>(d)</sup> (0.93)

PANEL B: Mean (Standard Deviation) of Likelihood of Investor Harm <sup>(b)</sup>

Auditing Background	Involvement in the Dilemma:	
	Actor	Observer
Auditor	0.12 <sup>(e)</sup> (1.70)	0.67 <sup>(e)</sup> (1.11)
Non-Auditor	N/A	2.29 (0.64)

PANEL C: Mean (Standard Deviation) of Ethicality Judgment <sup>(c)</sup>

Auditing Background	Involvement in the Dilemma:	
	Actor	Observer
Auditor	0.19 (1.06)	1.43 <sup>(f)</sup> (0.87)
Non-Auditor	N/A	2.33 <sup>(g)</sup> (0.66)

(a) Participants are asked how likely it is that taking the shortcut would cause the audit firm to miss a material error. Responses are given on a 7-point scale ranging from -3 (Extremely Unlikely) to 3 (Extremely Likely), with a mid-point of 0 (Neither Unlikely Nor Likely).

(b) Participants are asked how likely it is that investors would be harmed if the shortcut is taken. Responses are given on a 7-point scale ranging from -3 (Extremely Unlikely) to 3 (Extremely Likely), with a mid-point of 0 (Neither Unlikely Nor Likely).

(c) Participants are asked the extent to which they agree that taking the shortcut is clearly unethical. Responses are given on a 7-point scale ranging from -3 (Completely Disagree) to 3 (Completely Agree), with a mid-point of 0 (Neutral). The higher the response, the more participants agree that taking the shortcut is clearly unethical.

Participants in the Auditor Actor condition perceive a low likelihood that taking the shortcut could cause the audit firm to miss a material error (mean = 0.15), whereas participants in the Observer conditions perceive a higher likelihood (mean response of Auditor Observers = 1.48; mean response of Non-Auditor Observers = 1.81) of missing a material error.<sup>15</sup> Results of t-tests indicate that Actors perceive the risk associated with taking a shortcut (i.e., that the firm will issue an incorrect audit opinion) as being significantly lower than do both Auditor Observers ( $t=-4.17$ ,  $p<.001$ , untabulated) and Non-Auditor Observers ( $t=-5.43$ ,  $p<.001$ , untabulated). Thus, H1 is supported.

### 5.3 TEST OF H2

My second hypothesis examines how differences in participants' auditing backgrounds influence the way they perceive investor harm. The primary dependent measure used in testing this hypothesis is participants' assessments of the likelihood that ignoring the discrepancy could harm investors.<sup>16</sup> Table 2, Panel B presents descriptive statistics.

H2 predicts that non-auditors will perceive a greater likelihood of investor harm than do auditors. Participants in the Auditor Actor and Auditor Observer conditions perceive a low likelihood that taking the shortcut could harm investors (mean = 0.12 and 0.67, respectively), whereas participants in the Non-Auditor condition perceive a higher likelihood (mean= 2.29) of

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<sup>15</sup> The difference between Auditor Observers and Non-Auditor Observers' likelihood of material error judgments is not significant ( $t=-1.10$ ,  $p=.28$ ).

<sup>16</sup> Recall that participants are asked how likely it is that taking the shortcut could harm investors. Responses to are given on a 7-point scale ranging from -3 (Extremely Unlikely) to 3 (Extremely Likely), with a mid-point of 0 (Neither Unlikely Nor Likely).

investor harm.<sup>17</sup> Results of t-tests indicate that Non-Auditors perceive the risk of investor harm as being significantly greater than do both Auditor Actors ( $t=5.52$ ,  $p<.001$ , untabulated) and Auditor Observers ( $t=5.78$ ,  $p<.001$ , untabulated).

These results indicate that differences in participants' auditing backgrounds cause auditors to perceive less risk that investors could be harmed than do non-auditors. Thus, H2 is supported.

#### 5.4 TESTS OF H3A THROUGH H3C

Hypotheses H3a through H3c predict that the differences in perceptions found in H1 and H2 will lead to systematic differences in participants' ethicality judgments. The primary dependent measures used in testing these hypotheses are participants' ethicality judgments and their responses to the questions regarding the likelihood of material error and of investor harm.<sup>18</sup> Table 2, Panel C presents descriptive statistics for participants' ethicality judgments.

H3a predicts that, given the differences in perceptions predicted in H1 and H2, Auditor Actors will view taking the shortcut as less unethical than do Auditor Observers who will view taking the shortcut as less unethical than do Non-Auditor Observers. Auditor Actors (mean=0.19) were significantly less likely ( $t=-4.30$ ,  $p<.001$ , untabulated) than Auditor Observers

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<sup>17</sup> The difference between Auditor Observers and Non-Auditor Observers' likelihood of material error judgments is not significant ( $t=-1.10$ ,  $p=.28$ ).

<sup>18</sup> Recall that participants are asked the extent to which they agree that taking the shortcut is clearly unethical. Responses are given on a 7-point scale ranging from -3 (Completely Disagree) to 3 (Completely Agree), with a mid-point of 0 (Neutral). The higher the response, the more participants agree that taking the shortcut is clearly unethical.

(mean = 1.43) to agree that taking the shortcut was unethical. Also, Auditor Observers were significantly less likely ( $t=-3.80$ ,  $p<.001$ , untabulated) to do so than were Non-Auditor Observers (mean = 2.33). These findings are consistent with H3a.

H3b predicts that the Auditor Actors perceive taking the shortcut as less unethical than Auditor Observers because of the influence that their involvement in the dilemma (being an Actor versus an Observer) has on their perceptions of the likelihood of material error. To test this hypothesis, I estimate the following four regressions<sup>19</sup>:

$$\text{ETHICALITY} = \delta_1 + \beta_1\text{INVOLVEMENT} + \varepsilon \quad (1)$$

$$\text{MISS} = \delta_2 + \beta_2\text{INVOLVEMENT} + \varepsilon \quad (2)$$

$$\text{ETHICALITY} = \delta_3 + \beta_3\text{MISS} + \varepsilon \quad (3)$$

$$\text{ETHICALITY} = \delta_4 + \beta_4\text{INVOLVEMENT} + \beta_4\text{MISS} + \varepsilon \quad (4)$$

where MISS is participants' perceptions of the likelihood that taking the shortcut could cause the audit firm to miss a material error, INVOLVEMENT is auditors' involvement in the dilemma (Actor versus Observer) and ETHICALITY is auditors' perceptions of the ethicality of taking the shortcut. The path analysis described above is illustrated in Table 3.

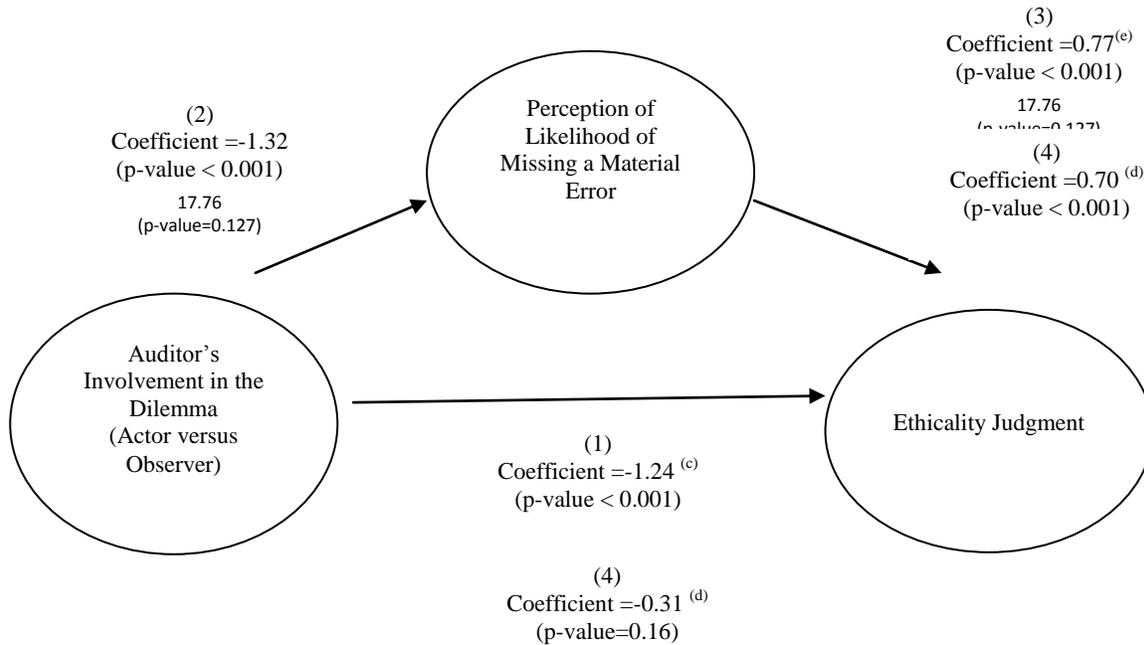
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<sup>19</sup> Baron and Kenny (1986) state that the mediating effects predicted in H3b will be indicated if three conditions are met. First the independent variable (INVOLVEMENT) must affect the presumed mediator (MISS). Second, the independent variable must affect the dependent variable (ETHICALITY). Third, the mediator must affect the dependent variable in the presence of the independent variable and, therefore, the effect of the independent variable on the dependent variable must be less when the mediator is included as a covariate than when it is not. Note that I include an additional regression to examine the direct effect of the perceived likelihood of missing a material error on ethicality judgments.

**Table 3.**

Test of H3b

Results of Mediation Analysis <sup>(a),(b)</sup>



(a) H3b predicts that perceptions regarding the likelihood of a material error mediate the relationship between an auditor's involvement in the dilemma (Actor versus Observer) and his or her ethicality judgments.

(b) The path estimates in the mediation analysis come from estimating the following four regressions:

$$\text{ETHICALITY} = \delta_1 + \beta_1 \text{INVOLVEMENT} + \varepsilon \quad (1)$$

$$\text{MISS} = \delta_2 + \beta_2 \text{INVOLVEMENT} + \varepsilon \quad (2)$$

$$\text{ETHICALITY} = \delta_3 + \beta_3 \text{MISS} + \varepsilon \quad (3)$$

$$\text{ETHICALITY} = \delta_4 + \beta_4 \text{INVOLVEMENT} + \beta_4 \text{MISS} + \varepsilon \quad (4)$$

where MISS is participants' perceptions of the likelihood that taking the shortcut could cause the audit firm to miss a material error, INVOLVEMENT is participants' involvement in the dilemma (Actor versus Observer) and ETHICALITY is participants' perceptions of the ethicality of taking the shortcut.

(c) These are the coefficients and p-values from the regression that excludes the mediator, MISS.

(d) This is the coefficient and p-value from the regression that includes the mediator, MISS.

(e) This is the coefficient and p-value from the regression that excludes INVOLVEMENT as a covariate (i.e., this is the direct effect of the auditor's perception about missing a material error on his/her ethicality judgment).

Table 3 reports regression results for Equations (1) through (4). The results of estimating Equation (1) reveal that the coefficient on INVOLVEMENT is significant ( $p < .001$ ). Similarly, the results of estimating Equation (2) reveal that the coefficient on INVOLVEMENT is significant ( $p < .001$ ) and the results of estimating Equation (3) show that the coefficient on MISS is significant ( $p < .001$ ). The results of estimating equation (4) reveal that the coefficient on MISS is significant ( $p < .001$ ) and that the influence of INVOLVEMENT is reduced (from  $p < .001$  to  $p = .16$ ) when both INVOLVEMENT and MISS are included in the same regression. Thus, these results demonstrate that the perceived likelihood of missing a material error mediates the effect of auditors' involvement in the dilemma on their ethicality judgments. Thus, H3b is supported.

H3c predicts that Auditor Observers perceive taking the shortcut as less unethical than Non-Auditor Observers because of the influence that their auditing background (being an Auditor versus a Non-Auditor) has on their perceptions of the likelihood of investor harm. To test this hypothesis, I estimate the following four regressions:

$$\text{ETHICALITY} = \delta_1 + \beta_1 \text{BACKGROUND} + \varepsilon \quad (1)$$

$$\text{HARM} = \delta_2 + \beta_2 \text{BACKGROUND} + \varepsilon \quad (2)$$

$$\text{ETHICALITY} = \delta_3 + \beta_3 \text{HARM} + \varepsilon \quad (3)$$

$$\text{ETHICALITY} = \delta_4 + \beta_4 \text{BACKGROUND} + \beta_4 \text{HARM} + \varepsilon \quad (4)$$

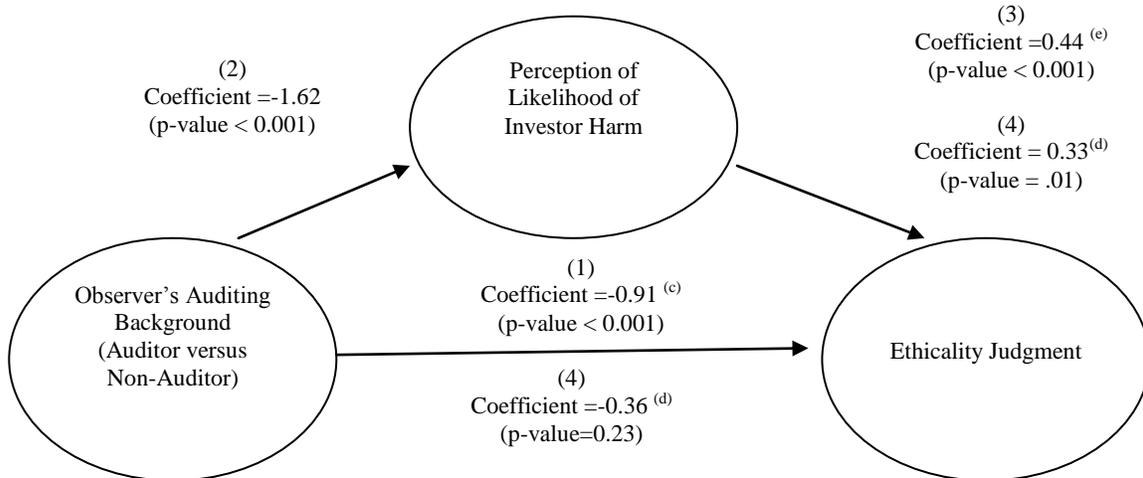
where HARM is participants' perceptions of the likelihood that investors would be harmed if the audit senior decides to take the shortcut, BACKGROUND is whether the participant has an auditing background (Auditor versus Non-Auditor) and ETHICALITY is participants' perceptions of the ethicality of taking the shortcut.

Table 4 illustrates the path analysis described above and reports regression results for Equations (1) through (4). The results of estimating Equation (1) reveal that the coefficient on BACKGROUND is significant ( $p < .001$ ). Similarly, the results of estimating Equation (2) reveal that the coefficient on BACKGROUND is significant ( $p < .001$ ) and the results of estimating Equation (3) show that the coefficient on HARM is also significant ( $p < .001$ ). The results of estimating equation (4) reveal that the coefficient on HARM is significant ( $p = .01$ ) and that the influence of BACKGROUND is reduced (from  $p < .001$  to  $p = .23$ ) when both BACKGROUND and HARM are included in the same regression. These results demonstrate that the perceived likelihood that taking a shortcut could harm investors mediates the effect of observers' auditing background on their ethicality judgments. Thus, H3c is supported.

**Table 4.**

Test of H3c

Results of Mediation Analysis <sup>(a),(b)</sup>



(a) H3c predicts that perceptions regarding the likelihood of investor harm mediate the relationship between observers' auditing background (Auditor versus Observer) and their ethicality judgments.

(b) The path estimates in the mediation analysis come from estimating the following four regressions:

$$\begin{aligned} \text{ETHICALITY} &= \delta_1 + \beta_1 \text{BACKGROUND} + \varepsilon & (1) \\ \text{HARM} &= \delta_2 + \beta_2 \text{BACKGROUND} + \varepsilon & (2) \\ \text{ETHICALITY} &= \delta_3 + \beta_3 \text{HARM} + \varepsilon & (3) \\ \text{ETHICALITY} &= \delta_4 + \beta_4 \text{BACKGROUND} + \beta_4 \text{HARM} + \varepsilon & (4) \end{aligned}$$

where HARM is participants' perceptions of the likelihood that investors would be harmed if the audit senior decides to take the shortcut, BACKGROUND is participants' prior auditing background (Auditor versus Non-Auditor) and ETHICALITY is participants' perceptions of the ethicality of taking the shortcut.

(c) These are the coefficients and p-values from the regression that excludes the mediator, HARM.

(d) This is the coefficient and p-value from the regression that includes the mediator, HARM.

(e) This is the coefficient and p-value from the regression that excludes BACKGROUND as a covariate (i.e., this is the direct effect of the auditor's perception about investor harm on his/her ethicality judgment).

## 5.5 TEST OF H4

H4 examines how ethicality judgments influence intended behavior. Specifically, H4 predicts that individuals' ethicality judgments will mediate the relationship between their type (Auditor Actor versus Auditor Observer versus Non-Auditor Observer) and their judgments regarding what they will do (Actors) and what they think they would do (Observers) in the dilemma.<sup>20</sup> Table 5, Panel A presents descriptive statistics related to these judgments. To test H4, I estimate the following four regressions:

$$\text{BEHAVIOR} = \delta_1 + \beta_1 \text{TYPE} + \varepsilon \quad (1)$$

$$\text{ETHICALITY} = \delta_2 + \beta_2 \text{TYPE} + \varepsilon \quad (2)$$

$$\text{BEHAVIOR} = \delta_3 + \beta_3 \text{ETHICALITY} + \varepsilon \quad (3)$$

$$\text{BEHAVIOR} = \delta_4 + \beta_4 \text{TYPE} + \beta_4 \text{ETHICALITY} + \varepsilon \quad (4)$$

where BEHAVIOR is participants' responses regarding what they would do (Actor) or what they think they would do (Observer) in the dilemma, TYPE is the participant's type (Auditor Actor versus Auditor Observer versus Non-Auditor Observer) and ETHICALITY is participants' perceptions of the ethicality of taking the shortcut.

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<sup>20</sup> Auditor Actors were asked "how likely is it that you will tell your superior about the discrepancy?" Responses were given on an 11-point scale ranging from 0% (Definitely will not tell) to 100% (Definitely will tell) with a mid-point of 50% (Likely to tell). Observers were asked "if you were the auditor who found the discrepancy, how likely is it that you would tell your superior about it?" Responses were given on an 11-point scale ranging from 0% (Definitely would not tell) to 100% (Definitely would tell) with a mid-point of 50% (Likely to tell).

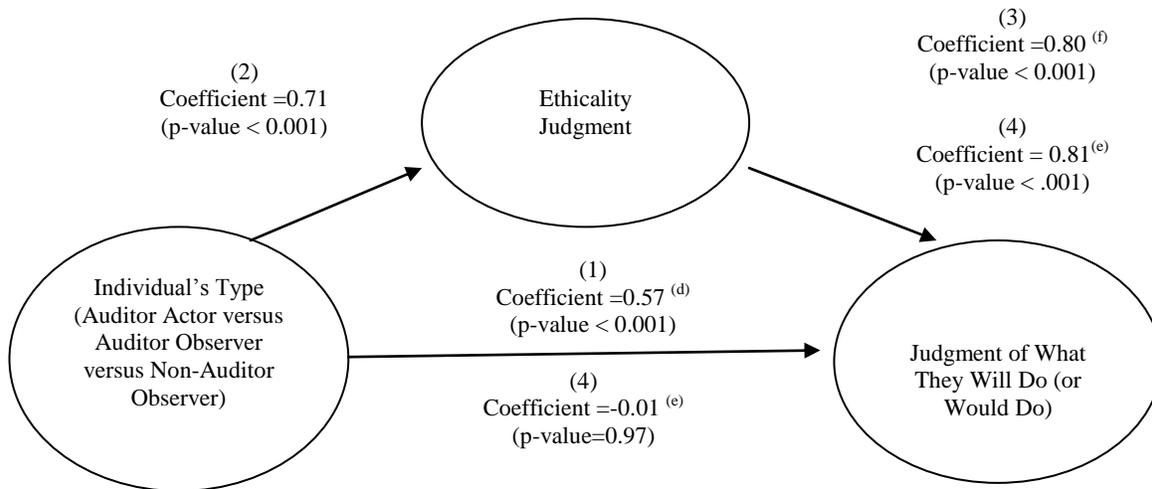
**Table 5.**

Test of H4

PANEL A: Mean (Standard Deviation) of Will/Would Judgments <sup>(c)</sup>

Auditing Background	Involvement in the Dilemma:	
	Actor	Observer
Auditor	61.15% (21.79)	81.43% (17.40)
Non-Auditor	N/A	91.91% (15.39)

Panel B: Results of Mediation Analysis <sup>(a),(b)</sup>:



(a) H4 predicts that individuals' ethicality judgments will mediate the relationship between their type (Auditor Actor versus Auditor Observer versus Non-Auditor Observer) and their judgments regarding what they will do (Actors) and what they think they would do (Observers) in the dilemma

(b) The path estimates in the mediation analysis come from estimating the following four regressions:

$$\begin{aligned} \text{BEHAVIOR} &= \delta_1 + \beta_1 \text{TYPE} + \varepsilon & (1) \\ \text{ETHICALITY} &= \delta_2 + \beta_2 \text{TYPE} + \varepsilon & (2) \\ \text{BEHAVIOR} &= \delta_3 + \beta_3 \text{ETHICALITY} + \varepsilon & (3) \\ \text{BEHAVIOR} &= \delta_4 + \beta_4 \text{TYPE} + \beta_4 \text{ETHICALITY} + \varepsilon & (4) \end{aligned}$$

where BEHAVIOR is participants' response regarding what they would do (Actor) or what they think they would do (Observer) in the dilemma, TYPE is the participant's type (Auditor Actor versus Auditor Observer versus Non-Auditor Observer) and ETHICALITY is participants' perceptions of the ethicality of taking the shortcut.

(c) Auditor Actors were asked "how likely is it that you will tell you superior about the discrepancy?" Responses were given on an 11-point scale ranging from 0% (Definitely will not tell) to 100% (Definitely will tell) with a mid-point of 50% (Likely to tell). Observers were asked "if you were the auditor who found the discrepancy, how likely is it that you would tell your superior about it?" Responses were given on an 11-point scale ranging from 0% (Definitely would not tell) to 100% (Definitely would tell) with a mid-point of 50% (Likely to tell).

(d) These are the coefficients and p-values from the regression that excludes the mediator, ETHICALITY.

(e) This is the coefficient and p-value from the regression that includes the mediator, ETHICALITY.

(f) This is the coefficient and p-value from the regression that excludes TYPE as a covariate (i.e., this is the direct effect of the auditor's ethicality judgment on his/her behavioral judgment).

Table 5, Panel B illustrates the path analysis described above and reports regression results for Equations (1) through (4). The results of estimating Equation (1) reveal that the coefficient on TYPE is significant ( $p < .001$ ). Similarly, the results of estimating Equation (2) reveal that the coefficient on TYPE is significant ( $p < .001$ ) and the results of estimating Equation (3) show that the coefficient on ETHICALITY is also significant ( $p < .001$ ). The results of estimating equation (4) reveal that the coefficient on ETHICALITY is significant ( $p < .001$ ) and that the influence of TYPE is reduced (from  $p < .001$  to  $p = .97$ ) when both TYPE and ETHICALITY are included in the same regression. These results demonstrate that participants' ethicality judgments mediate the effect of their type on their behavioral judgments. Thus, H4 is supported.

## **5.6 TESTS OF H5A AND H5B**

My final hypotheses examine whether auditors anticipate that non-auditors view taking the shortcut more negatively than the auditor does. The primary measure used in testing these hypotheses is the difference between Auditors' predictions of the Non-Auditor Observers' average response to the ethicality question and the Non-Auditor Observers' actual average response to this question.

H5a predicts that all auditors will underestimate the extent to which non-auditors perceive a decision to take a shortcut as being unethical. Panel A of Table 6 shows both Auditor Actors and Auditor Observers significantly underestimate the extent to which Non-Auditors

view taking a shortcut as being unethical (for Auditor Actors  $t=-8.75$ ,  $p<.001$  and for Auditor Observers  $t=-2.91$ ,  $p<.01$ ). Thus, H5a is supported.

**Table 6.**

## Tests of H5a and H5b

PANEL A: Test of H5a <sup>(b)</sup> - Do Auditor Actors and Auditor Observers Underestimate Non-Auditors' Ethicality Judgments?

	Mean (Std. Dev) Difference Between Predicted and Actual Response	t	p-value
<u>Auditor Actor's Prediction</u> LESS Non-Auditors' Average Response	-1.08 (0.63)	t=-8.75	p<.001
<u>Auditor Observer's Prediction</u> LESS Non-Auditors' Average Response	-0.43 (0.68)	t=-2.91	p<.01

PANEL B: Test of H5b <sup>(c)</sup> – Do Auditor Actors Underestimate Non-Auditors' Ethicality Judgments to a Greater Extent than do Auditor Observers?

Mean (Std. Dev) Amount by Which <b>Auditor Actors</b> Underestimate Non- Auditors' Judgments	Mean (Std. Dev) Amount by Which <b>Auditor Observers</b> Underestimate Non-Auditors' Judgments	t	p-value
-1.08 (0.63)	-0.43 (0.68)	t=-3.40	P<.01

(a) Auditor participants predict Non-Auditors' average response to the question asking Non-Auditors the extent to which they agree that taking the shortcut is clearly unethical.

(b) H5a predicts that all auditors will underestimate the extent to which non-auditors perceive a decision to take a shortcut as unethical. I test whether the difference between participants' predictions and the non-auditor's average actual response is significantly different from zero.

(c) H5b predicts that Auditor Actors will underestimate non-auditors' ethicality judgments to a greater extent than do Auditor Observers.

H5b predicts that Auditor Actors will underestimate Non-Auditor Observers' ethicality judgments to a greater degree than do Auditor Observers. Panel B of Table 6 shows that Auditor Actors were significantly less accurate at predicting Non-Auditor Observers' judgments ( $t=-3.40$ ,  $p<.01$ ) than were Auditor Observers. Thus, H5b is supported. These findings suggest that while their auditing background may hinder auditors' ability to see how non-auditors view a decision to take a shortcut, being directly involved in a decision to take a shortcut exacerbates that tendency.

## **6.0 SUPPLEMENTAL ANALYSES**

### **6.1 CHAPTER OVERVIEW**

This chapter describes the results obtained from supplemental conditions that were run at the same time as my primary study. Section 6.2 describes an additional experimental condition designed to provide further evidence that audit seniors believe that investigating the discrepancy is consistent with an auditor's obligations. It also allows me to examine whether the auditor observers in the primary study spontaneously focus on what the auditor described in the case "should do," even when not explicitly instructed to do so. Section 6.3 describes three additional conditions designed to examine whether high ambiguity is a necessary condition for the findings of my primary study to hold. That is, these conditions examine a low ambiguity setting where it is clear that a material error exists and that failing to tell someone about the discrepancy will cause the audit firm to issue an incorrect audit opinion.

### **6.2 DO AUDITOR OBSERVERS FOCUS ON WHAT AUDITORS "SHOULD" DO?**

My hypotheses regarding individuals' involvement in a dilemma (Actor versus Observer) are based on literature that suggests that observers are more likely to focus on what the actor "should do" and are less likely to think about practical concerns (Trope and Liberman 2010;

Eyal, Liberman and Trope 2008, Tenbrunsel et al. 2010). To provide evidence on this issue, I gave another group of 25 audit seniors the same materials as those provided to participants in the Auditor Observer condition. However, before asking them to respond to any questions, I explicitly ask them to consider what the audit senior should do. Table 7 compares this group's responses to those of participants in the Auditor Observer condition. There are no significant differences (all  $p > .26$ ) in mean responses in these two conditions, consistent with my assumption that when contemplating another auditor's dilemma, audit seniors spontaneously view the situation in terms of what they believe the audit senior should do.

**Table 7.**

Results of Supplemental Analysis:  
Auditor Observers' Judgements With and Without "Should" Prompt

	Without Prompt <sup>(a)</sup>	With Prompt <sup>(b)</sup>	t	p-value
Risk of Material Error <sup>(c)</sup>	1.48 (1.03)	1.44 (0.96)	-0.21	.83
Risk of Investor Harm <sup>(d)</sup>	0.67 (1.11)	0.52 (1.12)	-0.67	.51
Ethicality Judgment <sup>(e)</sup>	1.43 (0.87)	1.20 (1.00)	-1.15	.26

(a) These results are from the Auditor Observer condition used in the primary study.

(b) As a supplemental analysis, at the same time the primary study was run, an additional 25 audit seniors were provided with the same case materials provided to those in the Auditor Observer condition. Prior to responding to any questions, these audit seniors were explicitly prompted to think about what the audit senior described in the case should do.

(c) Participants are asked how likely it is that taking the shortcut would cause the audit firm to miss a material error. Responses are given on a 7-point scale ranging from -3 (Extremely Unlikely) to 3 (Extremely Likely), with a mid-point of 0 (Neither Unlikely Nor Likely).

(d) Participants are asked how likely it is that investors would be harmed if the shortcut is taken. Responses are given on a 7-point scale ranging from -3 (Extremely Unlikely) to 3 (Extremely Likely), with a mid-point of 0 (Neither Unlikely Nor Likely).

(e) Participants are asked the extent to which they agree that taking the shortcut is clearly unethical. Responses were given on a 7-point scale ranging from -3 (Completely Disagree) to 3 (Completely Agree), with a mid-point of 0 (Neutral). The higher the response, the more participants agree that taking the shortcut is clearly unethical.

Note that each of the 25 audit seniors who participated in this supplemental analysis agreed that the audit senior described in the case should tell his or her superior about the discrepancy. Therefore, when they were not directly involved in the dilemma, it was relatively clear to audit seniors that ignoring the discrepancy would have been the “wrong thing” to do.

### **6.3 THE INFLUENCE OF AMBIGUITY**

Another aspect of the theory underlying my first and third hypotheses is that auditor actors use the ambiguity inherent in a dilemma to justify engaging in self-interested behavior and to view that behavior as being “not that bad.” Studies such as Haisley and Weber (2010) suggest that when there is relatively little ambiguity regarding the outcome of one’s behavior, individuals are less likely to be blind to the ethicality of their decisions. To test this assumption, I include three additional conditions (Auditor Actor, Auditor Observer, and Non-Auditor Observer) in which it is clear that a material error actually exists and that a decision to ignore the discrepancy would cause the audit firm to miss a material error. Participants in the low ambiguity conditions were an additional 49 auditors and 22 non-auditors who were recruited at the same time as participants in the high ambiguity conditions.<sup>21</sup>

Participants were provided with the same materials and followed the same experimental steps as those in the high ambiguity conditions. However, as shown in Appendix B, in the low ambiguity conditions there is no overlap between the client’s estimate and the estimate based on

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<sup>21</sup> Participants were recruited in the same manner as participants in high ambiguity conditions and had similar demographic characteristics.

the third party information. Also, the range of both estimates is relatively small, suggesting that the estimate itself is less inherently uncertain.<sup>22</sup> An additional 49 auditor and 22 non-auditor participants reviewed the less ambiguous case and answered the same questions as did participants in the high ambiguity conditions.<sup>23</sup>

Panels A through C of Table 8 provide a summary of participants' responses to the primary dependent variables in the low ambiguity conditions. As expected, it is more obvious to auditor participants reading the low ambiguity case that there is a material error in the client's financial statements and that taking a shortcut would cause the audit firm to miss this error. In both the Auditor Actor and Auditor Observer conditions, responses to the question regarding the likelihood of material error are significantly higher (all  $p < .03$ , one-tailed) than in the higher ambiguity conditions.<sup>24</sup> Also, as expected, the differences between Auditor Actors' and Auditor Observers' perceptions that are observed in the high ambiguity setting are no longer present in the low ambiguity setting. Specifically, there is no significant difference between their perceptions regarding the likelihood that the firm could miss a material error ( $t = -0.19$ ,  $p = .86$ ) or in their ethicality judgments ( $t = 0.32$ ,  $p = .75$ ). Furthermore, when ambiguity is low, there is no significant difference in how auditors and non-auditors view the risk of missing a material error ( $F = 0.17$ ,  $p = .85$ , untabulated).

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<sup>22</sup> The only difference in the information provided to participants in the low and high ambiguity conditions is management's estimated range of the warranty reserve and the estimated range based on third party information. While I increase the range of the estimates in the low ambiguity conditions (consistent with Schweitzer and Hsee 2002), the difference between management's best estimate and the best estimate supported by the third party information is held constant between the high and low ambiguity conditions.

<sup>23</sup> The low ambiguity conditions were run at the same time as the high ambiguity conditions. Participants were recruited in the same manner as participants in high ambiguity conditions and had similar demographic characteristics.

<sup>24</sup> While Non-Auditor Observers perceive a higher likelihood of a material error in the low ambiguity setting, this difference is only marginally significant ( $t = -1.30$ ,  $p = .10$ , one-tailed).

**Table 8.**

Results of Supplemental Analysis:  
Low Ambiguity Setting

PANEL A: Mean (Standard Deviation) of Likelihood of Missing a Material Error <sup>(a)</sup>

Auditing Background	Involvement in the Dilemma:	
	Actor	Observer
Auditor	2.00 (0.77)	2.05 (1.02)
Non-Auditor	N/A	2.14 (0.71)

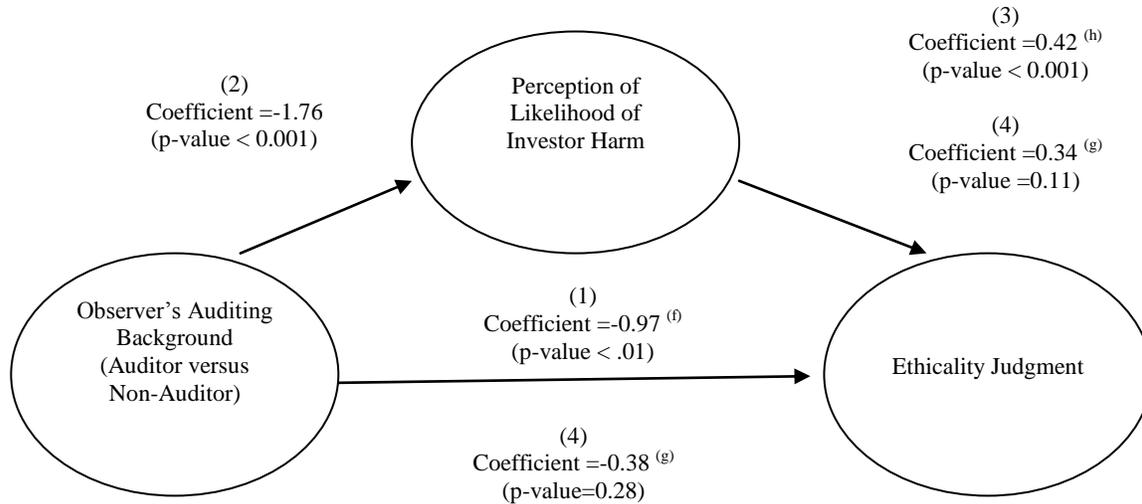
PANEL B: Mean (Standard Deviation) of Likelihood of Investor Harm <sup>(b)</sup>

Auditing Background	Involvement in the Dilemma:	
	Actor	Observer
Auditor	0.39 (0.57)	0.38 (1.36)
Non-Auditor	N/A	2.14 (0.83)

PANEL C: Mean (Standard Deviation) of Ethicality Judgment <sup>(c)</sup>

Auditing Background	Involvement in the Dilemma:	
	Actor	Observer
Auditor	1.71 (0.85)	1.62 (1.24)
Non-Auditor	N/A	2.59 (0.59)

PANEL D: Mediation Results in Low Ambiguity Setting <sup>(d), (e)</sup>



(a) Participants are asked how likely it is that taking the shortcut would cause the audit firm to miss a material error. Responses are given on a 7-point scale ranging from -3 (Completely Disagree) to 3 (Completely Agree), with a mid-point of 0 (Neutral).

(b) Participants are asked how likely it is that investors would be harmed if the shortcut is taken. Responses are given on a 7-point scale ranging from -3 (Extremely Unlikely) to 3 (Extremely Likely), with a mid-point of 0 (Neither Unlikely Nor Likely).

(c) Participants are asked the extent to which they agree that taking the shortcut is clearly unethical. Responses are given on a 7-point scale ranging from -3 (Completely Disagree) to 3 (Completely Agree), with a mid-point of 0 (Neutral). The higher the response, the more participants agree that taking the shortcut is clearly unethical.

(d) This mediation analysis examines whether perceived likelihood of investor harm mediates the effect of observers' auditing background on ethicality judgments.

(e) The path estimates in the mediation analysis come from estimating the following four regressions:

$$\begin{aligned} \text{ETHICALITY} &= \delta_1 + \beta_1 \text{BACKGROUND} + \varepsilon & (1) \\ \text{HARM} &= \delta_2 + \beta_2 \text{BACKGROUND} + \varepsilon & (2) \\ \text{ETHICALITY} &= \delta_3 + \beta_3 \text{HARM} + \varepsilon & (3) \\ \text{ETHICALITY} &= \delta_4 + \beta_4 \text{BACKGROUND} + \beta_4 \text{HARM} + \varepsilon & (4) \end{aligned}$$

where HARM is participants' perceptions of the likelihood that investors would be harmed if the audit senior decides to take the shortcut, BACKGROUND is participants' auditing background (Auditor versus Non-Auditor) and ETHICALITY is participants' perceptions of the ethicality of taking the shortcut.

(f) This is the coefficient and p-value from the regression that excludes the mediator, HARM.

(g) These are the coefficients and p-values from the regression that includes the mediator, HARM.

(h) This is the coefficient and p-value from the regression that excludes BACKGROUND as a covariate (i.e., this is the direct effect of the auditor's perception about harm to investors on his/her ethicality judgment).

In an additional analysis, I conduct a 2x2 complete factorial between-subjects ANOVA with the independent variables Auditor's Involvement in the Dilemma (Actor versus Observer) and Level of Ambiguity (High versus Low). The results of this ANOVA, which are presented in Panel A of Table 9, indicate that there is a significant Involvement x Ambiguity interaction ( $p < .01$ , two-tailed). Follow-up simple main effects tests (untabulated) show that this interaction occurs because auditors' involvement in the dilemma influences perceptions of the likelihood of missing a material error when ambiguity is high ( $F = 20.86$ ,  $p < .001$ ), but not when ambiguity is low ( $F = .02$ ,  $p = .85$ ). Thus, my study confirms that ambiguity is a necessary condition for direct involvement in the dilemma to distort auditors' perceptions of the risk of a material error.

**Table 9.**

Results of Supplemental Analysis:  
The Influence of Ambiguity

PANEL A: ANOVA Testing the Effect of Auditor's Involvement in the Dilemma (Actor versus Observer) and Ambiguity (High versus Low) on Perceptions of the Likelihood of a Material Error

	df	Mean Square	F	p-value
Intercept	1	190.278	195.43	<.001
Involvement (Actor versus Observer)	1	11.078	11.38	<.01
Ambiguity (High versus Low)	1	34.500	35.43	<.001
Involvement x Ambiguity	1	9.591	9.85	<.01
Error	92	.974		
Total	96			

PANEL B: ANOVA Testing the Effect of Observers' Auditing Background (Auditor versus Non-Auditor) and Ambiguity (High versus Low) on Ethicality Judgments

	df	Mean Square	F	p-value
Intercept	1	337.475	440.33	<.001
Auditing Background (Auditor versus Non-Auditor)	1	18.702	24.40	<.01
Ambiguity (High versus Low)	1	1.066	1.39	.24
Background x Ambiguity	1	.024	.03	.86
Error	81	.766		
Total	85			

The theory used to develop my hypotheses also predicts that differences in auditors' and non-auditors' backgrounds cause them to view the likelihood of investor harm differently which, in turn, causes them to view the ethicality of taking a shortcut differently. If this is true, Auditor Observers should perceive taking a shortcut to be more ethical than do non-auditors regardless of the level of ambiguity.<sup>25</sup> To statistically test this assertion, I conduct a 2x2 between-subjects ANOVA with the independent variables Background (Auditor versus Non-Auditor) and Level of Ambiguity (High versus Low). The results of this ANOVA, which are presented in Panel B of Table 9, find that the main effect of Background is still significant ( $F=24.40$ ,  $p<.001$ ) regardless of the level of ambiguity, that the high and low ambiguity settings do not differ from each other ( $F=1.39$ ,  $p=.24$ ), and that the difference in Auditor Observers' and Non-Auditor Observers' ethicality judgments does not depend on the level of ambiguity (i.e., the interaction of Background x Ambiguity is not significant –  $F=.03$ ,  $p=.86$ ). This finding suggests that there is a fundamental difference in how auditors and non-auditors perceive the likelihood that an individual auditor's behavior could harm investors.

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<sup>25</sup> I find that in the low ambiguity setting Auditor Observers' ethicality judgments are significantly lower than those of Non-Auditor Observers ( $t=-3.90$ ,  $p<.001$ ). As reported in Panel D of Table 8, the perceived likelihood that taking a shortcut could harm investors mediates the effect of an observer's auditing background on his/her ethicality judgment, similar to what was observed in the high ambiguity setting.

## **7.0 CONCLUSIONS AND DISCUSSION**

### **7.1 CHAPTER OVERVIEW**

Section 7.2 summarizes the results of this study. Section 7.3 discusses the contribution of this dissertation to the academic literature and to practice. Section 7.4 concludes by discussing the limitations of this dissertation and proposes possible avenues for future research.

### **7.2 SUMMARY OF RESULTS**

My study examines why auditors sometimes engage in inappropriate behaviors despite their firm's training and the threat of receiving a negative performance evaluation. I provide evidence that in a high-ambiguity setting, auditors are unable to make unbiased assessments of the consequences and perceived ethicality of taking a shortcut in audit procedures. I find that auditor actors view taking a shortcut as less unethical than non-auditors do for two reasons. First, being directly involved in the dilemma (being an actor versus an observer) causes auditors to reach lower judgments of the likelihood that taking a shortcut could cause the audit firm to miss a material error. Second, having prior auditing experience (being an auditor versus a non-auditor) causes auditors to perceive a lower likelihood of investor harm. I also demonstrate that

understanding these perceptions is important because they influence intended behavior. Finally, my results suggest that auditors fail to recognize that non-auditors perceive taking a shortcut more negatively than auditors do.

### **7.3 CONTRIBUTIONS**

Identifying factors that influence individuals' perceptions regarding taking a shortcut is important for several reasons. First, my findings may explain why audit firms' traditional ethics training is not always effective at curbing inappropriate auditor behavior. During ethics training, auditors are typically provided with hypothetical dilemmas that involve other auditors. Thus, these auditors are put in the position of observing another auditor's dilemma, which makes it easier to see the negative implications of the hypothetical behavior. Structuring ethics training in this way fails to account for the fact that when auditors personally face an ethical dilemma, they tend to become blind to negative implications of their behavior that they would be able to see clearly if they were observing another auditor in the same situation. Future research could examine how ethics training could be modified to account for this difference in perspective, and determine whether making auditors aware of their blind spot can help them to avoid it.

Audit firms also train their employees to perform audits that are both effective and efficient. They want their employees to weigh the costs and benefits of alternative actions and to take those actions that minimize the audit firm's future costs. My results suggest that auditors may not always accurately assess the potential costs of their behavior. For example, if being directly involved in a decision to take a shortcut prevents them from recognizing that their

behavior is inconsistent with their duty to detect material misstatements, and that other auditors and non-auditors may view their behavior negatively, auditors may not appreciate the potential costs (in terms of SEC and PCAOB sanctions, legal costs, loss of reputation, etc.) of their behavior.

My findings should also be of interest to audit firms because they suggest that the threat of receiving a negative performance evaluation may not be sufficient to ensure that audit seniors avoid engaging in quality-threatening behaviors. Consistent with Brazel et al. (2014), my findings suggest that audit seniors' immediate incentives motivate them to avoid acting skeptically when there is high ambiguity about whether a material error actually exists. Furthermore, my study extends studies such as Brazel et al. (2014) by examining whether audit seniors realize that by failing to act skeptically they are putting their firm at risk. My findings demonstrate that when directly involved in a dilemma, auditors sometimes underestimate the likelihood that their behavior could lead to an incorrect audit opinion or be viewed negatively by observers, and therefore, unknowingly put their firms at risk.

Finally, my findings also suggest that there is a fundamental difference in the way that audit seniors and non-auditors view the ethicality of taking a shortcut. Regardless of the level of ambiguity present in the auditing setting, auditors perceive the risk that investors could be harmed by a shortcut to be significantly lower than non-auditors do. While prior research examines whether auditors and the public hold different beliefs about the auditors' duties and responsibilities and the messages conveyed by audit reports (Cohen 1978; Monroe and Woodliff 1994; Reffett et al. 2012), none of this research examines whether they hold different beliefs about the likelihood that investors will suffer harm as a result of an individual auditor's behavior. My study is the first to provide evidence that differences in perceptions of investor harm cause

auditors to view the potential consequences and ethicality of an auditor's behavior differently from the way non-auditors view them. Future research could examine whether these differences in perceptions partially explain the audit expectations gap identified in prior literature.

#### **7.4 LIMITATIONS AND FUTURE RESEARCH**

As with any study, there are several limitations that may limit the generalizability of my findings. First, in my study there were no actual costs associated with investigating or with ignoring the discrepancy. These incentives are an important factor in natural audit settings and could potentially affect both auditor and non-auditors' judgments.

Second, while understanding audit seniors' judgment processes is important because their decisions serve as the foundation of an audit opinion (Willet and Page 1996; Herrbach 2005), it is unclear whether audit managers' and partners' own judgments would also be susceptible to the effects found in this study. Prior literature (Asare et al. 2009) finds that more experienced auditors are more litigation conscious than junior auditors. Furthermore, as discussed previously, partners' incentives differ from those of junior members of the audit team because partners' wealth is tied directly to that of the firm and thus they could suffer substantial economic losses if their firms are sued. Future research could examine these issues.

Future research could also examine how auditors and non-auditors arrive at their judgments regarding the likelihood that an auditors' behavior could harm investors. Based on data collected in this study, auditors' perceptions regarding investor harm were unrelated to their perceptions regarding the likelihood that the client's financial statements contained a material

error. Furthermore, auditors ethicality judgments were driven to a significant extent by their perceptions regarding the risk that ignoring the discrepancy could cause the firm to issue an incorrect audit opinion rather than their perceptions regarding investor harm. Taken together, this suggests that auditors recognize that they have a duty to detect misstatements, but they may not spontaneously make the connection that this duty exists in order to prevent the investors who rely on the audited financial statement from suffering harm. Therefore, future research could examine whether and how auditors think about harm to investors at the time they initially make their audit judgments.

Future research could also test interventions that could help auditors recognize when their behavior is inconsistent with their obligations. One such intervention could be based upon the identifiable victim literature in psychology. Bazerman et al. (1997) asserts that auditors likely view the people who could be hurt by an audit failure as a large, ambiguously-defined group. Because the individual identities of the investors who could be harmed by an audit failure are not known by the auditor when he makes his judgments, the auditor is unlikely to have strong feelings of empathy toward investors (Sah and Loewenstein 2012). If auditors are like other individuals in that they care more about identifiable, or “familiar” individuals than about unknown individual or groups of victims (Schelling 1968; Korut and Ritov 2005; Jenni and Loewenstein 1997), it may be possible to improve auditor behavior by prompting them to think differently about who could be harmed by an audit failure. Specifically, if auditors focus on individual investors who are similar to people that they know and like, instead of thinking about investors in terms of a large group of unknown individuals, they may be more likely to experience emotions similar to empathy. This could make it harder for them to underestimate the

potential harm that taking a shortcut could cause, which would make it more likely that they would view taking a short cut as being unethical.

## APPENDIX A

### WORKPAPER INFORMATION PROVIDED IN THE PRIMARY STUDY (HIGH AMBIGUITY)

While tidying up the audit workpapers, an audit senior found the following discrepancy:

One of the audit workpapers documents procedures performed by the audit team when reviewing the client's calculation of estimated warranty costs. The audit team agreed to the client's estimate of \$9,456,250 and noted that the assumptions used by ANS in arriving at this estimate agreed to evidence obtained from external sources. An excerpt of this workpaper is shown below:

<b>Estimated Warranty Costs (Client's Estimate)</b>	<u>Low</u>	<u>High</u>	<u>Estimate (=Avg. Low and High)</u>
Number of R3 installations	50,000	50,000	50,000
Estimated percentage of incorrect installations	35.0%	50.0%	42.5%
Estimated number of incorrect installations	17,500	25,000	21,250
Estimated cost per installation	350	540	445
<b>Estimated warranty costs</b>	<b>6,125,000</b>	<b>13,500,000</b>	<b>9,456,250</b>

This workpaper shows that the client assumed that the estimated percentage of incorrect installations ranges from 35% to 50% and that the estimated cost of repair ranges from \$350 to \$540 per installation.

A separate audit workpapers documents the procedures performed and evidence obtained when the audit firm gathered information from external sources. This evidence suggests that the percentage of incorrect installations ranges from 45% to 60% and that the estimated cost of repair ranges from \$420 to \$690 per installation. The range of estimated warranty costs using these assumptions is calculated as follows:

<b>Estimated Warranty Costs (Based on Customer Confirmations)</b>			
	<u>Low</u>	<u>High</u>	<u>Estimate</u> <u>(=Avg. Low and High)</u>
	50,000	50,000	50,000
Estimated percentage of incorrect installations	45.0%	60.0%	52.5%
Estimated number of incorrect installations	22,500	30,000	26,250
Estimated cost per installation	420	690	555
<b>Estimated warranty costs</b>	<b>9,450,000</b>	<b>20,700,000</b>	<b>14,568,750</b>

The audit workpapers do not appear to include an explanation as to why the assumptions used by ANS management are not entirely consistent with those obtained from external sources.

[Note: All participants were informed earlier in the study that quantitative materiality was \$2.3 million.]

## APPENDIX B

### WORKPAPER INFORMATION PROVIDED IN THE SUPPLEMENTAL STUDY (LOW AMBIGUITY)

While tidying up the audit workpapers, an audit senior found the following discrepancy:

One of the audit workpapers documents procedures performed by the audit team when reviewing the client's calculation of estimated warranty costs. The audit team agreed to the client's estimate of \$9,456,250 and noted that the assumptions used by ANS in arriving at this estimate agreed to evidence obtained from external sources. An excerpt of this workpaper is shown below:

<b>Estimated Warranty Costs (Client's Estimate)</b>	<u>Low</u>	<u>High</u>	<u>Estimate (=Avg. Low and High)</u>
Number of R3 installations	50,000	50,000	50,000
Estimated percentage of incorrect installations	40.0%	45.0%	42.5%
Estimated number of incorrect installations	20,000	22,500	21,250
Estimated cost per installation	400	490	445
<b>Estimated warranty costs</b>	<b>8,000,000</b>	<b>11,025,000</b>	<b>9,456,250</b>

This workpaper shows that the client assumed that the estimated percentage of incorrect installations ranges from 40% to 45% and that the estimated cost of repair ranges from \$400 to \$490 per installation.

A separate audit workpapers documents the procedures performed and evidence obtained when the audit firm gathered information from external sources. This evidence suggests that the percentage of incorrect installations ranges from 50% to 55% and that the estimated cost of repair ranges from \$510 to \$600 per installation. The range of estimated warranty costs using these assumptions is calculated as follows:

<b>Estimated Warranty Costs (Based on Customer Confirmations)</b>			
	<u>Low</u>	<u>High</u>	<u>Estimate</u> <u>(=Avg. Low</u> <u>and High)</u>
Number of R3 installations	50,000	50,000	50,000
Estimated percentage of incorrect installations	50.0%	55.0%	52.5%
Estimated number of incorrect installations	25,000	27,500	26,250
Estimated cost per installation	510	600	555
<b>Estimated warranty costs</b>	<b>12,750,000</b>	<b>16,500,000</b>	<b>14,568,750</b>

The audit workpapers do not appear to include an explanation as to why the assumptions used by ANS management are not entirely consistent with those obtained from external sources.

[Note: All participants were informed earlier in the study that quantitative materiality was \$2.3 million.]

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