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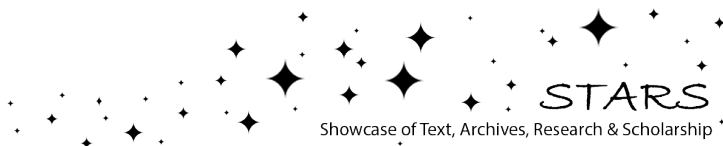
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THREE STUDIES EXAMINING ACCOUNTABILITY IN AUDITING

by

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A dissertation submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy  
in the Kenneth G. Dixon School of Accounting  
in the College of Business Administration  
at the University of Central Florida  
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## ABSTRACT

This dissertation consists of three studies investigating accountability in auditing. It is aimed at gaining a better understanding of how auditors make decision in the presence of accountability pressure.

The first study is a literature review of the experimental audit research on accountability. It provides a conceptual framework for organizing prior research on this topic and offers opportunities for future research. Several areas are in need of continued research. Limited research has considered how auditors respond to multiple accountability pressures. However, research on multiple accountability pressures is particularly important given the somewhat unique environment in which auditors work. They face accountability pressures from a number of sources- clients, regulators, shareholders, supervisors, etc. Additional research looking at the impact of process and outcome accountability is also needed. Very little research has considered how auditors are influenced by these two different types of accountability pressure. However, theory would suggest they may have a dramatically different influence on auditors' decision making processes.

The second study experimentally investigates accountability as a potential mitigating mechanism for the performance declines caused by ego depletion. Auditors are shown to be susceptible to depletion, but research has yet to consider how a natural element of the audit environment, accountability, influences the relationship between depletion and performance. Surprisingly, the results of this study suggest that depletion doesn't necessarily hinder performance, but can actually improve performance in certain circumstances. Furthermore, those individuals who were accountable did not perform significantly different based on whether they

were depleted or not. The findings suggest both accountability and depletion improve auditor performance. However, when both elements are combined, they do not significantly improve performance beyond the performance improvements seen when either accountability or depletion are present.

Study three examines how auditors respond to multiple accountability pressures. It considers how a power level difference between two conflicting parties, as well as a variation in justification timing, impact auditors' decisions. The findings suggest that auditors align their decisions with the preferences of the more powerful party when there is a large power differential between conflicting parties. However, when the power differential is small, auditors employ a more integratively complex decision making process allowing them to reach a conclusion that they can defend. Justification timing is also shown to influence auditors' decisions, but not in the manner expected. Surprisingly, the results indicate that auditors tend to more closely align their decisions with the preferences of the last person to whom they must justify their decisions, as opposed to the first person.

Overall, this dissertation contributes to our understanding of accountability in three distinct ways. It synthesizes prior research to provide insight into what we have learned thus far and where we should go from here in terms of research. It then considers whether accountability mitigates the negative effects of ego depletion, where it finds that depletion actually improves, rather than hinders, performance. Thus, suggesting auditors aren't always negatively impacted by depletion. Lastly, it provides insight into how auditors make decisions in the presence of multiple accountability pressures. A very important, yet dramatically under-researched area in auditing.

## ACKNOWLEDGMENTS

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## GENERAL INTRODUCTION

This dissertation consists of three studies investigating accountability in auditing. These three studies focus on extending our understanding of the influence that accountability has on auditor judgment and decision making.

Accountability represents the expectation that one will be called upon to justify their decisions to some evaluative audience (i.e., accountability source). In the auditing environment, accountability mechanisms are formally implemented through the audit review process, the peer review process, and the PCAOB review process. However, auditors also face accountability pressure from other parties, including clients, banks, and investors (e.g. Gibbins and Newton 1994). As Lerner and Tetlock (1999, p. 270) note, “People do not think and act in a social vacuum.” As such, it is important to consider how the features of one’s environment influences the way in which they make decisions.

Examining accountability in an audit setting is important for two reasons. First, auditing standards require auditors to remain skeptical throughout the audit process and be objective in evidence evaluation (PCAOB 2015). Auditors frequently face situations where significant judgment is required and decisions have no clear right or wrong answer. Objectivity is particularly important in these instances. To the extent that accountability pressures influence auditors’ judgment and decision making processes, precautions should be taken to limit these influences. A thorough understanding of the effects that these accountability pressures have allows firms to restructure their formal accountability mechanisms in ways that maximize auditor objectivity, or to implement additional procedures to mitigate these effects.

Second, the auditing environment is somewhat unique, in that auditors face multiple accountability pressures that must be managed simultaneously (e.g. Gibbins and Newton 1994). Furthermore, the individuals to whom auditors are accountable may have differing preferences regarding the decision that the auditors are required to make. Many organizational employees experience accountability pressure, often through a formal review process; however, few face the multiple accountability pressures that auditors do.

This dissertation organizes and synthesizes prior research on accountability in auditing to help further research in this area. It also experimentally investigates accountability's influence on auditors' judgments and decisions. Study one provides a framework for organizing and synthesizing approximately 25 years of experimental audit research on accountability. It provides a discussion of the literature based on this framework and offers suggestions for future research. Study two evaluates the ability of accountability pressure to offset performance declines associated with ego depletion, and the third study investigates auditor decision making under multiple accountability pressures. The following three sections describes each study in more detail, while the final section provides the overall contribution of this dissertation.

### Study One: A Literature Review of Experimental Audit Research on Accountability

Study one provides a review and synthesis of experimental audit research on accountability. The discussion of prior literature is based on an organizing framework that was developed by identifying key factors that emerged upon review of the literature. This study provides a holistic look at the literature on accountability and offers opportunities for future research. The results indicate research focused on auditors' responses to multiple accountability is limited. This is a particularly important area of research given the accountability pressures

present in the audit work environment. Additional research examining the influence of accountability type on decision making is also needed. Overall, the research generally finds results consistent with the Tetlock's social contingency model of accountability (Tetlock 1992; Tetlock and Lerner 1999). However, there are instances in which findings appear to diverge from theory; this can be contributed to unique elements of the audit environment. Future research should continue to not only consider how auditors respond to accountability pressure, but investigate environmental elements that affect auditors' perceptions or feelings of accountability.

#### Study Two: Ego Depletion and Auditor Performance: The Moderating Effect of Accountability

Prior research suggests that auditors are susceptible to the detrimental effects of ego depletion. Ego depletion represents an exhaustion of mental resources that allows individuals to exercise self-control. This study draws on accountability theory (Tetlock 1992) and the strength model of ego depletion (Baumeister et al. 1998) to investigate whether accountability, an inherent element in the auditing environment, can mitigate the impact that ego depletion has on performance. Surprisingly, the results suggest that depletion does not necessarily hinder performance, but can improve performance in certain circumstances. Furthermore, the performance of individuals who are accountable does not differ significantly based on whether they are depleted or not. This suggests that accountability improves the performance of individuals who are not depleted, but the performance levels of those who are depleted does not significantly differ based on the presence of accountability.

### Study Three: Auditor Judgment in a Multiple Accounting Setting: The Effects of Power Level and Justification Timing

The third study investigates how auditors operate in a multiple accountability setting. Specifically, this study experimentally investigates how a power differential between conflicting parties (i.e. audit supervisor and client contact) and a difference in justification timing impact auditor decision-making. Drawing on accountability theory (Tetlock 1999) and construal level theory (Lieberman and Trope 1998), auditors' decisions are expected to differ based on whether the accountability sources are of relatively equal power, or there is a significant difference in power level between the two parties. Furthermore, the timing of the justification (i.e., whether the auditors' must immediately justify their decisions to an accountability source or justify their decisions at some point in the future) is expected to influence auditors' decisions. Consistent with expectations, the results of this study indicate that auditors' decisions vary depending upon whether a power difference exists between accountability sources. Auditors more closely align their decisions with the preferences of the more powerful party when there is a difference in power level between the two sources. Unexpectedly, however, auditors align their decisions with the preferences of the party to whom they must justify their decisions at some point in the future, as opposed to aligning their decisions with the preferences of the party to whom they must immediately justify their decisions. This finding is inconsistent with expectations based on construal level theory. Overall, this study adds to our understanding of the influence that a power differential has on auditor decision making. Additional research is needed to further investigate the effect that justification timing has on auditor decision making.



### Overall Contribution

Overall, this dissertation makes several contributions. It contributes to research in three distinct ways. The synthesis of prior audit research on accountability provides insight into what has been learned and highlights opportunities for future research. This contributes to research beyond the findings of a single study. It provides a holistic view of the literature with a goal of motivating others to conduct research on accountability, thereby extending the entire stream of research. Studies two and three experimentally investigate auditors' responses to accountability pressure. Study two evaluates whether accountability pressure can overcome the performance declines attributable to ego depletion. This study specifically extends research that investigates whether accountability moderates the effect of various factors found to influence auditor performance. Study three provides insight into how auditors make decisions given multiple accountability pressures. Research on multiple accountability pressures is limited. This study contributes to the literature in this area by investigating how auditors' judgment and decision making processes are affected by multiple accountability pressures. The results suggest both a power differential between accountability sources and a variation in justification timing influence auditor decision making.

The findings from this dissertation add to our understanding of accountability and, in conjunction with prior literature, provide useful information for firms and regulators. Knowledge of specific factors associated with accountability relationships that result in decreased auditor effort and biased decision making will allow firms to manage these effects. Overall, this information will help them to better understand the impact of accountability in order to structure or implement accountability mechanisms in ways that maximize auditor objectivity, thus improving overall audit quality.

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# **STUDY ONE: A LITERATURE REVIEW OF EXPERIMENTAL AUDIT LITERATURE ON ACCOUNTABILITY**

## I. Introduction

Accountability pressure is an inherent element of the audit environment. This pressure represents the requirement of auditors to justify their decisions to individuals in positions to evaluate their work (Tetlock 1992). They must manage multiple accountability pressures simultaneously on a day to day basis, as auditors are constantly making decisions that must be justified to a variety of parties, including superiors, clients, regulators, and financial statement users (e.g. Gibbins and Newton 1994). Research on accountability shows accountability pressure affects auditors' judgment and decision making processes by influencing auditors' level of cognitive effort and extent of work (e.g. Asare et al. 2000; DeZoort et al. 2006; Tan et al. 1997), as well as their decision outcomes (e.g. Buchman et al. 1996; Lord 1992), decision characteristics (e.g. Ashton 1992; Johnson and Kaplan 1991), and performance (e.g. Asare et al. 2000; Tan and Kao 1999), and ultimately the outcome of the audit process.

This paper is designed to provide an overview of the experimental auditing research on accountability. A review and synthesis of approximately 25 years of research in the area will provide a holistic overview of what has been learned about accountability in auditing. It will also provide insight as to where further research is necessary to help expand our understanding of the topic. This study presents a framework for organizing prior experimental research on accountability in auditing. The framework is a mechanism for discussing and synthesizing the research in this area.

The importance of investigating the effects of accountability on auditor decision making is two-fold. First, the extent of accountability pressure in the auditing environment is somewhat

unique. Auditors simultaneously manage accountability pressure from multiple sources. While many organizational employees are accountable to their supervisors through a formal review process, employee decisions generally are not subject to evaluation by regulators, clients, and the investing public. Auditors' decisions, however, are subject to evaluation by these parties. Furthermore, the multiple parties often have differing preferences regarding the decisions auditors must make. Due to the pervasiveness of accountability in auditing, it is extremely important to understand how these pressures effect auditor decision making.

Second, the auditing standards require auditors to exercise professional skepticism, which includes an objective evaluation of audit evidence (PCAOB 2015). As such, it is important to understand the manner and extent to which auditors' decisions are influenced by accountability pressure. If accountability pressure inadvertently biases auditors' decision making processes, knowledge of such effects allow firms and regulators to implement mitigating mechanisms. Conversely, if accountability pressure improves auditor decision making in certain circumstances, firms can structure accountability mechanisms in a way that optimizes auditor objectivity.

This paper is structured as follows: Accountability theory from social psychology is discussed briefly to provide a general understanding of how it is applied in the auditing literature. Second, a discussion of the manuscript selection process and a framework for organizing the research is provided. The third section provides a discussion of the accountability literature organized based on the provided framework. Last, an overall conclusion is presented with opportunities for future research.

## II. Underlying Theoretical Motivation for Accountability Research in Auditing

Given that accounting is a domain of applied research, the auditing literature on accountability often draws on theoretical models from social psychology. These theories inform expectations regarding auditor behavior in a profession where accountability is a central element of the work environment. Prior research recognizes work by Tetlock and colleagues as being the most influential in the accountability literature (Hall et al. 2015). Tetlock's social contingency model is also widely used in the experimental auditing literature on accountability.

Tetlock's social contingency model conceptualizes accountability based on the notion of individuals as politicians. Accountability is commonly defined in accounting research as "...the implicit or explicit expectation that one may be called on to justify one's beliefs, feelings or actions to others." (Lerner and Tetlock 1999, 255). Individuals select the course of action most likely to please important, evaluative others. The model predicts response strategies to accountability pressure (e.g. acceptability heuristic, preemptive self-criticism,) given various situational factors (e.g. views<sup>1</sup> are known or unknown, process accountability vs. outcome accountability) (Lerner and Tetlock 1999; Tetlock 1992). Tetlock argues that decisions are not made in a "social vacuum", and researchers must consider the social context when evaluating individual cognitive processes (Tetlock 1992, 335). He contends that accountability can affect *how* individuals think, not just *what* they say they think and suggests external factors alter individual cognitive processing (Tetlock and Lerner 1999).

Barry Schlenker offers an alternative model of accountability called the pyramid model of accountability (Schlenker 1990), which is also referenced in the accounting literature but is

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<sup>1</sup> The term "preferences" is also used to indicate the views of an accountability source.

not as widely cited as Tetlock's work. The pyramid model is not incompatible with Tetlock's social contingency model, but rather it provides a different conceptualization of accountability. The pyramid model considers the way in which certain elements of the accountability setting influence an individual's response. This differs from Tetlock's model which focuses on the way in which individuals cope and respond to accountability pressure. Schlenker's model considers how the environment influences an individual's response, while Tetlock's model focuses on how individuals respond to their environment (Hall et al. 2015).

Accounting research generally supports Tetlock's social contingency model. Studies show that accountability improves auditor effort and auditor performance in situations where the preferences of an accountability source are unknown. When the preferences of an accountability source are known (or can be inferred), research shows that effort is diminished and auditors simply align their decision with the preferences of the source to whom they are accountable. However, findings appear to deviate from the social contingency model in one situation. Known preferences do not always have detrimental effects on auditor effort and auditor decision outcomes. When known preferences are associated with effectively executing the audit process, auditor effort increases, highlighting an instance when accountability to a party with known views is beneficial. This difference is likely due to the auditing context to which the theory is applied. The social contingency model does not differentiate between preference types and propose different outcomes based on the nature of an accountability source's preferences. In social psychology, these preferences generally relate to preferred decision outcome. However, the nature of auditing is such that known views can relate to preferences for a certain decision outcome, or preferences related to the execution of the audit. Understandably, the theory is not specific enough to capture every environmental characteristic which may cause a departure from

theoretical expectation. This further highlights the importance of studying accountability in an audit setting.

### III. Organizing Framework for Accountability Research in Auditing

This literature review is focused on examining experimental audit research related to accountability. Relevant research was initially identified through a Google Scholar search and the American Accounting Association website search mechanism. Four key search terms were utilized to identify applicable manuscripts with no constraints related to journal or time-period.<sup>2</sup> The first 150 manuscripts in Google Scholar were reviewed for inclusion in this literature review, as well as all 23 manuscripts identified on American Accounting Association website. Studies set in an audit context with a clear focus on accountability were included.<sup>3</sup> Additional studies identified during the vetting process that appeared relevant to this literature review were also included. This body of research was then used to establish an organizing framework for accountability research in auditing. Figure 1 presents the resulting model.

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<sup>2</sup> The terms utilized were “auditing”, “accountability”, “experiment”, and “Tetlock”. These search terms were selected in order to provide the most results relevant to the scope of this literature review. There is additional research on accountability in auditing that offers a different perspective on accountability (e.g. Roberts 1991). However, it is not captured here as this review focuses on experimental research.

<sup>3</sup> Research utilizing accountability theory as theoretical support, but not directly focused on investigating the effect of accountability pressure or individuals’ feelings of accountability, were excluded from this study (e.g. Cohen et al. 2013).

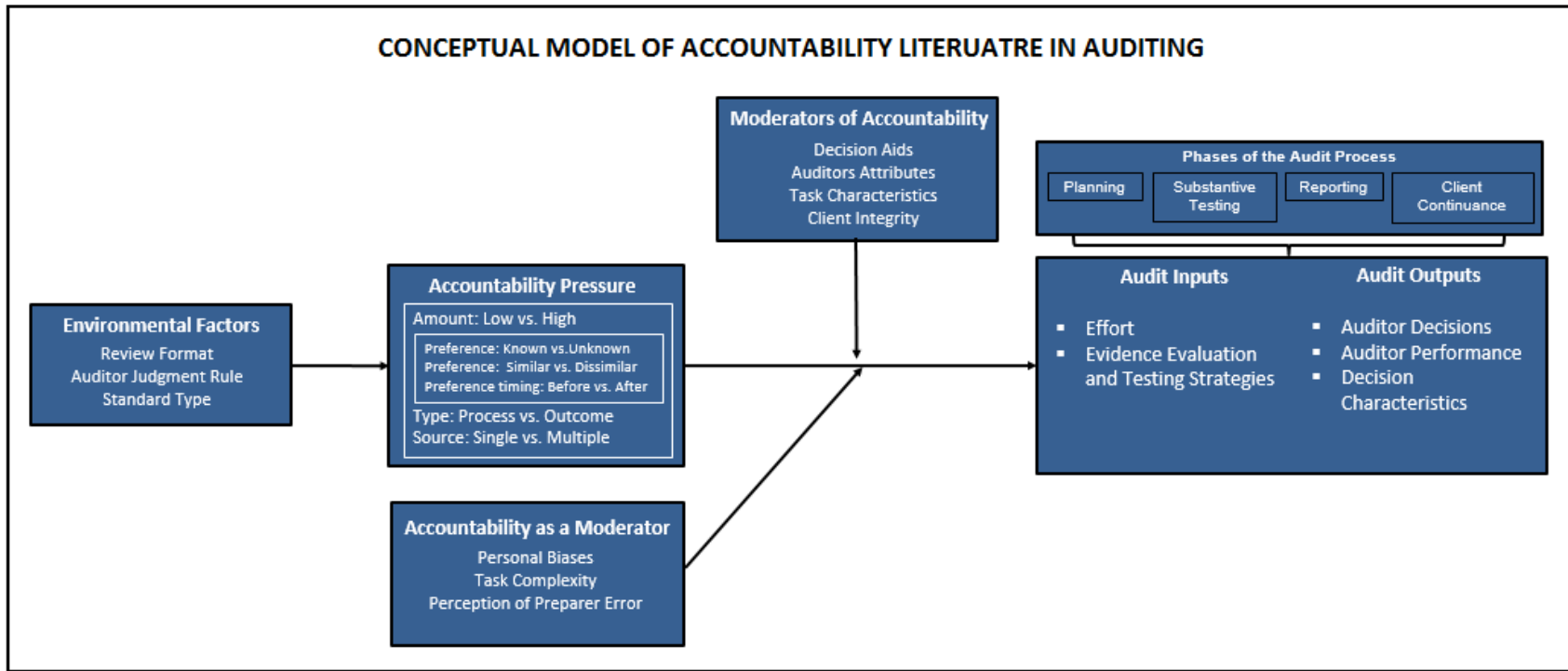


Figure 1: Conceptual Model of Accountability Literature in Auditing



Early research on accountability in auditing focuses on investigating whether accountability pressure impacts auditor decision making. Most studies manipulate accountability (the independent variable) as either present or absent, while one study manipulates the amount of pressure (high vs. low). These manipulations often include information regarding whether the person to whom the auditor is accountable (i.e. accountability source) has or has not expressed a preference for a particular outcome, whether the preference of the accountability source is similar or dissimilar to that of the auditor, whether the auditor knows the preference of the accountability source before or after making their initial decision, or whether the auditor knows they are accountable for their decision before or after evaluating the audit evidence. Individuals often respond differently to accountability pressure when they have knowledge of the accountability source's preferences compared to when they do not. More recently, however, research considers how different types of accountability pressure (process vs. outcome) and various sources of pressure (single vs. multiple persons to whom auditors are accountable) affect auditors.

While examining the impact of accountability on auditor judgment and decision making, the dependent variables of interest vary, but they can be bifurcated into two broad categories- auditor inputs and auditor outputs associated with a decision outcome. Auditor inputs represent factors related to the way in which auditors work to reach a conclusion, as well the amount of work auditors are willing to put forth. Specifically, researchers evaluate the influence that accountability has on auditor effort, and auditor evidence evaluation and testing strategies. Auditor outputs represent the actual conclusions the auditors reach. Researchers analyze these variables differently, however the dependent variables of interest can be grouped into three categories- the auditors' decisions, the auditors' performance, and the decision characteristics.

Auditor decisions represent those outcomes for which there is no right or wrong answer.<sup>4</sup> These decisions are often evaluated relative to the preference of an accountability source in order to draw inferences regarding the source's influence. Auditor performance, on the other hand, is related to auditor decisions but suggests some level of quality- an assessment of whether those decisions are "good" or "bad". Often, performance is evaluated based on the correctness or accuracy of the decision. Lastly, decision characteristics reflect an overall evaluation of participants' decisions relative to another treatment or control group. Decision characteristics related to decision consensus, consistency, and conservatism. Consensus suggests less variability amongst participants' responses, while consistency indicates similar decisions are made in a similar manner. Conservatism relates to the aggressiveness of the participants' decisions.

Researchers also recognize that various task and individual characteristics strengthen or weaken (moderate) the relationship between accountability and outcome variables.

Characteristics of the task or the decision environment moderate the relationship between accountability and the dependent variable of interest. The primary moderators that have been examined include use of a decision aid, auditor attributes, task characteristics, and client integrity.

Other research takes a different focus and examines accountability as a moderator. Prior research shows that factors such as heuristics and biases impact auditors' decisions. In an effort to ascertain whether it is possible to mitigate the impact of those factors, researchers have investigated the moderating effect of accountability. That research examines the ability of

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<sup>4</sup> The term "decisions" rather than "judgments" is utilized to reflect that the auditor has made a choice about the issue presented. Per Bonner (1999), "decisions refer to making up one's mind...and taking a course of action", whereas judgments are simply the "...forming of an idea, opinion, or estimate..." (p.385). Frequently judgments precede decisions.

accountability to moderate the impact of other independent variables such as personal biases, task complexity, and perception of preparer error.

While accountability is often examined based on the impact that it has on other variables, some research examines the impact that other variables have on accountability (i.e. the dependent variable). Academics have considered how environmental factors influence feelings or perceptions of accountability to gain a better understanding of the way in which the audit environment impacts auditor decisions. These factors include review format and type of standard. Figure 1 graphically depicts this framework and is the foundation for the following discussion of the literature.

#### IV. Literature on Accountability Pressure

##### *Accountability Pressure*

##### **Examining the Extent of Accountability Pressure**

Research on accountability in auditing extensively evaluates the influence of accountability on auditor decision making. The findings indicate that accountability can positively influence auditor inputs by increasing cognitive effort (e.g. Johnson and Kaplan 2001; Tan et al. 1997), increasing the breadth of substantive testing (e.g. Asare et al. 2000; Koonce et al. 1995), and increasing identification of more useful audit procedures (DeZoort and Harrison 2016). Accountability also improves auditor performance (e.g. Asare et al. 2000; Tan and Kao 1999), as well as decision consensus, consistency, and conservatism (e.g. Ashton 1992; DeZoort et al. 2006, Johnson and Kaplan 2001). However, the effects of accountability aren't always positive. In some circumstances, accountability can result in biased decision outcomes (e.g. Bierstaker and Wright 2005; Kaplan and Lord 2001)

**The Impact of Accountability Pressure on Decision Inputs:** Accountability to a party with unknown preferences increases auditor effort (Asare et al. 2000; Buchman et al. 1996; DeZoort et al. 2006; DeZoort and Harrison 2016; Johnson and Kaplan 1991; Koonce et al. 1995; Tan et al. 1997). Evidence also suggests that knowledge of an evaluative party's preference related to the execution of the audit process has positive effects when these preferences are associated with conducting a more effective audit (Peecher 1996; Tuner 2001; Shankar and Tan 2006).

In executing the audit, auditors who are accountable to a source with *unknown* views exhibit increased cognitive effort when assessing the risk of inventory obsolescence (Tan et al. 1997) and determining the appropriate audit opinion to issue when the client is involved in a lawsuit (Buchman et al. 1996), and display greater self-insight related to their decision-making process (Johnson and Kaplan 1991). Buchman et al. (1996), however, find that cognitive effort related to a reporting decision differs based on the parties to whom the auditor is accountable and the experience level of the participant. Experienced auditors accountable to an audit partner do not put forth significantly more cognitive effort than those who are not accountable, whereas those auditors accountable to the client do. This finding is surprising, as one would not expect effort levels to vary by accountability source due to the desire of an individual to reach a defensible conclusion when the preferences of an accountability source are unknown. Furthermore, inexperienced auditors do not differ in their effort levels across accountability conditions. The social contingency model does not theorize how experience may influence accountability, but the difference in findings related to experience is understandable in an audit setting. Participants who are not experienced in contingent liabilities may not be able to make

any decision regarding the case without significant effort, thus accountability has little impact on the decision-making process.

Effort gains are not limited to the mere presence or absence of accountability. Research also indicates that various levels of accountability pressure have incremental effects on cognitive effort. Auditors susceptible to high levels of accountability pressure, displayed more cognitive effort than those susceptible to low levels of accountability pressure when completing a materiality assessment exercise (DeZoort et al. 2006).<sup>5</sup>

The positive effects of accountability extend beyond just *cognitive* effort. Auditors also exert more effort in executing assigned audit procedures. Specifically, accountability increases the breadth of testing related to an unexpected gross margin increase, which results in a greater extent of tests being conducted (Asare et al. 2000). Accountable auditors also document a greater breadth and depth of justifications in a planning memo related to their decision to revise the audit time budget (Koonce et al. 1995) and put forth more effort on a fraud brainstorming task by identifying more audit procedures that could be useful in detecting fraud (DeZoort and Harrison 2016).

When individuals are accountable to a party whose preferences are known prior to formulating their own decision, individuals tend to simply align their decisions with the preferences of the accountability source (Lerner and Tetlock 1999). This highlights a potential negative consequence of accountability. However, several studies in auditing find that accountability to a source with *known* preferences can have a positive effect on auditor behavior.

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<sup>5</sup> Lerner and Tetlock (1999) acknowledge there are “several empirically distinguishable submanipulations” (p. 255) of accountability. DeZoort et al. (2006) is the only study to investigate these different accountability manipulations in a single study. Accountability is manipulated at four levels (from low to high)- anonymity, review, justification, and feedback.

When preferences of the accountability source are related to the way in which the audit should be conducted, as opposed to the conclusions that should be reached, positive effects can be seen.<sup>6</sup>

Auditors accountable to reviewers who prefer a more skeptical approach to conducting an accounts receivable (AR) collectability review evaluated a statistically similar amount of evidence as those accountable to a reviewer whose preference was unknown (Turner 2001). These amounts were both significantly greater than the amount of evidence reviewed by auditors accountable to a reviewer with a preference for efficiency and leveraging client insights. Peecher (1996) also finds that the firms' preference regarding the way in which their auditors approach analytical procedures impacts auditors' consideration of evidence. Auditors' assess the extent to which a client's explanation reflects the real reason for an unexpected increase in gross margin differently depending on their firm's preference. However, this effect is only seen when the client is of high integrity.

While information related to the preferences of an accountability source regarding the execution of the audit process can increase auditor effort, one study suggests that auditor effort is also influenced by whether known preferences are similar or dissimilar to the preferences of the accountable party (Shankar and Tan 2006). A key difference between Shankar and Tan (2006), and the Peecher (1996) and Turner (2001) study just discussed is that the accountability source in Shankar and Tan (2006) stated a preference related to a decision outcome, rather than a preference related to the execution of the audit process. When the initial preference of the accountable party and the preference of the accountability source differ regarding an adjustment

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<sup>6</sup> This is similar to process accountability, where individuals are accountable for the process used in reaching a decision rather than the decision itself. However, in the studies looking at the direct impact of accountability pressure, participants are not explicitly told whether they are accountable for their decision-making process or decision outcome.

to the allowance for doubtful accounts, auditors with high levels of technical and tacit managerial knowledge spend more time formulating a memo justifying their decision and document a greater breadth of issues. This increased cognitive effort appears to be related to persuasively supporting their initial decision that is inconsistent with the preference of the party to whom they are accountable.<sup>7</sup> In other situations, where preferences of the accountability source are known, accountability does not result in increased effort. Buchman et al. (1997) find no evidence of increased auditor effort in deciding whether to disclose a lawsuit when auditors are accountable to a source with known preferences compared to auditors who are not accountable for their decision. Similar to Shankar and Tan (2006), these preferences are for a particular decision outcome.

Research suggests accountability can positively impact the way in which auditors execute their audit procedures, resulting in increased effort, more thorough testing, and a more critical evaluation of evidence. However, the beneficial effects of accountability seem to be in situations where the accountability source's preferences are unknown, or are known but related to a more effective execution of the audit process. Known preferences regarding a decision outcome can also increase effort but seemingly occurs when the accountable party reaches an initial conclusion prior to being told they are accountable for their decision, and the preferences of the accountability source and the accountable party differ. Otherwise, accountability to a party with known preferences related to a decision outcome is associated with no increases in auditor effort when compared to those who are not accountable.

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<sup>7</sup> Auditor participants had the opportunity to revise their initial decision after discovering their work would be reviewed by a manager and the preferences of the manager. However, the majority of auditors (72%) opted to stay with their initial decision. Furthermore, the authors note that those auditors who did switch their decision to align with the preferences of the reviewer would also likely put for more effort in justifying their decision to demonstrate that the change in decisions was "for good reasons." (Shankar and Tan, 2006 p. 479)

***The Impact of Accountability Pressure on Decision Outputs:*** Accountability affects not only auditors' effort and testing strategies, but it also influences their decisions and performance, as well as certain decision characteristics. Only one study finds accountability to have no effect on auditors' decision (Koonce et al. 1995). Accountability to parties with unknown preferences often positively influences auditor outcomes by increasing judgment consensus (Ashton 1990; Ashton 1992; Johnson and Kaplan 1991; DeZoort et al. 2006), increasing judgment conservatism (DeZoort et al. 2006), increasing judgment consistency (Ashton 1992), and improving auditor performance (Asare et al. 2000; Ashton 1992; Tan and Kao 1999). However, when the views of an accountability source are unknown *but can be inferred by the accountable party*, negative auditor outcomes can occur (Buchman et al. 1996; Lord 1992). In this situation, auditors respond in a manner similar to individuals who are accountable to a source with known preferences. Accountability to parties with known preferences often has detrimental outcomes. Auditors tend to simply align their decisions with the preferences of the accountability source (e.g. Bierstaker and Wright 2005; Cohen and Trompeter 1996; Tan et al. 1997), presenting concerns regarding auditor objectivity which has implications for audit quality. However, when known preferences are related to the execution an effective audit, and decision outcomes are made to reflect these preferences, the concern may not necessarily be related to audit quality, but rather audit efficiency.

Koonce et al. (1995) find accountability to a partner with unknown views has no impact on auditors' time budget decisions in response to an unexpected gross margin increase, even when auditors offer a greater breadth and depth of justifications in the audit planning memo.<sup>8</sup>

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<sup>8</sup> Robertson (2007) also finds that students, as proxies for staff auditors, are not influenced by their senior's preference. In a subjective audit task, participants were asked how willing they would be to report a subjective issue concerning repairs and maintenance expenses close to the end of fieldwork. He found that the senior's preference



Surprisingly, this suggests the increased effort that accountable auditors put forth in the decision-making process does not result in decision outcomes that significantly differ from auditors who were not accountable.

Conversely, Lord (1992) finds that accountability does significantly influence auditors' reporting decisions. Audit managers who expect a national office partner to review their work are less likely to issue an unqualified audit opinion compared to auditors who are not accountable for their decision. Buchman et al. (1996) also find that accountability influences auditor's reporting decisions. They find the effects of accountability to be dependent upon auditor experience. Participants who have experience with contingent liabilities related to a lawsuit and are accountable to the client, recommend issuing an unqualified opinion, while experienced participants accountable to the partner support issuing a qualified opinion.<sup>9</sup> Interestingly, while these studies do not explicitly state the preferences of the accountability source, participants' decisions are influenced in a manner that suggests the participants speculate the preferences of the accountability source and respond accordingly. In an audit reporting context, these findings are not surprising, as auditors likely know the preferences of an accountability source. This is consistent with Lerner and Tetlock (1999) who state that "...when participants... can guess the views of their prospective audience... [they] abandon their effortful

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for either a quality audit or meeting the deadline for completing field work did not influence the participants' decisions. This study did not operationalize accountability in any manner, which may be attributing to these results. The results may also be due to the inexperience of the student participants who may have overall uncertainty on how to handle the issue, thus they default to disclosing the issue to their senior.

<sup>9</sup> Participants were aware of the partner and client's preferences regarding disclosure. However, preferences related to the appropriate opinion were not explicitly stated. It is expected, however, that in this setting where disclosure preferences are provided, that the auditors could have speculated the preferences of partner and client and made decisions accordingly.

attempts to reach a justifiable position and simply shift toward the presumed views of the prospective audience” (p.257).

While decision outcomes may not always be positively affected by accountability pressure, accountability pressure does positively influence certain decision characteristics. Ashton (1990) and Ashton (1992) find that auditors who are required to justify their decisions related to a bond rating task display greater decision consensus than individuals who are not required to justify their decisions.<sup>10</sup> Johnson and Kaplan (1991) also find accountable auditors to have greater consensus in their risk assessments related to inventory obsolescence compared to auditors who are not accountable. DeZoort et al. (2006) find positive effects due to increased accountability pressure, which also results in less decision variability (i.e. greater decision consensus), as well as increased conservatism in auditors’ materiality decisions. Ashton (1992) finds increased consistency in an auditor’s decision making process across similar decisions, indicating a consistent application of knowledge by the auditor.

The positive effects of accountability on certain decision characteristics also appear to be associated with improved auditor performance in certain circumstances. Ashton (1992) finds a justification requirement improves auditor accuracy on a bond rating exercise.<sup>11</sup> Asare et al. (2000) also see performance gains due to accountability pressure. They find that accountability increases auditors’ ability to identify the reason for an account fluctuation. This improvement in performance is attributable to the increased breadth of testing that the auditors conduct. Tan and

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<sup>10</sup> This study did not operationalize accountability beyond requiring written justification and the submission of the participant’s justification sheet at the end of the experiment. However, as the participants were practicing auditors, and the study was conducted at a firm training session, participants likely felt as though their responses may be reviewed by an evaluative other within the firm.

<sup>11</sup> Ashton (1990) also finds increased decision accuracy (i.e. performance) on a bond rating task. However, the increase is not statistically significant.

Kao (1999) also find that auditor accountability improves performance, but only on medium and high complexity tasks when certain levels of knowledge and problem solving ability are present.

As discussed above, accountability to parties within unknown views can have a positive influence on auditor decision making outputs. However, the positive effect of accountability diminishes when individuals are accountable to parties with known or speculated preferences. In this situation, accountability influences auditor decision making such that auditors make decisions that align more closely with the preferences of the accountability source, essentially introducing bias into the audit process.<sup>12</sup> Accountability can also negatively affect auditors' decisions related to audit planning (Bierstaker and Wright 2005), inventory obsolescence risk assessments (Tan et al. 1997), and acceptance of client proposed accounting treatments (Cohen and Trompeter 1996, Kaplan and Lord 2001). One exception is Buchman et al. (1996), who find that the preferences of the accountability source do not always influence auditors' decisions. Furthermore, auditors are not only influenced by knowing the views of the party to whom they are accountable, but recent research suggests the point at which auditors are informed of their superior's preferences has an impact on the decision outcomes (Peytcheva and Gillett 2011; Wilks 2002).

Bierstaker and Wright (2005) find that partner preferences regarding the audit approach influence auditors' audit planning decisions. When partners prefer a balanced audit approach, auditors appear to alter budgeted hours in a manner that is consistent with their audit risk assessments, as would be expected.<sup>13</sup> However, when auditors are accountable to partners with a

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<sup>12</sup> This statement is not to suggest bias is good or bad, but rather that it exists. Whether the effect of accountability is positive or negative in situations that require auditor judgments and the views of evaluative other are known is subjective.

<sup>13</sup> There was a positive relationship between risk assessments and planned testing for auditors accountable to a partner with a preference for a balance audit approach. However, this relationship was not significant.

preference for efficiency, the results suggest that budgeted hours and planned tests are not risk adjusted, but rather reflect the partner's preference for an efficient audit. Tan et al. (1997) also find auditors to be influenced by their superior's preference. Auditors' risk assessments related to inventory obsolescence are significantly different for auditors with knowledge of their partner's preference compared to auditors who have no knowledge of their partner's preference.

Furthermore, a partner's attitude regarding client continuance, and the types of clients to retain, influences audit manager's likelihood of accepting the client's proposed treatment for research and development costs (Cohen and Trompeter 1998). Auditors respond in a similar manner when they can *speculate* the preferences of the person to whom they are accountable. Kaplan and Lord (2001) find accountable audit managers alter self- judgments to conform to what they speculate the partner's preference to be when dealing with a subjective reporting decision.<sup>14</sup>

Counter to Tetlock's social contingency model and the findings of many auditing studies, Buchman et al. (1996) find that accountability to a party with known preferences does not influence auditors' decision to disclose a lawsuit. Auditors accountable to the client do not make disclosure decisions that are significantly different from auditors accountable to the partner, as most participants adopt the partner's preference and recommend disclosure (Buchman et al. 1996). This finding may be attributable to the two dependent variables in the case. Participants were required to make a disclosure decision regarding a contingent lawsuit, as well as a reporting decision. One reason participants might not align their decision with the preferences of the client

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<sup>14</sup> Kaplan and Lord (2001) also expected participants to increase cognitive effort in this situation, as they would employ a "hybrid" strategy to deal with the uncertainty regarding the accountability source's preference. This hybrid strategy would involve thorough information processing in order to respond any objections by the accountability source but a decision outcome that aligns with the preferences they believe the accountability source has. They did not find results related to effort, which I speculate is attributable to the limited uncertainty regarding the preference of a national partner in the reporting case scenario provided.

when making the disclosure decision, is they feel a client would be less contentious about the requirement of a footnote disclosure, as opposed to the issuance of an unfavorable audit opinion. Furthermore, auditors may have placed a bit more importance on the disclosure decisions, as deciding whether to disclose the lawsuit made the difference between investors having some or no information regarding the potential contingent liability.

The timing of when an individual becomes aware of an accountability source's preference also appears to influence decisions in certain situations (Wilks 2002; Peytcheva and Gillet 2011). Research suggests that obtaining knowledge of a superior's preference prior to evidence evaluation, as opposed to after, results in greater decision alignment with the superior's preference. Knowledge of the superior's preference prior to evidence evaluation influences the way in which auditors think about the evidence (Wilks 2002). Furthermore, when knowledge of a superior's preference comes after one's own judgment has been formed, auditors appear to adjust their original judgment to align with their superior's preference. There is no significant difference in judgments between auditors who are informed of their superior's preference before or after formulating their own decision, suggesting auditors align their decisions with the preferences of their superior in both situations (Peytcheva and Gillet 2011). Interestingly, Peytcheva and Gillet (2011) find somewhat different results from Shankar and Tan (2006). Shankar and Tan (2006) find that auditors do not tend to alter decisions so that they align with a reviewer's preferences but rather put forth increased effort in documenting their justification for their conclusion. The difference in findings may be due to documented evidence of altering one's decision to conform to the reviewer's preference. In Shankar and Tan (2006), auditors are required to document their initial decision, whereas Peytcheva and Gillet (2006) simply require participants to acknowledge they made a decision without documenting the conclusion.

Accountability research focusing on auditor outcomes suggests accountability can positively influence auditor decisions, auditor decision characteristics, and performance. However, these positive effects appear to be limited to situations where the preference of the accountability source is unknown. Accountability to sources with known or speculated preferences generally results in decision alignment, regardless of when in the decision process auditors are informed of these preferences.

Overall, the auditing literature examining accountability pressure often finds that accountability benefits auditor judgment and decision making. However, these benefits appear to be dependent upon whether the views of the accountability source are known or unknown, as well as the type of preference that the accountability source has—whether the preference is related to the execution of the audit, or the decision the auditor should reach. Accountability appears to have harmful effects on auditor inputs and auditor outputs under three different circumstances: (1) when an accountability source's preferences for a decision outcome are known, (2) when an accountability source's preferences regarding the execution of the audit are known and call for ineffective or overly efficient auditor conduct, thus sacrificing audit quality, and (3) when auditors can speculate as to the accountability source's preferences regarding a decision outcome. Accountability to individuals with unknown views generally has positive effects on auditor inputs and auditor outputs, unless one can speculate as to the accountability source's preference regarding a decision outcome. On the other hand, accountability to individuals with known views generally has negative effects on auditor inputs and auditor outputs, unless the preference is related to effectively executing the audit process.

As with any research stream, some studies find results counter to theoretical expectations.

Buchman et al. (1996) did not find accountability pressure to a party with known preferences

regarding a disclosure decision influences auditors' disclosure decisions. Koonce (1995) did not find accountability pressure to a party with unknown views influences auditors' decisions, even though the accountable participants appear to engagement in a more cognitively effortful decision making process. Future research should continue to investigate situations where accountability functions differently in an audit setting, and consider environmental features and personal attributes that interact with the accountability pressure.

### **Examining the Type of Pressure: Process vs. Outcome**

Outcome accountability represents accountability for an individual's final decision or outcome, whereas process accountability represents accountability for the process one went through to reach their decision (Lerner and Tetlock 1999). Early auditing research on accountability does not distinguish between these two types of accountability. Very little auditing research to date investigates the effects of process and outcome accountability on auditor decision making. Peecher et al. (2014) propose an accountability framework composed of two dimensions- penalties and rewards vs. process accountability and outcome accountability. Their framework highlights the accountability mechanisms used in the current environment and draws attention to the absence of mechanisms focused on process accountability. However, Peecher et al. (2014) propose that employing such mechanisms may be a more beneficial for improving auditor decision making.

Only one experimental audit study to date has sought to directly investigate the effects of process and outcome accountability on auditor effort and decision making. Kim and Trotman (2014) investigate the influence of accountability type on auditors' level of professional skepticism. In the outcome accountability condition, participants are informed that they may be contacted and "asked to justify and provide explanations for their final judgment on the

likelihood of a material misstatement”, while participants in the process accountability condition are told they may be contacted and “asked to justify and provide explanations for the judgment process they used leading up to their final judgment on the likelihood of a material misstatement” (p.11).

Kim and Trotman (2014) find that auditor skepticism and cognitive effort related to an analytical review task increase when participants are accountable for their decision-making processes, compared to when they are accountable for their decision outcomes. Furthermore, participants generate significantly more plausible explanations for an unexpected account fluctuation when they are accountable for their process, rather than outcome. Research also suggests the effect of process accountability is greatest for novice auditors (Kim and Trotman 2014).

Although no general conclusions can be drawn based on one research study, it is evident that additional research in this area is needed. Understanding how process and outcome accountability may influence the way in which auditors conduct the audit and the decisions that they make is important.

### **Examining the Source of Accountability Pressure: Single vs. Multiple**

Very little research in the last two decades considers the influence of multiple accountability relationships on auditors’ decision making processes. However, accounting researchers frequently acknowledges the presence of multiple accountability pressures in the auditing environment (e.g. Gibbins and Newton 1994; Buchman et al. 1996). Multiple accountability relationships refer to auditors’ accountability to multiple sources, including supervisors, clients, regulatory bodies, etc. An early study on accountability in accounting collected questionnaire data from accountants in public practice and evaluated their responses



associated with a situation where they faced multiple accountability pressures (Gibbins and Newton 1994). They evaluate accountants' responses to multiple accountability pressures in situations where the accountability sources agree or disagree, the accountable party's initial position was the same as or different from those of the accountability sources, and the strength of accountability pressure felt by the accountable party varies. Overall, Gibbins and Newton (1994) do find these three factors are associated with the course of action an accountant takes when responding to multiple accountability pressures. However, the experience of a delay in the decision-making process is only related to two of the three factors, as the strength of accountability pressure is not associated with delay. The results of this study support the expanded model of accountability that Gibbins and Newton (1994) propose and suggest is necessary to evaluate accountability in a professional setting.

While Gibbins and Newton (1994) used a field questionnaire to investigate auditor responses to multiple accountability pressures, very limited experimental research investigates auditor decision making in a multiple accountability setting. The limited work that has been done in the area considers how managing multiple accountability pressures impacts auditor affect and performance (Bagley 2010), and auditor decision-making (Gramling 1999; Bierstaker and Wright 2001).

Bagley (2010) investigates the influence of multiple accountability pressure on auditor affect and auditor performance. She finds that auditors experience negative affective reactions to accountability pressure from multiple parties. Negative affect is significantly higher for auditors facing multiple accountability pressures, compared to auditors accountable to a single source and those auditors who are not accountable. She finds that increased negative affect diminishes task

performance, but only on low complexity tasks. High task complexity results in poor performance regardless of accountability pressures.

Gramling (1999) and Bierstaker and Wright (2001) investigate the effect that client and partner pressure have on auditors' planning decisions. Gramling (1999) subjects auditors to pressure from both the client and the partner and finds that auditors planning decisions related to budgeted audit hours are significantly influenced by the client's preference (lower fees or high-quality audit), regardless of the partner's preference (efficiency and profitability or quality and skepticism). This suggests that only the client's preference influenced the auditors' decisions. Interestingly, Bierstaker and Wright (2001) find similar results. They investigate the auditor's willingness to change the budgeted audit hours and planned tests from the prior year when faced with partner pressure and client fee pressure. They manipulate partner pressure as present (preference for efficiency) or absent (no preference) and client fee pressure as present (fees reduced from prior year) or absent (fees are same as last year). Results show that the fee pressure significantly impacts the auditor's change in budgeted audit hours, but there is no main effect for partner pressure. However, they do find that both client fee pressure and partner pressure affect the percentage change in the number of planned tests. Participants subject to both client fee pressure and partner pressure also make significantly greater reductions in planned tests compared to those in either pressure condition suggesting the multiple pressures have an additive effect in influencing auditor decision making related to planned testing.

Research acknowledges the presence of multiple accountability pressure in auditing, yet limited research investigates its effect on auditor decision making. Bagley (2010) provides evidence that multiple accountability pressures increase negative affect, thus hindering performance on low complexity tasks. However, little is known about how specific sources of

pressure influence decisions. Gramling (1999) and Bierstaker and Wright (2001) find some evidence that in a client/partner pressure setting, the client's preference more heavily influences auditors' decisions. These results should be considered in light of the operationalization of accountability in both studies. Accountability to each pressure source (partner and client) was not operationalized separately. Participants were accountable for their performance on the overall task by providing their name and a justification for their decision, which may be reviewed by their firm partner and/or researcher. The partner and/or research may also follow up with participants about their decision. It is unclear how auditors might respond if justification to both accountability sources is required. Future research should continue to investigate the influence that multiple accountability pressures have on auditor decision making.

#### *Examining the Impact of Environmental Factors on Accountability Pressure*

Research that considers how an auditor's environment influences their feelings of accountability is limited. However, some research related to the review process (Brazel et al. 2004), and types of accounting standards (Peytcheva et al. 2014) investigates the influence that these elements have on perceived accountability and audit outcomes.<sup>15</sup>

Face-to-face delivery of review comments has positive effects on auditor effort and decisions. Brazel et al. (2004) attributes the positive results to increased feelings of accountability. Auditors anticipating face-to-face delivery of review notes experienced greater feelings of accountability than auditors anticipating electronic delivery of review notes. These

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<sup>15</sup> Additional papers consider how the review process (Payne et al. 2010) and auditing standards (Hackenbrack and Nelson 1996; Cohen et al. 2013) influence auditor decisions. However, they do not directly manipulate accountability or measure feelings of accountability, but rather utilize accountability as theoretical support for their expectations.

increased feelings of accountability result in increased time spent on a going concern evaluation task and higher judgment quality compared to auditors receiving electronic reviews.

Accounting standards have significant influence on the judgments and decisions of auditors, as auditors work to ensure that a company's financial statements are prepared in accordance with these standards. Peytcheva et al. (2014) investigate how two types of auditing standards (rules vs. principles-based standards) influence auditors' cognitive motivations and decisions in a lease classification task. They find that principle-based standards increase auditors' feelings of process accountability. In turn, this improves auditors' epistemic motivation and increases auditors' demand for evidence.

As demonstrated above, elements of the audit environment can influence auditors' feelings of accountability, which in turn affects decision outcomes. Significant research considers the impact that accountability pressure has on auditor decision making, but additional research should investigate how various elements of the auditor's work environment affect their feelings of accountability. It is important to understand how auditors are influenced by, and respond to, the environment within which they work.

#### *Understanding Factors that Moderate the Impact of Accountability Pressure*

To provide a better understanding of the way in which accountability influences auditor decision making, it is important to consider elements in the audit environment that may influence the effect that accountability has on auditor inputs and auditor outputs. Decision aids, task complexity, auditor attributes, and client attributes have all been shown to moderate the impact of accountability on decision outcomes.

Decision aids have been shown to both diminish and magnify the effect of accountability on auditor decision making, thus providing mixed evidence regarding the influence that decision aids have on the relationship between accountability and auditor outcomes (Ashton 1990; DeZoort et al. 2006). Ashton (1990) finds a decision aid with high implicit performance standards hinders the positive effects that justification has on auditor performance. Auditors who are provided a decision aid to use in a bond rating task show decreased performance accuracy and increased variability in responses when they must justify their decision regarding the appropriate bond ratings for several companies, compared to when no justification is required. Conversely, DeZoort et al. (2006) find that the presence of a decision aid improves the consistency and conservatism of decisions related to a materiality assessment when auditors are accountable for their decisions.

Certain task characteristics and auditor attributes also influences the effectiveness of accountability. Tan and Kao (1999) find that the effect of accountability is moderated by task complexity, auditor knowledge, and auditor problem solving ability. Accountability is not effective at improving performance on a low complexity task. However, accountability's effectiveness on medium to high complexity tasks depends on the auditor's level of knowledge and their problem-solving ability. Accountability improves performance on medium-complexity tasks, but only when the auditor has an appropriate level of knowledge to complete the task. On high-complexity tasks, the auditor must have the appropriate knowledge level and problem solving ability for accountability to effectively enhance performance. Buchman et al. (1996) finds results similar to Tan and Kao (1999) in that the impact of accountability is limited to the judgments of auditors with task specific knowledge, thus suggesting knowledge is an important factor in determining the effectiveness of accountability. Also related to Tan and Kao (1999),

Bagley (2010) investigates the influence that multiple accountability pressures have on the completion of both high and low-complexity tasks. She finds that the performance decline caused by multiple accountability pressures (via negative affect) is only seen in situations where task complexity is low. Auditor performance is not impacted by multiple accountability pressures on highly complex tasks.

Lastly, Peecher (1996) investigates the ability of client integrity to mitigate the influence of audit partner preferences on auditors' decisions. He finds that auditors accountable to a partner more concerned with auditor efficiency and cost (credence preference) assess a higher likelihood that the client's explanation accounted for much of the change in an account balance, compared to those accountable to a partner with a preference for objectivity (skepticism preference). However, this finding only holds when client integrity is high. For low integrity clients, likelihood assessments did not differ significantly.

Overall, multiple factors associated with the audit task, the auditor, and the client are shown to moderate the relationship between accountability and performance. Research shows that accountability is only effective when auditors have the ability and the appropriate level of knowledge or experience to complete their assigned tasks (Buchman et al. 1996, Tan and Kao 1999). It also suggests that a partner's preference for either an efficient or effective audit only influences auditors' decisions regarding the acceptance of a client's explanation when the client is of high integrity (Peecher 1996). Thus, the effectiveness of accountability is contingent upon client integrity in certain situations.

Research investigating task complexity and accountability is inconclusive, as accountability is found to be ineffective in situations where task complexity is low (Tan and Kao 1999), yet it is also found to be ineffective in situations where task complexity is high (Bagley

2010). These findings suggest there are boundary conditions related to task complexity such that when a task is too difficult, accountability will have no effect as performance will be poor regardless of accountability pressure, and when a task is too easy, accountability will have no effect as the task is so simple all participants will do well.

Furthermore, research on the effect of decision aids on accountability have also been mixed. Ashton (1990) shows the presence of a decision aid diminishes auditor's decision quality, while DeZoort et al. (2006) find decision aids improve accountable auditors' decision quality. This difference may be attributable to a variety of factors such as the type of aid provided or the type of decision task utilized. However, future research should continue to investigate those situations in which the presence of a decision aid improves versus diminishes decision quality.

#### *The Impact of Accountability Pressure as a Moderator of Factors Affecting Decisions*

Accountability does not only directly affect auditor performance, but does so indirectly as well. Accountability has been shown to mitigate certain personal biases, as well as the effect of task complexity and perception of preparers on auditor decision making.

Kennedy (1993) and Kennedy (1995) focus on accountability as a bias-reducing mechanism. Kennedy (1993) speculates that accountability can successfully mitigate personal biases that are effort related, but not those that are data related. Data related biases occur when the auditor's knowledge or memory (i.e. internal data) or environmental cues (i.e. external data) related to the decision context are faulty or inadequate. She finds evidence that accountability mitigates recency bias, an effort related bias, when individuals are unfamiliar with an assigned task. Participants who are told they are accountable for their decisions prior to evidence evaluation exhibit no recency bias, compared to individuals who are told they are accountable for

decisions after evidence evaluation and those who are not accountable at all. On the other hand, participants familiar with the task showed no evidence of recency bias in any condition.

Furthermore, Kennedy (1995) finds evidence to support her expectation that accountability will not mitigate data-related biases. She conducts two experiments and finds that accountability does not mitigate the curse of knowledge bias in a going concern assessment task or analytical review task. The curse of knowledge reflects the inability of individuals to disregard information they previously processed.

Tan and Tan (2008) consider whether accountability can overcome the tendency of workpaper preparers and reviewers to incorporate previously invalidated evidence into their decision-making process. Specifically, they investigate whether preparers and reviewers adjust likelihood assessments regarding their clients' chances of winning a significant contract after receiving information that the evidence indicating the client would win is invalidated.

Accountability is operationalized by informing the workpaper preparers that their responses will be read by a faculty member performing the role of a reviewer. Workpaper reviewers are told their responses will be read by a graduate student performing the role of a preparer. Tan and Tan (2008) find that both reviewers and preparers are unable to fully remove the invalidated information from their judgments, such that they continue to make significantly different judgments from the group that does not initially receive the invalidated information. However, accountability moderates the effect of invalidated evidence for reviewers, but not preparers.

These results are somewhat surprising given Kennedy's (1995) finding that accountability does not mitigate the curse of knowledge. The curse of knowledge (Kennedy 1995) and the consideration of invalidated evidence (Tan and Tan 2008) appear to be similar biases, both of which are data related biases per Kennedy's (1995) framework. As such, one would not expect



accountability to mitigate the tendency of individuals to consider previously invalidated evidence in one's decision making process.

A separate study considers the impact of process accountability on the status quo heuristic- the tendency to keep things as they are rather than make a change. Messier et al. (2014) investigate whether auditors are subject to the status quo heuristic when there is a change from principles to rules based accounting, such that they continue to employ the principles based approach under the new rules based accounting guidance. They then investigate whether process accountability can moderate the effect of the status quo heuristic. Process accountability is operationalized as high or low by informing participants either before or after making their decision, respectively, that they are required to justify their decisions to the partner on the engagement and he is concerned with the process used to reach their final decision. Participants are required to decide the appropriate treatment for current year research and development costs. They find that high process accountability does mitigate the effect of the status quo heuristic.

Accountability is not always expected to mitigate the relationship between an independent variable and dependent variable. In certain situations, it is expected to exacerbate the relationship. Glover (1997) and Hoffman and Patton (1997) evaluate the tendency of accountability to magnify the dilution effect, as has been demonstrated in social psychology research (Tetlock and Boettger 1989). The dilution effect reflects individuals' tendency to incorporate non-diagnostic information in their decision-making processes. Glover (1997) expects accountability will exacerbate the dilution effect due to increased cognitive processing of information. Auditor participants perform an AR risk assessment task. Participants assess the risk of material misstatement in AR after reviewing several pieces of audit evidence. Counter to social psychology research, Glover (1997) finds that accountability has no impact on the dilution

effect; however, he finds evidence to suggest that time pressure may mitigate the dilution effect. Similarly, Hoffman and Patton (1997) also find that accountability does not exacerbate the dilution effect. Auditors complete a fraud risk assessment task where they are given relevant and irrelevant information related to the risk of fraud. Accountable auditors are expected to make lower fraud risk assessments, suggesting the inclusion of irrelevant information in their decision processes. However, accountable and non-accountable auditors do not significantly differ in the magnitude of the dilution effect. Conversely, Favere-Marchesi and Pincus (2006) also investigate the influence of accountability on the dilution effect utilizing internal auditors as participants. The authors not only consider the magnitude of the dilution effect but also the frequency. They anticipate accountable auditors will experience the dilution effect less frequently; however, when it does occur, the magnitude of the effect will be greater than when the auditor is not accountable. This study provides some evidence that accountability diminishes the frequency with which dilution effect occurs. However, when the dilution effect does occur, accountability exacerbates its magnitude (Favere-Marchesi and Pincus 2006).

While accountability reduces the impact of certain heuristics and biases, it magnifies other relationships. Rich (2004) finds that accountability pressure strengthens the effect that perceived probability of preparer error has on the audit review process. He finds that a high perception of workpaper preparer error, which is magnified by high accountability pressure, results in a more highly critical thought process during the review. Furthermore, the number of highly critical thoughts during review is inversely related to the reviewer's agreement with the preparer's work, which in turn, is associated with amount of preparer follow up that is required. High accountability pressure exacerbates the positive relationship between perceived probability of preparer error and the extent of critical thought employed during review.

Research has also examined the extent to which accountability will moderate the relationship between task complexity and performance. While Tan and Kao (1999) conclude that task complexity moderates the impact of accountability, a follow up study by Tan et al. (2002) examines whether accountability moderates the impact of task complexity. Tan et al. (2002) assess the moderating effect of accountability (a proxy for motivation) and knowledge (a proxy for skills) on task complexity's effect on performance. Utilizing the data from Tan and Kao (1999), they find that the relationship between task complexity and performance on a highly complex task is only moderated by accountability if participant knowledge is also high.

Overall, these results suggest accountability is successful at mitigating certain effort related biases (Kennedy 1993, Messier et al. 2014), but findings are mixed on the ability of accountability to mitigate certain data related biases. Tan and Tan (2008) find that accountability can mitigate individuals' tendencies to include invalidated evidence into their decision-making processes. However, this appears to be a data related bias similar to the curse of knowledge, and Kennedy (1995) does not find accountability to be successful at mitigating the curse of knowledge. As such, additional research is needed to more clearly determine the type of biases that accountability may successfully overcome.

Furthermore, counter to findings from social psychology, research suggests that accountability does not appear to exacerbate the dilution effect, but may actually mitigate it. This is likely due to the nature of the audit environment coupled with auditors' diligent information processing under high accountability pressure (Favere-Marchesi and Pincus 2006). In an auditing context, it is important that individuals consider the extent to which information cues are diagnostic versus non-diagnostic prior to formulating a decision. Thus, high accountability

pressure allows individuals to more effectively identify and disregard non-diagnostic information, resulting in decreased occurrences of the dilution effect.

The relationship between a reviewer's perception of preparer error and the extent of critical thought employed during the review process is exacerbated by accountability pressure. This finding can also be attributed to the more diligent information processing that occurs under high accountability pressure. Additionally, accountability pressure, in conjunction with high auditor knowledge, moderates the effect of task complexity on auditor performance when task complexity is high.

#### V. Conclusion and Opportunities for Future Research

Extensive experimental research on accountability in auditing has been conducted over the last two decades and has increased our understanding of the influence that accountability has on auditor effort, evidence evaluation and testing strategies, and decisions. Accountability improves auditor effort and decision making in many circumstances. It is also effective at mitigating various biases, as well as the negative impact that certain task characteristics have on audit outcomes. Accountability also explains the way in which various environmental factors affect auditor decision making.

Given the extent to which accountability mechanisms are engrained in the audit environment, it is important to continue to investigate the effect that accountability has on the audit process and auditor decision making. A significant amount of research considers the impact of accountability to a single source, and shows that the accountability pressure often has a positive effect on auditor outputs and inputs. However, accountability pressure can have detrimental effects when auditors are aware of the preferences of the party to whom they are

accountable, and those preferences relate to a decision outcome. When auditors are informed of the accountability source's preference related to an effective execution of the audit process, auditors increase the amount of evidence reviewed, and display greater skepticism towards client provided explanations. Research also considers how the timing of these preferences influences auditors' decisions. Wilks (2002) investigates how the timing of a partner's preference (before or after evidence evaluation) influences decisions. In this case, the partner's preference is related to their concern regarding the weighting of evidence. Future research should investigate the effects that timing has on decisions when a partner's decision preference is known, yet evidence evaluation is required. Do auditors engage in decision alignment to the same extent in both situations? Related to timing, researchers may also want to consider how justification timing influences effort and decisions. Current research assumes any operationalization of justification to be immediate or in the near future. Does the temporal distance related to justification affect audit outcomes? Furthermore, researchers should also continue to investigate the effect of similar and dissimilar preferences. Reactions to similar and dissimilar preferences may be dependent upon one's views of the accountability source. Do auditors respond to similar and dissimilar preferences when the accountability source is not a person they hold in high regard? This issue could also be investigated without consideration of preference similarity. Does accountability influence auditors' decisions when they do or do not think highly of the accountability source?

Accountability type and accountability sources are both very under-researched.

Researchers have just started to consider the influence that process and outcome accountability have on auditor decision making. Peecher et al. (2014) proposes research questions related to accountability type, primarily focusing on the implementation of an auditor judgment rule. Given the multiple accountability pressures that auditors face, research should consider how auditors

respond to differing accountability types. How are auditors' decisions influenced by two accountability sources, one with a focus on outcome accountability and the other with a focus on process accountability?

Auditors' management of multiple accountability pressures is another very under-researched area given the reality of these pressures in the audit work environment. There are many research opportunities associated with auditors' management of multiple accountability pressures, particularly when they have preferences that are conflicting. Do auditors' relationships with, and attitudes towards, multiple accountability sources influence auditors' decisions (i.e. respect for the individual, credibility of the source, power level, personal identification with the source, etc.)? Do auditor characteristics influence their response to multiple accountability pressures (work experience, task experience, confidence in ability, etc.)? Furthermore, researchers should also investigate how environmental characteristics associated with the multiple accountability pressures affect auditors. What impact does a difference in the physical location of each accountability source have on auditors' decisions?

Researchers should also continue to investigate issues that have found mixed results in the literature. Decisions aids have been found to mitigate and magnify the effect of accountability. Additional research should focus on identifying those circumstances where magnification and mitigation occur. Understanding how accountability influences various personal biases or heuristics should continually be evaluated due to the prevalence of accountability mechanisms in auditing. Does accountability mitigate the effect of ego depletion on auditor performance? Does accountability exacerbate or mitigate confirmation bias? Given the mixed results regarding data related biases, research should continue to investigate those circumstances where accountability will and will not mitigate data related biases.

Although significant research has been done related to accountability, the opportunities for future research are significant. Research in this area is extremely important as auditors face multiple accountability mechanisms that continually influence the way audits are conducted and the conclusions that are reached. Furthermore, as the audit environment evolves with changes in technology, changes in auditing and accounting standards, and changes in regulatory oversight, research should continue to investigate how these changes affect auditor perceptions of accountability and auditor decision making processes.

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Table 1: Table of Experimental Audit Literature on Accountability

| Study                             | Journal  | Participants                   | Task                       | Outcome Measure   | Views   | Findings  |
|-----------------------------------|--|--------------------------------|----------------------------|---|---------|---|
| Asare, Trompeter, and Wright 2000 | Contemporary Accounting Research                     | 91 auditors (Big 6)            | Analytical Procedures Task | - Extent, breadth, and depth of testing<br>- Focus of testing<br>- Decision performance               | Unknown | - Accountability increases the number of tests auditors' conduct, as well as the number of hypotheses tested<br>- Accountability increases auditors' focus on testing error causes for an unexpected account fluctuation.<br>- Accountability indirectly affects performance through auditors' changed testing strategies   |
| Ashton 1990                       | Journal of Accounting Research                       | 182 KPMG Peat Marwick auditors | Bond Rating Task           | - Judgment accuracy- number of correct bond ratings<br>- Judgment variability                         | Unknown | - When no decision aid is present, a justification requirement on a bond rating task increases auditor accuracy and decreases decision variability among participants<br>- The presence of a high performing decision aid in conjunction with a justification requirement, feedback, or an incentive decrease decision accuracy and variability relative to the presence of only the aid.   |
| Ashton 1992                       | Organizational Behavior and Human Decision Processes | 59 KPMG Peat Marwick auditors  | Bond Rating Task           | - Judgment accuracy- number of correct bond ratings<br>- Judgment consistency<br>- Judgment consensus | Unknown | -Auditors who were either required to justify their decisions or were provided the bond rating recommendations of a mechanical aid had greater judgment accuracy and consistency than a control group who was provided no aid and had no justification requirement.<br>- The availability of a decision aid increases accuracy to a greater extent than the justification requirement.<br>-Requiring justification is more effective at improving judgment consistency and consensus than the |

| Study                      | Journal                                    | Participants                                    | Task  | Outcome Measure  | Views             | Findings   |
|----------------------------|--|---|---|--|-------------------|--|
|                            |  |   |   |  |                   | presence of a mechanical decision aid.   |
| Bagley 2010                | Auditing: A Journal of Practice and Theory | 136 auditors                                    | Internal control task and ratio analysis task | - Measure of affect<br>- Task performance  | Unknown and Known | - Finds that increased accountability results in increased negative affect<br>- Finds that increased negative affect only negatively impacts performance when task complexity is low   |
| Bierstaker and Wright 2001 | Advances in Accounting                     | 83 auditors                                     | Planning                                      | - Percent change in budgeted hours from prior year<br>- Change in number of planned test from prior year | Known             | - Client fee pressure was found to impact auditors' adjustments to the budgeted audit hours<br>- Both client fee pressure and partner pressure impacted auditors' adjustments to planned tests   |
| Bierstaker and Wright 2005 | Advances in Accounting                     | 61 auditors (avg. of 46.2 months of experience) | Planning                                      | -Percent change in budgeted hours from prior year<br>- Change in number of planned test from prior year  | Known             | - Auditors accountable to a partner with preference for a balanced audit approach appear to alter budgeted hours (but not number of tests) in a manner that is consistent with their audit risk assessments<br>- Auditors accountable to a partner with a preference for efficiency do not appear to appear to adjust budgeted hours and planned tests in a manner consistent with client risks (not risk adjusted), but rather in a manner that reflect the partner's preference for an efficient audit.<br>- In the balanced condition, auditors made higher risk assessments and demanded a greater number of tests and hours than those in the efficiency condition. |

| Study                              | Journal                                    | Participants              | Task              | Outcome Measure   | Views   | Findings  |
|------------------------------------|--|---------------------------|-------------------|---|---------|---|
| Brazel, Agoglia, and Hatfield 2004 | The Accounting Review                      | 45 audit seniors          | Reporting         | Going concern assessment and related workpaper documentation<br>- Audit efficiency<br>- Workpaper effectiveness<br>- Judgment quality<br>- Deviation from prior year<br>- Documentation<br>- Recall             | Unknown | - Auditors anticipating a face to face review felt more accountable than auditors in the electronic review condition<br>- Auditors anticipating a face to face review had higher quality judgments, deviated further from prior year assessments, had higher concern for effectiveness, and took more time than those anticipating electronic review<br>-Auditors anticipating a face to face review also remember and document more evidence that does not align with prior year conclusions |
| Buchman, Tetlock, and Reed 1996    | Journal of Business Finance and Accounting | 92 auditors               | Reporting         | - Decision regarding the appropriate method for disclosing a lawsuit<br>-Decision regarding the appropriate opinion to issue for the client<br>- List of important factors considered when making each decision | Known   | - Accountability did not significantly affect the auditors' disclosure decisions.<br>- Finds that auditors with prior task experience who are accountable for their work make reporting decisions more consistent with the preferences of the party to whom they are accountable  |
| Cohen and Trompeter 1998           | Contemporary Accounting Research           | 74 audit managers (Big 6) | Client Acceptance | - Level of effort that should be exerted to obtain (or retain) the client<br>- Level of recommendation for accepting the client's position related to R&D accounting  | Known   | - Auditors suggest putting forth more effort to keep an existing client, compared to obtaining a potential client<br>- Partners with a more aggressive attitude towards practice development result in managers suggesting to-<br>1.) put forth more effort to obtain or retain a client and<br>2.) accept the client's preferred treatment for an R&D expense  |

| Study                              | Journal                                    | Participants                                   | Task                  | Outcome Measure  | Views   | Findings  |
|------------------------------------|--|--|-----------------------|--|---------|---|
| DeZoort, Harrison, and Taylor 2006 | Accounting, Organizations and Society      | 160 auditors                                   | Planning              | <ul style="list-style-type: none"> <li>- Judgment regarding the appropriate planning materiality amount</li> <li>- Materiality of the proposed adjustment to the client's allowance for uncollectible accounts balance</li> <li>- Judgment explanations</li> </ul> | Unknown | <ul style="list-style-type: none"> <li>- Auditors subject to high accountability pressure (compared to those subject to low accountability pressure):</li> <li>1. are more conservative and have less variability in their materiality judgments.</li> <li>2. provide lower planning materiality recommendations</li> <li>3. indicate proposed adjustments were more material</li> <li>4. exert more effort on the experimental task</li> </ul>                           |
| DeZoort and Harrison 2016          | Journal of Business Ethics                 | 241 external auditors<br>637 internal auditors | Fraud Brainstorming   | <ul style="list-style-type: none"> <li>- Number of fraud related audit procedures identified when brainstorming</li> <li>- Assessment of auditor's responsibility for detecting fraud</li> </ul>   | Unknown | <ul style="list-style-type: none"> <li>- Accountable auditors feel more responsibility for fraud detection than anonymous auditors and they brainstormed a greater number of fraud related procedures.</li> <li>- External auditors feel most responsible for the detection of financial statement fraud, whereas internal auditors feel similar levels of responsibility for detecting financial statement fraud, misappropriation of assets, and corruption.</li> </ul> |
| Favere-Marchesi and Pincus 2006    | Advances in Accounting Behavioral Research | 192 internal auditors                          | Fraud Risk Assessment | <ul style="list-style-type: none"> <li>- Frequency of the dilution effect</li> <li>- Magnitude of the dilution effect</li> </ul>   | Unknown | <ul style="list-style-type: none"> <li>- Accountability reduces the frequency of the dilution effect</li> <li>- However, when accountable and the dilution effect does occur, the magnitude of the effect is much greater than when not accountable</li> <li>- The accountability source (management or audit committee) had no effect on the findings related to the frequency and magnitude of the dilution effect.</li> </ul>  |

| Study                   | Journal                                    | Participants                                    | Task                   | Outcome Measure                                      | Views      | Findings   |
|-------------------------|--|---|------------------------|--|------------|--|
| Glover 1997             | Journal of Accounting Research             | 156 auditors (Big 6)                            | AR Risk Assessment     | - Assessment of risk of material misstatement for AR | Unknown    | - Finds that accountability has no significant impact the dilution effect, but provides some evidence that time pressure reduces it.   |
| Gramling 1999           | Auditing: A Journal of Practice and Theory | 188 audit managers (Big 5)                      | Planning               | - Adjustment to the preliminary time budget          | Known      | - Auditors adjust the time budget in a manner that aligns with the client's preference<br>- Partner preference does not have an impact on auditors' time budget adjustments  |
| Hoffman and Patton 1997 | Journal of Accounting Research             | 44 advanced in-charge auditors (Big 6)          | Fraud Risk Assessment  | - Assessment of fraud risk                           | Unknown    | - Finds no evidence that accountability exacerbates the dilution effect.   |
| Johnson and Kaplan 1991 | Auditing: A Journal of Practice and Theory | 101 auditors                                    | Inventory Obsolescence | - Risk of inventory obsolescence                     | Unknown    | - Auditors accountable for their work have greater consistency in their risk assessments and greater self-insight into their decision processes.   |
| Kaplan and Lord 2001    | International Journal of Auditing          | 30 experienced audit managers                   | Reporting              | - Likelihood of issuing an unqualified opinion       | Speculated | - Auditors accountable to the national office partner tend to have their own judgments influenced by what they perceive the partner's preference to be.<br>- Accountable auditors did not exhibit more thorough information processing, as was expected. |
| Kennedy 1993            | Journal of Accounting Research             | 58 executive MBA students<br>171 audit managers | Reporting              | - The likelihood the company will fail               | Unknown    | - For participants unfamiliar with a task, accountability mitigates recency bias<br>- Participants familiar with the task did not exhibit recency bias   |
| Kennedy 1995            | The Accounting Review                      | 147 MBA students and<br>161 auditors            | Reporting              | - The likelihood the company will fail               | Unknown    | - Finds that accountability does not mitigate the curse of knowledge for   |



| Study                                | Journal                                    | Participants  | Task                          | Outcome Measure   | Views          | Findings  |
|--------------------------------------|--|---|-------------------------------|---|----------------|---|
|                                      |  | 86 executive MBA students and 322 audit managers                  | Analytical Review             | -Estimate of what others would predict the subsequent quarter sales to be for a hypothetical company<br>- Likelihood assessment as to whether actual sales will be as high or low as a provided benchmark | Unknown        | experienced or inexperienced participants   |
| Kim and Trotman 2014                 | Accounting and Finance                     | 31 auditors (Australian Big 4) and 32 recent accounting graduates | Analytical Review             | - Number of plausible explanations generated for an unexpected increase in sales  | Unknown        | - Novice auditors accountable for their judgment process were significantly more skeptical than novice auditors accountable for their judgment outcomes.  |
| Koonce, Anderson and Marchant 1995   | Journal of Accounting Research             | 202 advanced-in-charge auditors                                   | Planning                      | - Revised time budget amount<br>- Quantity and quality of justifications provided for time budget decision  | Unknown        | - Auditors anticipating review provide more justifications for their audit budget decision than those who do not anticipate review, however the final budget assessments do not vary between groups.  |
| Lord 1992                            | Auditing: A Journal of Practice and Theory | 30 experienced audit managers                                     | Reporting                     | - Likelihood of issuing an unqualified opinion<br>- Yes/No decision on whether to issue a qualified opinion   | Unknown        | - Auditors accountable to their firm are less likely to issue an unqualified opinion in an audit-client conflict setting than auditors who were not accountable   |
| Messier, Quick, and Vandervelde 2014 | Accounting, Organizations and Society      | 74 U.S. auditors<br>47 Norwegian auditors                         | Research and Development Task | -Decision regarding the appropriate treatment (capitalization vs. expense) for R&D expenditures   | Not Applicable | - In the low process accountability condition, auditors recommend different accounting treatments based on the treatment of a similar event in the prior year.<br>- In high process accountability condition, auditors are not affected by the prior year treatment of a similar accounting event—high process accountability mitigates the status quo effect |

| Study                      | Journal                                    | Participants                        | Task                   | Outcome Measure  | Views | Findings  |
|----------------------------|--|-------------------------------------|------------------------|--|-------|---|
| Peecher 1996               | Journal of Accounting Research             | 106 auditors (Big 6)                | Analytical Review Task | -Likelihood assessment that the client's explanation regarding an income increasing account fluctuation accounted for substantially all of the fluctuation in the account<br>- Search for explanations counter to the client's | Known | - Auditors accountable to a partner concerned with incurring unnecessary cost in the investigation of account fluctuations assess a higher likelihood that the client's explanation explains a majority of the fluctuation in an account balance, compared to those accountable to a partner with a skepticism preference<br>- The effect of client preference on auditor's likelihood assessment is moderated by the level of client integrity such that client preferences mattered more in the high integrity condition. |
| Peytcheva and Gillett 2011 | Auditing: A Journal of Practice and Theory | 45 auditors<br>56 auditing students | Fixed Asset Task       | -Decision regarding the appropriate treatment for a fixed asset expenditure  | Known | -Auditors who learn the views of the audit partner only after having reached their own judgment, report that their own initial judgment had matched the views of the audit partner  |

| Study                              | Journal                           | Participants                           | Task                      | Outcome Measure  | Views          | Findings  |
|------------------------------------|-----------------------------------|--|---------------------------|--|----------------|---|
| Peytcheva, Wright, and Majoor 2014 | Behavioral Research in Accounting | 104 U.S. auditors<br>48 Dutch auditors | Lease Classification Task | -Feelings of process accountability<br>-Epistemic motivation<br>-Demand for evidence   | Not Applicable | - Principle-based standards increase auditors' perceptions of accountability for the quality of the process used to reach a decision<br>- Greater process accountability results in higher epistemic motivation, which is positively associated with auditors' demand for diagnostic audit evidence and total desired evidence                    |
| Rich 2004                          | The Accounting Review             | 56 audit managers                      | Analytical Review         | - Agreement with preparer's work<br>- Nature and extent of elaboration<br>- Time estimate for preparer to address review notes | Known          | - Accountability exacerbates the effect of perceived probability of preparer error on the extent of critical review, which indirectly impacts the amount of preparer follow up  |
| Tan, Jubb, and Houghton 1997       | Behavioral Research in Accounting | 70 audit supervisors and managers      | Inventory Obsolescence    | - Risk of inventory obsolescence<br>- Explanation of decision  | Known          | - Auditors accountable to partners whose views are known make risk assessments significantly more in line with the partner's views than those accountable to a partner with unknown views.<br>- Auditors accountable to a partner with unknown views exert significantly more effort than auditors accountable to a partner whose views are known |
| Tan and Kao 1999                   | Journal of Accounting Research    | 105 Singaporean auditors (Big 6)       | Internal Control Task     | - The number of correct responses on internal control evaluation tasks of high, medium and low complexity                      | Unknown        | - Accountability does not improve performance on low complexity tasks<br>- For medium and high complexity tasks, accountability improves performance only when auditors have the appropriate level of knowledge, or the appropriate level of knowledge and problem solving ability, respectively.   |

| Study                 | Journal                                    | Participants                                    | Task                           | Outcome Measure  | Views             | Findings  |
|-----------------------|--|---|--------------------------------|--|-------------------|---|
| Tan, Ng, and Mak 2002 | Auditing: A Journal of Practice and Theory | 105 Singaporean auditors (Big 6)                | Internal Control Task          | - The number of correct responses on internal control evaluation tasks of high, medium, and low complexity | Unknown           | - Accountability moderates the relationship between task complexity and performance<br>- Performance declines due to high task complexity only occur when either knowledge is high and accountability is low, or accountability is high and knowledge is low.   |
| Tan and Tan 2008      | Contemporary Accounting Research           | 87 Singaporean audit seniors                    | Audit Evidence Evaluation Task | - Likelihood assessment related to the client's chances of winning a significant contract                  | Unknown           | - Find that reviewers and preparers are unable to fully remove invalidated information from their judgments.<br>- Accountability moderates the effect of the invalidated information for reviewers, but not for preparers.  |
| Turner 2001           | Journal of Accounting Research             | 89 senior auditors and 3 audit managers (Big 5) | AR Collectability Review Task  | - Number of evidence items examined<br>- Time spent reviewing evidence selected<br>- Search pattern        | Known and Unknown | - Auditors accountable to a partner concerned with incurring unnecessary cost in evidence investigation select fewer items and conduct a more client prompted evidence search than those accountable to a partner with a skepticism preference, or a partner whose preferences are unknown<br>- Accountability preference has no impact on time spent reviewing each evidence item<br>- Provides some evidence that accountability can instigate bias |

| Study      | Journal               | Participants   | Task      | Outcome Measure           | Views | Findings   |
|------------|-----------------------|--|-----------|---------------------------|-------|--|
| Wilks 2002 | The Accounting Review | 60 audit managers (Big 5)<br>120 senior auditors (Big 5) | Reporting | -Going concern assessment | Known | -Compared to auditors who learn of the partner's views after evaluating evidence, auditors who learn of their partner's views before evaluating evidence<br>1. evaluate evidence as being more consistent with their partner's view, and<br>2. make going-concern judgments that are more in line the partner's view |

## **STUDY TWO: EGO DEPLETION AND AUDITOR PERFORMANCE: THE MODERATING EFFECT OF ACCOUNTABILITY**

### I. Introduction

Recent research in auditing has highlighted auditors' susceptibility to ego depletion (Kremin 2014; Bhaskar et al. 2016; Hurley 2015a; Hurley 2015b). Ego depletion is an exhaustion of mental resources that allows an individual to exercise self-control (Baumeister et al. 1998) or engage in active cognitive processing (Schmeichel et al. 2003). Various tasks deplete these mental resources affecting an individual's performance on subsequent depleting tasks. Ego depletion is comparable to the exhaustion one feels from tests of physical strength. Muscles weaken when engaging in exercise, diminishing an individual's ability to perform well on other immediate physical tasks (Baumeister et al. 2007). Psychology researchers have found a variety of tasks to be mentally depleting, including those that involve making a choice (e.g. Schmeichel et al. 2003; Vohs et al. 2008; Pocheptsova et al. 2009), engaging in intelligent thought, and controlling emotions (e.g. Schmeichel et al. 2003).

A career in auditing demands the execution of a variety of depleting tasks (Kremin 2014; Hurley 2015a; Hurley 2015b). Auditors must often make choices and engage in intelligent thought when making audit decisions, such as determining the appropriate risk to assign to a particular audit area, deciding which audit procedure to include in the audit program, or identifying the proper accounting treatment for a complex accounting issue. Consequently, the depleting nature of such tasks may hinder performance on subsequent tasks and ultimately impact audit effectiveness. To the extent that these tasks affect audit quality, identifying factors that can mitigate such effects is important.

The purpose of this study is to investigate whether accountability moderates the negative effects of ego depletion demonstrated in prior research (Kremin 2014; Bhaskar et al. 2016; Hurley 2015a; Hurley 2015b). The strength model of self-control suggests depleted auditors will perform worse than non-depleted auditors on a depleting task (Baumeister et al. 1998). This decline in performance is due to diminished mental resources, which are necessary to execute such tasks. However, psychology research indicates that individuals can overcome the effects of ego depletion and has provided evidence of various mitigating mechanisms (Baumeister et al. 2007; Baumeister and Vohs 2007). For example, priming individuals with a belief in unlimited willpower (Vohs et al. 2012), engaging in self-affirmation (Schmeichel and Vohs 2009), or eliciting positive affect (Tice et al. 2007) have been shown to improve performance in depleted individuals. While these mechanisms may translate to the auditing domain if implemented, ideally a mechanism inherent to the audit environment may accomplish the same goal. Accountability has the potential to be one such mechanism.

Accountability is defined as the “expectation that one may be called on to justify one’s beliefs...” (Lerner and Tetlock 1999, 255) and auditors are simultaneously accountable to a variety of parties, such as supervisors, clients, and regulators (e.g. Gibbins and Newton 1994; Buchman et al. 1996; Bierstaker and Wright 2001). Accountability theory posits that individuals who feel accountable for their decisions will engage “...in an effortful and self-critical search for reasons to justify their actions...” when the preference of the party to whom they are accountable is unknown (Lerner and Tetlock 1999, 263). Compared to those who do not feel accountable, individuals who feel very accountable for their work are expected to use more cognitive effort in their decision-making processes, which is triggered by their desire to please key constituencies and identify a justifiable response for their decisions (Tetlock 1999). Pleasing important others is

expected to sufficiently motivate an individual to overcome the effects of depletion such that a depleted auditor's performance on a depleting task will not significantly differ from the performance of a non-depleted auditor. Prior research in the area finds that accountability is capable of moderating personal biases such as the recency effect (Kennedy 1993), the status quo heuristic (Messier et al. 2013), and auditors' tendency to include previously invalidated information in their decision processes (Tan and Tan 2008).

Two experiments are conducted to examine the moderating effect of accountability on the relationship between ego depletion and performance. The initial experiment produced surprising results; thus, a follow up experiment was conducted to further investigate the unexpected findings. Both experiments are 2 x 2 between-participants experimental designs with the same independent and dependent variables.<sup>16</sup> The independent variables are depletion (present or absent) and accountability (present or absent).<sup>17</sup> In both experiments, to manipulate depletion, participants in the depleted condition first complete a task designed to induce depletion, and then complete the experimental task, an audit risk assessment. In the initial experiment, participants in the non-depleted condition begin with the experimental task. In the follow up experiment, the depletion task was lengthened for participants in the depleted condition, and participants in the non-depleted condition begin with a non-depleting task prior to the experimental task.

Participants are either accountable or not accountable for their performance on the audit risk

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<sup>16</sup> Minor modifications were made to the experimental design to help further understand the initial findings. These modifications are discussed in more detail in the Experimental Method and Design section.

<sup>17</sup> While accountability is a natural element of the auditing environment, and the complete absence of accountability is unattainable, the accountability pressure that auditors feel may vary due to a variety of factors. For example, auditors feel less accountable when reviews are conducted electronically as opposed to face-to-face (Brazel et al. 2004). Further, accountability pressure varies depending on the accountability mechanism employed. Auditors proposed higher materiality thresholds when they only expected their work to be reviewed, compared to auditors who were also required to justify their planning materiality decisions and auditors who expected to receive feedback on their decisions (DeZoort et al. 2006). In situations where auditors are heavily depleted but performance on a depleting task is important, implementing high levels of accountability pressure may be beneficial.



assessment exercise. Accountable participants are required to provide their name, provide justification for each of their risk assessment decisions, and sign off on their work. They are also told that their work will be reviewed. Prior research manipulates accountability in a similar manner by requiring participants to provide their names and telling participants that their work will be reviewed (e.g. Cohen and Trompeter 1998; Koonce et al. 1995; Peecher 1996) and requiring the participants to provide justifications for their decisions (DeZoort et al.2006). The non-accountable participants are required to identify the appropriate risk assessments, but their responses are anonymous and no justification or sign-off is required. The dependent variable of interest is the participant's performance on an audit risk assessment task.

Depleted participants are predicted to perform worse on the audit risk assessment exercise than non-depleted participants. The audit risk assessment exercise is expected to draw on the participants' self-control resources as they must engage in active cognitive processing to determine the appropriate risk assessment given current year information about a hypothetical audit client. Depleted participants should perform worse due to the availability of fewer self-control resources necessary to execute the task. Accountability should moderate this predicted discrepancy in performance, as the requirement to justify their decisions and being personally linked to their performance should sufficiently motivate depleted participants to overcome the effects of depletion.

Surprisingly, the results from both experiments indicate that depletion improves rather than hinders performance when participants are not accountable for their work. Thus, accountability is unable to offset the performance decline that depletion was expected to induce. The results suggest both accountability and depletion result in improved performance. However, the combined effect of both depletion and accountability is not additive in that performance

improvements are greater when auditors are both accountable and depleted; accountability and depletion appear to be substitutes for improving auditor performance. While contrary to expectations, this finding suggests that the strength model of self-control may not be applicable to all settings as depleted auditors did not experience the expected performance declines.

This study makes several contributions to the academic literature. First, it contributes to the recent research on ego depletion in auditing. Prior research suggests that auditors are susceptible to depletion (Kremin 2014; Hurley 2015a; Hurley 2015b), particularly those with high levels of trait professional skepticism and those who have strong professional identification (Bhaskar et al. 2016). This study provides evidence that ego depletion may not always hinder auditor performance but may improve it as well. Second, this study contributes to auditing research on accountability that investigates whether accountability moderates certain personal biases. Specifically, this study suggests that accountability does not influence the effect that depletion has on performance. Instead, it acts as a substitute for depletion due to depletion's ability to improve performance. Lastly, this study contributes to the psychology research on ego depletion by demonstrating the ability of ego depletion to improve performance. It also extends psychology research that investigates moderators of depletion by considering a moderator not previously evaluated in the psychology literature.

The remainder of the paper proceeds as follows. The next section discusses the background literature and hypotheses development. Section III discusses the experimental method and design and section IV provides the experimental results. The conclusion and opportunities for future research are provided in section V.

## II. Background and Hypotheses Development

### *Ego Depletion*

The strength model of self-control suggests individuals have a finite number of resources available to execute self-control (Baumeister et al. 1998; Muraven and Baumeister 2000). Self-control is the “capacity for altering one’s own responses, especially to bring them in line with standards such as ideals, values, morals and social expectations...” (Baumeister et al. 2007, 351). Many activities such as resisting temptation (Baumeister et al. 1998), controlling emotion (Baumeister et al. 1998; Schmeichel et al. 2003; Muraven and Slessareva 2003; Vohs et al. 2012), or maintaining attention (Schmeichel et al. 2003; Boucher and Kofos 2012; Vohs et al. 2012) deplete these self-control resources. However, more recently, research has shown that certain cognitive tasks such as making choices (Vohs et al. 2008) and executing controlled cognitive processing (Schmeichel et al. 2003) draw on these same resources, thus depleting individuals engaging in such tasks. Furthermore, psychology research continually supports the notion that individuals who utilize their limited resources when executing a depleting task suffer performance declines on subsequent tasks that rely on those same self-control resources (e.g. Baumeister et al. 1998; Wallace and Baumeister 2002; Schmeichel et al. 2003; Vohs et al. 2008).

Accounting researchers have recently investigated the impact of depletion in an auditing context and have found depletion to have detrimental effects on auditor performance. Kremin (2014) finds that depleted auditors are less likely to correctly identify errors in an analytical procedures task when a client is inherently low risk. However, depleted auditors in a high-risk setting are able to overcome the effects of depletion and correctly identify more errors in the analytical task than those in the low risk setting. Auditors with high trait skepticism and those with strong professional identification are more susceptible to the effects of depletion,

highlighting a potential downside of characteristics generally seen as favorable in the audit environment (Bhaskar et al. 2016). Hurley (2015a) also shows that various types of depleting tasks result in differing levels of depletion. Specifically, he investigates how two types of auditing tasks compare to a depleting task commonly used in psychology. He finds that the two auditing tasks result in more depletion than does the depleting psychology task. Auditors also exhibit higher levels of depletion during busy season than at other times during the year suggesting an accumulation effect, which does not allow self-control resources to be restored over a 24-hour time span (Hurley 2015b).

Consistent with prior accounting research and most relevant to the auditing context is the notion that the mental resources utilized for self-control are employed in tasks requiring controlled cognitive processing. Related to controlled cognitive processing, Schmeichel et al. (2003) state "...using logic to draw conclusions and implications from ideas, extrapolating from known facts to make estimates about unknowns, and generating novel ideas may require active self-control." (p. 33). Schmeichel et al. (2003) suggest that tasks requiring the use of rote memory or execution that is relatively automatic would likely *not* draw on the mental resources that are necessary for self-control. However, those tasks requiring the application of significant cognitive effort, such as logical reasoning or problem solving, are expected to draw heavily on self-control resources. Individuals must decide how to approach such tasks and consider various information cues to reach a conclusion.

Auditors frequently engage in activities that require significant amounts of cognitive effort. These activities include tasks that require auditors to consider various pieces of information to formulate a reasonable response. Examples of such tasks include determining the appropriate risk to assign to a particular audit area, deciding which audit procedure to include in

the audit program, or identifying the proper accounting treatment for a complex accounting issue. Less depleting auditing tasks are those that require less cognitive processing such as audit testing that requires supporting documents to be reviewed for certain characteristics or the agreement of information between multiple documents. Examples of these include control testing that requires the auditor to evaluate whether checks over a specified dollar threshold have dual signatures, or substantive fixed asset testing that requires the auditor to vouch a sample of fixed asset additions to their related invoices. These tasks require the auditor to review supporting documentation for certain characteristics but do not demand the level of cognitive effort required when employing critical thinking skills.

Consistent with prior research and the strength model of self-control, depleted auditors are predicted to perform worse on a depleting task than auditors who are not depleted.

**H1:** Performance on a depleting task will be worse for depleted auditors than for non-depleted auditors.

Research also finds that the effects of ego depletion can be temporarily overcome if individuals are sufficiently motivated.<sup>18</sup> Research shows that compensating individuals for performance (Muraven and Slessareva 2003) or even having them simply think of money (Boucher and Kofos 2012) can offset performance declines caused by depletion. Psychology research also suggests depleted individuals will perform at a higher level than they would otherwise when they are told that the outcome of the task they are completing will either benefit themselves or another individual (Muraven and Slessareva 2003). Depletion is not only overcome through sufficient motivation, but simply altering a person's mindset or mood can also

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<sup>18</sup> Motivation is broadly defined as "...any sort of general drive or inclination to do something" (Baumeister and Vohs 2007, 2).

have an impact. Priming individuals with belief in unlimited willpower (Vohs et al. 2012), self-affirmation (Schmeichel and Vohs 2009), and positive affect (Tice et al. 2007) can diminish the effects of depletion. While certain moderators identified in the psychology literature may have similar effects when implemented in an auditing context, identifying a natural element of the auditing environment that can accomplish the same goal is ideal. Accountability may be one such element.

Accountability is motivating due to the desire for individuals to reach a defensible conclusion that will please important others. Accountability to parties whose preferences are unknown will result in more cognitively complex decision making processes as individuals will attempt to consider various perspectives when making their decision and formulate responses to any objections that evaluative others might raise (Lerner and Tetlock 1999). This response stems from a core assumption of accountability theory—that individuals seek social approval and therefore strive to reach decisions that are justifiable and will be viewed favorably by key parties (Tetlock 1999).

In an auditing context, accountability is expected to motivate depleted auditors to achieve performance levels more consistent with their non-depleted counterparts. Accountability is particularly important in the audit environment, as auditors manage multiple accountability relationships with various parties (e.g. Gibbins and Newton 1994; Buchman et al. 1996; Bierstaker and Wright 2001). When one of these parties determines that the auditor's performance is unsatisfactory, the auditor may incur negative consequences. For example, a supervisor may react to unsatisfactory performance by writing a poor performance review, or a client may request the auditor be removed from the engagement. The desire to please these key parties and avoid such negative consequences is expected to incentivize auditors to overcome the

effects of depletion and perform at a level higher than those who are depleted but not accountable for performance.

Prior research in accounting finds that accountability influences auditor decision-making. For example, auditors accountable for their decisions have greater consensus in their risk assessments related to inventory obsolescence. They are also more aware of their decision-making process indicating increased cognitive effort (Johnson and Kaplan 1991). Auditors also alter their testing strategy in an audit planning task when they expect their work to be reviewed and they do not know the preferences of their reviewer, compared to auditors who do not anticipate a review (Asare et al. 2000).<sup>19</sup>

Given that accountability influences *how* individuals make decisions by inducing a more effortful decision process, accountability is expected to motivate depleted auditors to overcome the effects of depletion and perform at a level comparable to non-depleted auditors and perform at a level substantially better than depleted auditors who are not accountable.

**H2:** Accountability moderates the effect of ego depletion on performance such that auditors who are depleted and not accountable for their work will perform poorer than those who are depleted and accountable and those who are not depleted.

### III. Experimental Method and Design

#### *Design and Procedure*

The initial experiment involves a 2 x 2 between-participants design that investigates the potential moderating effect of accountability on ego depletion. Depletion and accountability are

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<sup>19</sup> No main effect for accountability is hypothesized as prior literature that has shown the positive effects of accountability when accountable to parties with unknown preferences (e.g. Asare et al. 2000, DeZoort et al. 2006; Tan and Kao 1999).

the independent variables, both of which are manipulated as present or absent. The dependent variable is participants' performance on an audit risk assessment exercise.

Participants in the depletion condition received an initial depleting task adapted from the depletion manipulation task used by Kremin (2014). The task required participants to count the number of times "e" appeared in a passage that they were provided. They then received a second passage and counted only those "e"s that were not followed by a vowel or a vowel was not "one letter removed from the 'e' in either direction." (Kremin 2014, 44). This required the use of self-control resources to override the initial rule of counting all "e"s, thus depleting the participants' self-control resources. Similar tasks are used in psychology research (e.g. Tice et al. 2007) and a recent meta-analysis found this type of task to be most effective at inducing depletion (Hagger et al. 2010).<sup>20</sup> Participants in the non-depleted condition received the depleting task subsequent to the audit task in order to maintain consistent task duration across treatments.

Participants also completed an audit task for which they were either accountable or not. The accountability manipulation applied only to the audit task; and, for those participants in the depletion condition, the information pertaining to the accountability manipulation was provided to participants after the e-counting task. The audit task consisted of an audit risk assessment activity adopted from Bhaskar et al. (2016). Participants made a series of risk assessments for a hypothetical audit client. They were given current year client information relevant to the risk assessments being made, as well as the prior year risk assessments and justifications.

Participants utilized the current year client information to assess client risk on a scale of 1 to 7

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<sup>20</sup> In studies related to ego depletion, the presence of depletion is often tested utilizing performance on subsequent tasks (e.g. Schmeichel and Vohs 2009, Moller et al. 2006; Hurley 2015a). In this experimental setting, an additional task designed to measure depletion would further deplete the participants, thus influencing their performance on the audit risk assessment exercise. As such, the performance on the audit risk assessment exercise is expected to be indicative of depletion. There are no previously validated scales specifically designed to measure depletion.



across a variety of factors. In the accountability condition, participants were required to provide their name, justifications for their risk assessment decisions, and sign off on their work.

Furthermore, they were told their work would be reviewed. Accounting research on accountability often manipulates accountability by asking participants to provide their names and informing them that their work will be reviewed (Cohen and Trompeter 1998; Koonce et al. 1995; Peecher 1996) and requiring them to provide justifications for their decisions (DeZoort et al. 2006). Participants who were not accountable for their work on the audit risk assessment task were told their responses would be reviewed but that the responses would not be associated with their name, and they were not required to justify their decision or sign off on their work. Figure 2 provides an example of the risk assessment exercise for the accountable condition. The non-accountable condition contained the same information except it excludes the two far right columns that require the justification and sign off.

**Part I. Factors related to the nature of the entity**

|  | Prior Year Risk Assessment       |                       |                       |                                  |                       |                       |                       | Current Year Risk Assessment<br><i>(Update for the current year, if necessary)</i> |                       |                       |                                  |                       |                       |                       | Explanation for Change in Current Year Risk Assessment<br><br>(Please enter) | Sign-off<br><br>(Initial when complete) |
|--|----------------------------------|-----------------------|-----------------------|----------------------------------|-----------------------|-----------------------|-----------------------|--|-----------------------|-----------------------|----------------------------------|-----------------------|-----------------------|-----------------------|--|---|
|  | Low                              |                       | Moderate              |                                  |                       | High                  |                       | Low  |                       | Moderate              |                                  |                       | High                  |                       |  |   |
|  | 1                                | 2                     | 3                     | 4                                | 5                     | 6                     | 7                     | 1  | 2                     | 3                     | 4                                | 5                     | 6                     | 7                     |  |   |
| <p><b>1. Evaluate the organization's structural characteristics (e.g. size, complexity, geographic dispersion), including any changes.</b></p> <p>Prior year comments:</p> <p>Company A is a large, publicly traded company. It holds 20 percent of the market share. Company A operates in multiple geographical regions but all in one country. Company A has strong organic growth and growth through acquisitions but the risk is low because Company A has not entered into any new markets. Company A maintains a regional focus but overall the organizational complexity is low risk. Given the size of the company and the number of users relying on the financial statements (e.g. investors and analysts following), we rate the risk as moderate.</p> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |  | <input type="text"/>                    |
| <p><b>2. Evaluate the Company's key personnel, including any changes in key executives.</b></p> <p>Prior year comments:</p> <p>All executives seem to have adequate skills necessary to successfully complete their jobs. No changes in executives for the current year. Area deemed very low risk.</p>  | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |  | <input type="text"/>                    |

Figure 2: Risk Assessment Example- Accountable Condition

### *Dependent Variables*

Performance is assessed as the number of correct responses identified by each participant on the audit risk assessment exercise. Participants are provided prior year risk assessments and must determine whether the current year risk has increased or decreased from prior year, or stayed the same based on the current year company information they are provided. A response is deemed to be correct when the participant identifies the appropriate directional change or appropriately suggests no change from prior year is necessary. Consistent with Bhaskar et al. (2016), each correct response receives one point and an incorrect response receives zero points. Participants received an aggregate score of all correct answers ranging from 0 to 8.<sup>21</sup>

### *Control Variables*

Participants also completed a post experimental questionnaire to assess their trait self-control (Tangney et al. 2004), perception of depletion (Clarkson et al. 2010), and level of trait skepticism (Hurt 2010). These variables are included as potential control variables as they are expected to impact participants' performance on an audit risk assessment exercise regardless of the participants' depletion and accountability conditions. Lastly, participants responded to demographic questions about their gender, age, and professional work experience.

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<sup>21</sup> The risk assessment exercise was shortened from 15 risk assessments to 10 risk assessments due to time constraints. Furthermore, two risk assessments were eliminated from analysis. One was removed because the appropriate directional change for the assessment was unclear. The last risk assessment was removed from analysis because over half of the participants in all conditions responded incorrectly. Including this final risk assessment in the analysis does not quantitatively alter the results.

### *Participants*

Participants were undergraduate and graduate accounting students. One hundred and twenty-seven participants were recruited from four undergraduate auditing classes and one graduate auditing class. Each student was compensated \$10 for their time.<sup>22</sup> The experiment was administered in the University's behavioral lab via Qualtrics. Participants signed up for sessions in the lab when they were recruited, and they were randomly assigned to one of four conditions during their session. As the experiment was expected to take 45 minutes of the students' time, the behavioral lab was utilized to provide a controlled setting with minimal distractions that allowed participants to apply an appropriate level of focus.

Students are deemed to be appropriate participants for this task, as they are expected to be as susceptible to the effects of ego depletion as practicing auditors. Libby et al. (2002) suggest that student participants are appropriate in studies investigating individuals' cognitive abilities. Students are expected to be able to complete the audit risk assessment task given their enrollment in an auditing course. Furthermore, Bhaskar et al. (2016) developed the risk assessment exercise with the assistance of firm personnel who considered the exercise to be consistent with the type of task a staff level auditor would perform. They also successfully utilized this risk assessment exercise with student participants.

While the independent variables were manipulated based on what the participants were required to do, as opposed to what they read, it was important that the participants paid appropriate attention to the tasks at hand. Accountable participants were required to provide justifications for their risk assessments while non-accountable participants were not. As such,

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<sup>22</sup> All but three students also received extra credit from their professors for participating, as one professor did not offer extra credit to students who participated.

participants were asked if they were "...required to provide an explanation for... [the] current year risk assessment and sign off on [the] assessment?" In total, five participants in the non-accountable group failed the manipulation check and were removed from the analysis.

Additionally, three participants in the accountable condition did not provide their full name as requested, but instead provided their initials. As such, they were also removed due to concern that they would not have the same feeling of accountability as those individuals who provided their full names.

Depleted participants were required to complete an "e" counting task prior to completing the risk assessment exercise. It is important that the participants paid sufficient attention to this task. Observations were removed for participants who were two standard deviations removed from the mean *number* of "e"s identified on the second portion of the "e" task and two standard deviations removed from the mean *time* taken on the second portion of the "e" task.<sup>23</sup>

Participants were eliminated based on both number identified and time in an attempt to exclude those individuals who may not have taken the task seriously. Specifically, the criteria attempted to capture those individuals who counted all "e"s rather than following the specific rule provided on the second passage, those who simply input a number so they could proceed without appropriately completing the task, those who took so little time it is questionable whether they took the task seriously, and those took so much time there is concern they may have been distracted from the task at hand. Four additional observations were removed due to the "e" task. One hundred fifteen responses were left after removing these twelve responses. Due to the unequal cell size, and failing the assumption of homogeneity of variances ( $p = 0.005$ ), an

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<sup>23</sup> This analysis focused on the second portion of the "e" task, as this was the most cognitively taxing portion.

additional 11 observations were randomly removed to equalize cell sizes, leaving a total of 104 observations for hypotheses testing.

Participants' demographic information is presented in Table 2.<sup>24</sup> Approximately 55 percent of the participants included in the analysis were male, while approximately 45 percent were female. Seventy-seven percent of participants were between the ages of 21 and 25 and approximately 21 percent had previous auditing experience.

Table 2: Initial Experiment-Demographic Profile of Participants

| <b>(n = 104)</b>                     |                                 |
|--------------------------------------|---------------------------------|
|                                      | <b><u>n (%)</u><sup>b</sup></b> |
| <b>Age:</b>                          |                                 |
| <i>18-20</i>                         | 2 (1.9)                         |
| <i>21-25</i>                         | 80 (76.9)                       |
| <i>26-30</i>                         | 15 (14.4)                       |
| <i>31-35</i>                         | 4 (3.9)                         |
| <i>36-40</i>                         | --                              |
| <i>40+</i>                           | 2 (1.9)                         |
| <i>Prefer not to answer</i>          | 1 (1.0)                         |
| <b>Gender:</b>                       |                                 |
| <i>Male</i>                          | 57 (54.8)                       |
| <i>Female</i>                        | 47 (45.2)                       |
| <b>Auditing Work Experience:</b>     |                                 |
| <i>Yes</i>                           | 22 (21.2)                       |
| <i>No</i>                            | 82 (78.8)                       |
| <b>Type of Auditing Experience:</b>  |                                 |
| <i>Internal Audit</i>                | 1 (4.5)                         |
| <i>External Audit</i>                | 20 (91.0)                       |
| <i>Both</i>                          | 1 (4.5)                         |
| <b>Years of Auditing Experience:</b> |                                 |
| <i>&lt;1</i>                         | 20 (91.0)                       |
| <i>1-2</i>                           | 1 (4.5)                         |
| <i>3-4</i>                           | 1 (4.5)                         |
| <i>5+</i>                            | --                              |

<sup>b</sup> Provides the demographic information for the participants that were used in the data analysis.

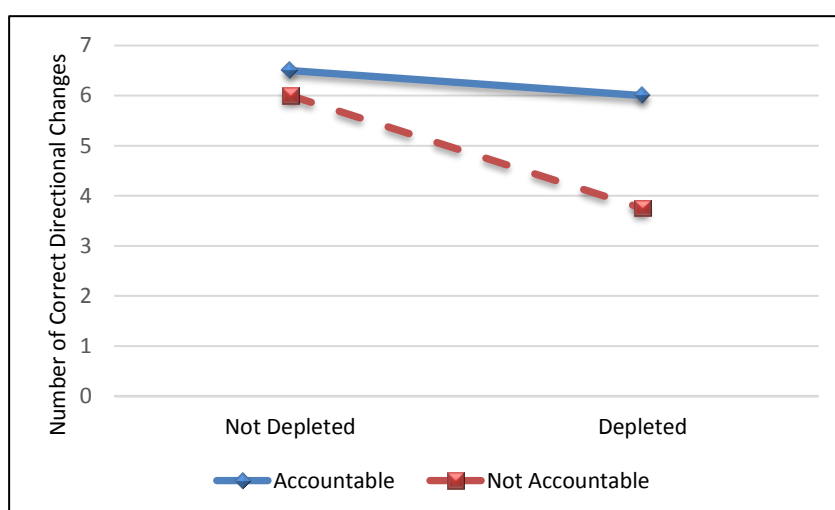
<sup>24</sup> Demographic variables were evaluated for differences across conditions and no differences were identified.

## IV. Results

### *Test of Hypotheses*

H1 predicts that performance on a depleting task will be worse for depleted auditors than for non-depleted auditors. Figure 3 Panel A provides a graph of the predicted results and Panel B provides a graph of the actual results.

#### Panel A: Predicted Result



#### Panel B: Actual Results

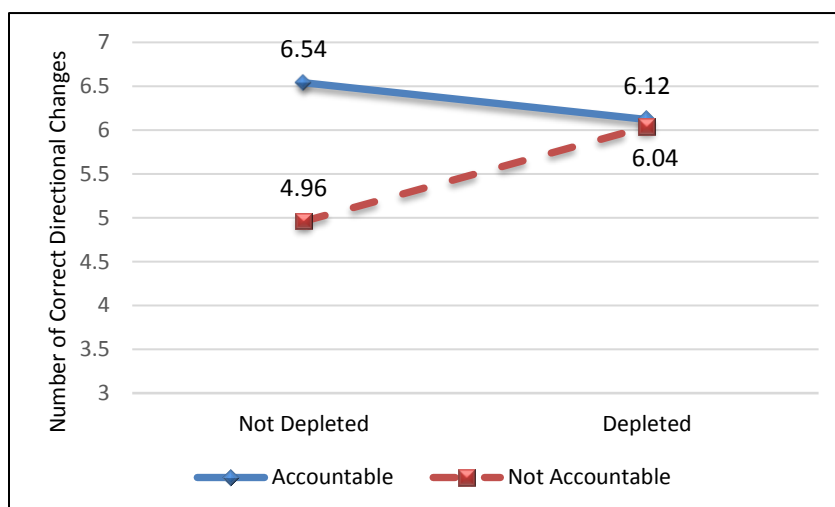


Figure 3: Initial Experiment-Predicted and Actual Results for Number of Correct Directional Changes

Performance is assessed by counting the total number of correct directional changes identified by each participant. For the total number of correct directional responses, I run an ANCOVA and control for trait professional skepticism and trait self-control.<sup>25</sup> Table 3 Panel A provides descriptive statistics. The descriptive statistics indicate that individuals in the not depleted/accountable condition identify the most correct responses (mean = 6.54). Overall, the accountable participants (mean = 6.33) appear to perform better than those who are not accountable (mean = 5.50), and depleted participants (mean = 6.08) appear to perform better than those who are not depleted (mean = 5.75).

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<sup>25</sup> Covariates were evaluated by regressing all potential control variables on the dependent variable of interest and running an ANCOVA that included all possible control variables. Trait skepticism and trait self-control were the only potential control variables that were significant ( $p \leq .05$ ) or marginally significant ( $p \leq .10$ ) in one or both models.



Table 3: Initial Experiment- Descriptive Statistics and Test of Hypotheses- Correct Directional Change of Risk Assessment

| <b>Panel A: Descriptive Statistics- Number of Correct Directional Changes Mean [Standard Deviation]</b>                         |  |                         |                             |                |
|---|--|-------------------------|-----------------------------|----------------|
| <b>Source of Variation</b>  | <b>Number of Correct Directional Changes</b> |                         |                             |                |
|   | <b>Accountable</b>                           | <b>Not Accountable</b>  |                             |                |
| <b>Depleted</b>   | 6.12<br>[1.80]<br>n =26                      | 6.04<br>[2.16]<br>n =26 | 6.08<br>[1.97]<br>n =52     |                |
| <b>Not Depleted</b>   | 6.54<br>[1.33]<br>n =26                      | 4.96<br>[2.58]<br>n =26 | 5.75<br>[2.19]<br>n = 52    |                |
|   | 6.33<br>[1.58]<br>n =52                      | 5.50<br>[2.42]<br>n =52 |                             |                |
| <b>Panel B: ANCOVA Results</b>  |  |                         |                             |                |
| <b>Source of Variation</b>  | <b>df</b>                                    | <b>MSE</b>              | <b>F-statistic</b>          | <b>p-value</b> |
| Depletion <sup>a</sup>  | 1  | 4.724                   | 1.220                       | 0.272          |
| Accountability <sup>a</sup>   | 1  | 12.711                  | 3.283                       | 0.073          |
| Depletion X Accountability  | 1  | 12.890                  | 3.329                       | 0.071          |
| Trait Self-Control  | 1  | 17.277                  | 4.462                       | 0.037          |
| Professional Skepticism   | 1  | 23.892                  | 6.171                       | 0.015          |
| Error   | 98   | 3.872                   |                             |                |
| <b>Panel C: Planned Comparison Tests <sup>a</sup></b>   |  |                         |                             |                |
|   |  | <b>T-statistic</b>      | <b>p-value <sup>b</sup></b> |                |
| H1: Depleted < Not Depleted (+1,-1)   |  | -1.090                  | 0.139                       |                |
| H2: Depleted/Not Accountable < Depleted/Accountable,<br>Not Depleted/Not Accountable, Not Depleted/Accountable<br>(-3,+1,+1,+1) |  | -.651                   | 0.258                       |                |
| <b>Panel D: Follow-Up Tests of Simple Effects <sup>a</sup></b>  |  |                         |                             |                |
| <b>Source of Variation</b>  | <b>df</b>                                    | <b>F-statistic</b>      | <b>p-value</b>              |                |
| Effects of Depletion given no Accountability  | 1  | 4.299                   | 0.041                       |                |
| Effects of Depletion given Accountability   | 1  | .253                    | 0.616                       |                |
| Effects of Accountability given no Depletion  | 1  | 6.566                   | 0.012                       |                |
| Effects of Accountability given Depletion   | 1  | .000                    | 0.990                       |                |

<sup>a</sup> Results include the covariates of trait professional skepticism and trait self-control

<sup>b</sup> Reported p-value is the one-tailed equivalent

The results of the ANCOVA are provided in Table 3 Panel B. Although not hypothesized, the results suggest there is a main effect for accountability. This finding supports prior research that also finds accountability to improve performance (e.g. Asare et al. 2000; Tan and Kao 1999). H1 predicts that the depleted participants will perform worse on the risk assessment exercise than the non-depleted participants. In the ANCOVA, the main effect for depletion is not significant ( $p = 0.272$ , two-tailed). However, due to the directional nature of the hypothesis, a planned comparison is conducted. This analysis also finds an insignificant main effect for depletion ( $p = 0.139$ , one-tailed).<sup>26</sup> Participants in the depleted and non-depleted groups did not identify a significantly different number of correct directional changes on the risk assessment exercise. As such, H1 is not supported.

Table 3 Panel C presents the result of a planned comparison that tests the hypothesized interaction (H2). The finding indicates that the depleted/non-accountable condition does not perform significantly worse than the other three conditions ( $p = 0.258$ , one-tailed). As such, H2 is not supported. However, due to the marginally significant interaction identified in the ANCOVA ( $p = 0.071$ , two-tailed), the simple effects are analyzed to investigate the nature of the interaction.

The simple effects analysis is presented in Table 3 Panel D. The results suggest that accountability affects performance when participants are not depleted ( $p = 0.012$ , two-tailed), but accountability does not affect performance when they are depleted ( $p = 0.990$ , two-tailed).

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<sup>26</sup> The bottom two-thirds of participants who identified the lowest number of “e”s on the depleting portion of the e-task were analyzed separately. This was done to try and capture a subset of participants who may be more depleted than the others. The top one-third of participants were excluded, as those who input a higher number may have tried to count all “e”s and ignored the specific rule associated with the second portion of the e-task. The results of the analysis with the bottom two-thirds of participants present a pattern consistent with the reported findings. Furthermore, the results reveal significant main effects for depletion.

Participants who are not depleted identify significantly more correct directional changes when they are accountable than when they are not. The positive effect of accountability on performance is consistent with prior accounting literature that finds accountability to parties with unknown views positively influences auditor decision-making (e.g. Ashton 1990; Tan and Kao 1999). Furthermore, depletion caused a significant difference in the number of correct directional changes participants identified when the participants were not accountable for their work ( $p = 0.041$ , two-tailed). Depleted participants who were not accountable identified significantly more correct directional changes than non-depleted participants who were not accountable.

Overall, the findings do not provide support for H1 and H2. While the ANCOVA indicates a marginally significant interaction, the interaction is not in the manner expected. Surprisingly, the simple effect analysis reveals that participants' who were depleted showed an improvement, rather than decline, in their performance. The nature of the interaction indicates that both accountability and depletion improve performance. However, the effect of both treatments is not additive in that performance is significantly better when both depletion and accountability are present. Rather, depletion and accountability appear to act as substitutes. The presence of either accountability or depletion improves performance to a similar extent.

#### *Experimental Modifications and Additional Analysis*

Recent research has questioned whether the phenomenon of ego depletion is a reality. A meta-analysis of prior research was conducted and ultimately found little evidence that ego depletion exists (Carter et al. 2015). Carter et al. (2015) utilize new statistical procedures and address limitations of a 2010 meta-analysis of ego depletion research (Hagger et al. 2010); they challenge years of research on the strength model of ego depletion. As a result, Hagger and

Chatzisarantis (2016) conduct a replication study utilizing experimental materials adopted from Sripada et al. (2014). The findings of this replication study also provide little evidence of the ego depletion effect.

Due to the recent research questioning the strength model of ego depletion (e.g. Carter et al. 2015; Hagger and Chatzisarantis 2016) and the unexpected experimental results reported above, an additional experiment was conducted to refine some experimental design choices to see if the positive effect of depletion continues to hold. Two main changes were made. First, the depletion task was lengthened. Initially, this task was shortened from the version used by Kremin (2014) due to time constraints. As Kremin (2014) found the e-task to be depleting, use of the full-length version alleviates concern that the unexpected findings are attributable to the shortened task. Second, the non-depleted group was also provided a version of the e-counting task that was not expected to cause depletion. In the initial experiment, the non-depleted group was not provided with an e-counting task, and instead started with the risk assessment exercise used for the dependent variable. Providing the non-depleted group with a similar task ensures that the improved performance seen in the depleted participants is not due to the mere presence of an initial task, but rather, due to the nature of the task provided. The risk assessment task and the way in which the dependent variable is calculated do not differ from the initial experiment. Participants were recruited from three undergraduate auditing courses, and were provided extra credit for their participation. Consistent with the prior experiment, observations were eliminated for participants who failed the manipulation check regarding the requirement for justification (1 participant), and outliers associated with the number of “e”s identified on the second portion of the depleting e-counting task (2 participants) and the amount of time taken on the second portion of the depleting e-counting task (2 participants). This reduced the sample from 67 observation to

a final sample of 62 observations. Demographic information associated with the sample is provided in Table 4. Most participants were between the ages of 21 and 25 (61.2%), with slightly more males (53.2%) than females (46.8%) participating in this study. Only 9.6% of the participants had any auditing work experience.

Table 4: Follow Up Experiment- Demographic Profile of Participants

| <b>(n = 62)</b>                      |                                 |
|--------------------------------------|---------------------------------|
|                                      | <b><u>n (%)<sup>b</sup></u></b> |
| <b>Age:</b>                          |                                 |
| <i>18-20</i>                         | 2 (3.2)                         |
| <i>21-25</i>                         | 28 (61.3)                       |
| <i>26-30</i>                         | 6 (9.7)                         |
| <i>31-35</i>                         | 3 (4.8)                         |
| <i>36-40</i>                         | 5 (8.1)                         |
| <i>40+</i>                           | 6 (9.7)                         |
| <i>Prefer not to answer</i>          | 2 (3.2)                         |
| <b>Gender:</b>                       |                                 |
| <i>Male</i>                          | 33 (53.2)                       |
| <i>Female</i>                        | 29 (46.8)                       |
| <b>Auditing Work Experience:</b>     |                                 |
| <i>Yes</i>                           | 6 (9.7)                         |
| <i>No</i>                            | 56 (90.3)                       |
| <b>Type of Auditing Experience:</b>  |                                 |
| <i>Internal Audit</i>                | 1 (16.7)                        |
| <i>External Audit</i>                | 5 (83.3)                        |
| <i>Both</i>                          | --                              |
| <b>Years of Auditing Experience:</b> |                                 |
| <i>&lt;1</i>                         | 6 (9.7)                         |
| <i>1-2</i>                           | --                              |
| <i>3-4</i>                           | --                              |
| <i>5+</i>                            | --                              |

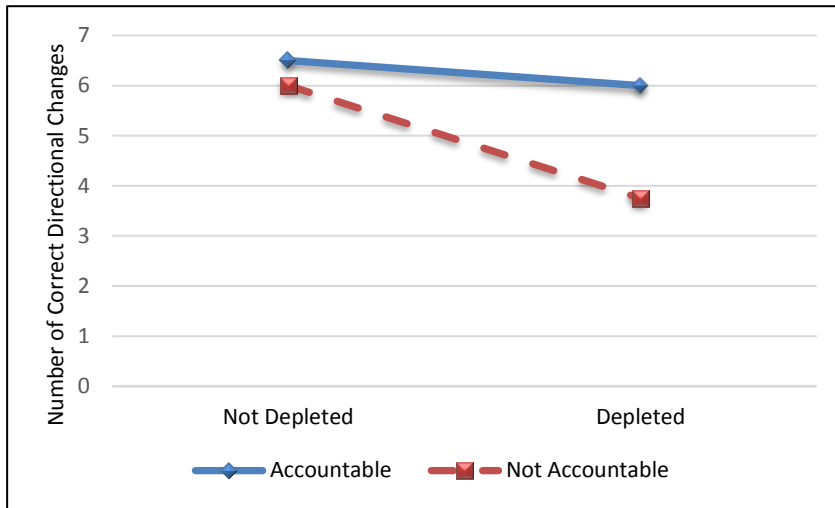
<sup>b</sup> Provides the demographic information for the participants that were used in the data analysis.

The primary dependent variable for this experiment is the number of correct directional responses identified by each participant on the audit risk assessment exercise. This number could range from 0-8. Graphical depictions of the predicted and actual results are provided in Figure 4 Panel A and Panel B, respectively. Table 5 Panel A provides descriptive statistics for each condition, while Panel B provide the ANCOVA results.<sup>27</sup> The ANCOVA model controls for trait self-control. While trait skepticism and perception of depletion were also evaluated as potential covariates, they did not significantly impact the dependent variable.

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<sup>27</sup> Although the Levene's test associated with the ANCOVA is significant at .032, Field (2009) advises also evaluating the Hartley's  $F_{\max}$  as he suggests "Levene's test is not necessarily the best way to judge whether variances are unequal enough to cause problems" (p. 405). Based on this test, I find that the difference in variance is not cause for concern.

**Panel A: Predicted Result**



**Panel B: Actual Results**

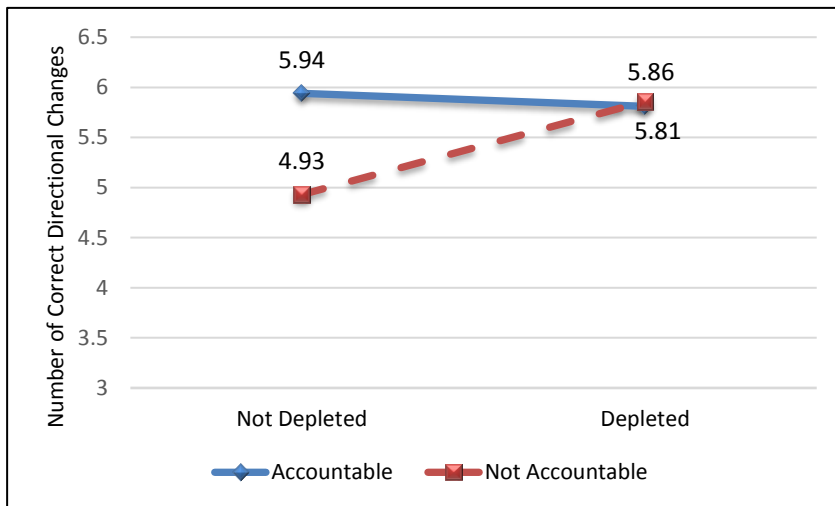


Figure 4: Follow Up Experiment- Predicted and Actual Results for Number of Correct Directional Changes

Table 5: Follow Up Experiment- Descriptive Statistics and Test of Hypotheses- Correct Directional Change of Risk Assessment

| <b>Panel A: Descriptive Statistics: Number of Correct Directional Changes - Mean [Standard Deviation]</b>                       |  |                          |                            |                |
|---|--|--------------------------|----------------------------|----------------|
| <b>Source of Variation</b>  | <b>Number of Correct Directional Changes</b> |                          |                            |                |
|   | <b>Accountable</b>                           | <b>Not Accountable</b>   |                            |                |
| <b>Depleted</b>   | 5.814<br>[1.424]<br>n=16                     | 5.857<br>[2.214]<br>n=14 | 5.833<br>[1.802]<br>n=30   |                |
| <b>Not Depleted</b>   | 5.941<br>[1.249]<br>n=17                     | 4.933<br>[2.120]<br>n=15 | 5.469<br>[1.759]<br>n=32   |                |
|   | 5.879<br>[1.317]<br>n=33                     | 5.379<br>[2.178]<br>n=29 |                            |                |
| <b>Panel B: ANCOVA Results</b>  |  |                          |                            |                |
| <b>Source of Variation</b>  | <b>df</b>                                    | <b>MSE</b>               | <b>F-statistic</b>         | <b>p-value</b> |
| Depletion <sup>a</sup>  | 1  | 4.955                    | 1.725                      | 0.194          |
| Accountability <sup>a</sup>   | 1  | 2.937                    | 1.023                      | 0.316          |
| Depletion X Accountability  | 1  | 2.609                    | .908                       | 0.345          |
| Trait Self-Control  | 1  | 18.305                   | 6.373                      | 0.014          |
| Error   | 57   | 2.872                    |                            |                |
| <b>Panel C: Planned Comparison Test<sup>a</sup></b>   |  |                          |                            |                |
| <b>Source of Variation</b>  |  | <b>T-statistic</b>       | <b>p-value<sup>b</sup></b> |                |
| H1: Depleted < Not Depleted (+1,-1)   |  | 1.28                     | 0.103                      |                |
| H2: Depleted/Not Accountable < Depleted/Accountable,<br>Not Depleted/Not Accountable, Not Depleted/Accountable<br>(-3,+1,+1,+1) |  | -.670                    | 0.253                      |                |
| No Depletion/No Accountability < No<br>Depletion/Accountability   |  | 1.378                    | 0.087                      |                |
| No Depletion/No Accountability < Depletion/No<br>Accountability   |  | 1.605                    | 0.057                      |                |

<sup>a</sup> Results include the covariates of trait self-control  
<sup>b</sup> Reported p-value is the one-tailed equivalent



The results of the follow up experiment suggest that the main effect for depletion is not significant ( $p = 0.194$ , two-tailed) and there is no significant interaction ( $p = 0.345$ , two-tailed). However, a planned comparison is conducted to test the directional nature the hypothesis related to the main effect for depletion. The depleted condition is assigned a contrast weight of +1, and the non-depleted condition is assigned a contrast weight of -1. The hypothesized interaction is also analyzed using a planned comparison. The depleted/non-accountable condition is given a contrast weight of -3, while all other conditions are given a contrast weight of +1. The results of the planned comparisons are presented in Table 5 Panel C. The findings suggest there is no significant main effect for depletion ( $p = 0.103$ , one-tailed), and no significant interaction ( $p = 0.253$ , one-tailed). These findings are consistent with the results of the initial experiment.

Given the results of the prior experiment and the few studies that suggest depletion may improve performance on subsequent tasks (Converse and DeShon 2009; DeWitte et al. 2009), I conduct two additional planned comparison tests to evaluate whether the significant simple effects identified in the prior experiment are present in the current data. The first test evaluates whether depletion improves performance given no accountability, and the second investigates whether accountability improves performance when depletion is not present. The results of these planned comparisons are also provided in Table 5, Panel C. The results indicate a marginally significant difference in performance for those individuals who are depleted and those who are not, provided no accountability pressure ( $p = 0.087$ , one-tailed). Depleted individuals performed *better* than those who were not depleted. Furthermore, accountability improved the performance of individuals who were not depleted, as there was a marginally significant difference in performance between non-depleted participants who were accountable and non-depleted participants who were not accountable ( $p = 0.057$ , one-tailed). Overall, the results from the

second experiment support the results from the first experiment and provide evidence that depletion may improve performance when completing an auditing task.

#### V. Conclusion and Opportunities for Future Research

The results of this study suggest that depletion and accountability do not interact in the expected manner. Absent accountability, depletion was found to improve, rather than hinder performance. Given this finding, it is not possible to evaluate whether accountability is able to offset performance declines associated with depletion. Surprisingly, the findings indicate that both accountability and depletion improve performance. The combined effect of depletion and accountability, however, do not improve performance beyond the performance of participants who were only accountable and those who were only depleted. This indicates that depletion and accountability act as substitutes for improving performance.

These findings are counter to the significant stream of research on the strength model of self-control (e.g. Baumeister et al. 1998, Baumeister et al. 2007), as well as the current accounting literature on ego depletion. Current research in accounting provides some evidence that depletion may hinder subsequent performance. Kremin (2014) finds that depletion hinders auditors' abilities to properly identify an error in an analytical procedure, but only when client risk is low. Bhaskar et al. (2016) performed two experiments to investigate the interactive effect of trait skepticism and depletion and professional identity and depletion. In one experiment, they find that depletion does hinder performance when depletion was induced by requiring participants to resist temptation.<sup>28</sup>

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<sup>28</sup> It should be noted, however, that Bhaskar et al. (2016) conduct another experiment where they use a depleting task that involves switching mindsets, but it is not a task previously used in the psychology literature. In this

As previously discussed, recent research has challenged the strength model of ego depletion, with some research suggesting that there are circumstances under which exertion of self-control resources improves performance, which would be consistent with the results of this study (Converse and DeShon 2009; DeWitte et al. 2009). Researchers propose alternative theories that may help to explain the performance improvement experienced by depleted individuals.

DeWitte et al. (2009) draw on cognitive control theory to suggest that when consecutive tasks of self-control utilize similar self-control processes, performance improves on the second self-control task. Converse and DeShon (2009) also indicate that significant exertion of self-control resources may improve performance on subsequent tasks. They adhere to the self-adaptation view of self-control and speculate that the improved performance is attributable to one's ability to adapt to the level of self-control that is required of them. However, in their experiments, they find this adaptation generally occurs over multiple consecutive tasks requiring self-control, as opposed to just one initial self-control task.

There a couple of additional plausible explanations for the unexpected results in this study. The initial depletion task may have engaged participants' system two by requiring participants to utilize more effortful cognitive processing. The use of this system then carried over to the risk assessment exercise, resulting in more effortful cognitive processing on the second task and thus improved performance. Those individuals who received either no initial task, or received the non-depleting e-counting task, likely relied on their default system one to complete the risk assessment exercise. This system, however, tends to be cognitively lazy and

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experiment, they found no main effect for depletion. Interestingly, they find some evidence that the depleting task did improve performance for participants with low levels of professional identity.

operates more automatically, often utilizing heuristics in decision making. As such, participants utilizing system one exerted less cognitive effort on the risk assessment exercise resulting in poorer performance.

Another possible explanation is that the depleted participants may have perceived the risk assessment exercise to be more enjoyable relative to the monotonous, yet challenging nature of the depletion task. Given that participants are accounting students, it is reasonable to assume they may have enjoyed the risk assessment exercise. While the non-depleted participants may have also found the risk assessment task to be enjoyable, their frame of reference would be different. They may not appreciate the risk assessment exercise to the same extent as the depleted participants. Although no definitive conclusion can be made as to whether these proposed explanations can be attributed to the unexpected findings in this study, additional research should continue to investigate why depletion sometimes helps rather than hinders performance.

This study contributes to the literature on ego depletion in that it helps to extend our understanding of ego depletion in an auditing context. It provides evidence that depletion may improve performance in certain circumstances. The auditing domain is unique such that certain cognitive phenomenon may not translate to an audit setting, and it is important to explore where these differences occur. Furthermore, this study also adds to the conflicting psychology literature on ego depletion by highlighting a scenario where the strength model of self-control does not hold true. It provides further evidence that the strength model of self-control does not apply to all situations, thus future research should continue to refine the strength model of self-control and identify conditions to which the theory is applicable. Lastly, this study contributes to the literature on accountability by investigating the ability of accountability to moderate another cognitive phenomenon, ego depletion.

As with any study, there are limitations that must be discussed. The use of an e-counting task to induce depletion is one of a variety of exercises expected to be depleting. As such, it is possible that the results may differ when utilizing an alternative depleting task. Furthermore, ego depletion research commonly uses the sequential task setting, as was done in this study. We are unable to definitively state whether the depleting task caused depletion, but we infer the depletion due to the change in performance on the secondary task; in this instance, the risk assessment exercise. Furthermore, the risk assessment exercise was also shortened from the version utilized by Bhaskar et al. (2016). This shortened version of the risk assessment exercise may not have required the use of enough self-control resources such that performance declines would be evident in those participants with limited self-control resources. It is possible the results would differ if participants were provided the full risk assessment exercise. Lastly, the use of students as participants was deemed appropriate due to the cognitive phenomenon being investigated. However, it is unknown whether auditors would respond in the same manner as auditing students.

Although the findings of this study are counter to the strength model of self-control, future research should investigate the circumstances under which individuals' performance is improved or hindered by depleting self-control resources. Researchers should consider alternative theories regarding self-control to gain a more complete perspective on how self-control impacts performance in an audit context. Future research should also investigate the persistence of depletion and determine how long the positive or negative effects of depletion may impact performance. Currently, very little is known about how long the benefits or consequences of depletion may last.

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# **STUDY THREE: AUDITOR JUDGMENT IN A MULTIPLE ACCOUNTABILITY SETTING: THE EFFECTS OF POWER LEVEL AND JUSTIFICATION TIMING**

## I. Introduction

Accountability is a key element of the auditing profession and reflects an auditor's responsibility to justify their decisions to a number of important parties, including various firm members, client contacts, regulatory bodies, and financial statement users (e.g. Gibbins and Newton 1994; Bierstaker and Wright 2001; Rich 2004; Bagley 2010). Oftentimes auditors must manage multiple accountability relationships concurrently and consider the preferences of multiple parties when making decisions. This can be particularly challenging when the parties' preferences conflict. Elements of these conflicting accountability relationships can differ, which may impact auditors' decision-making processes. Specifically, the parties may have different power levels, reflected in their differing abilities to impose consequences upon the auditor for unsatisfactory performance (Tetlock 1999). In an auditing context, justification timing may also vary. Justification timing refers to the point at which the auditor must justify their decision relative to when the decision was made. For example, supervisory review of audit workpapers may occur immediately upon completion of section work or be delayed a few weeks, depending on the audit (Lambert and Agoglia 2011). Thus, the point at which the auditor must justify their decision as part of the review process varies. Bazerman et al. (2002) allude to the potential impact of justification timing on auditor decision making, by stating, "People tend to be far more responsive to immediate consequences than delayed ones..." (p. 100).

This study aims to advance our understanding of auditor decision making in a multiple accountability setting. Specifically, it investigates how the power difference between conflicting parties and the timing of justification influence auditor decision making in a client/superior

accountability setting. Understanding the effect of these factors is particularly important due to their implications for audit quality. Professional standards do not suggest auditor objectivity should be influenced by external factors associated with the multiple accountability relationships that auditors manage (PCAOB 2015). If characteristics inherent to certain accountability relationships negatively impact auditor judgments, firms and other professional organizations may want to consider factors that either mitigate or eliminate their effects.

Accountability to one's superior and the client contact represents a common accountability relationship that auditors must manage on a day-to-day basis.<sup>29</sup> Furthermore, the preferences of these two parties are likely to conflict at times. The audit review process facilitates accountability to one's superior, as the auditor must respond to comments received regarding their work and address any questions from their superior. Auditors experience accountability to the client through the day-to-day interaction and dialogue that occurs when completing section work. Auditors often request additional audit evidence or ask questions regarding their assigned tasks (Bennett and Hatfield 2013). As part of this process, the auditor must justify to the client why the additional requests are necessary, or explain their conclusions regarding the appropriateness of a particular account balance or the effectiveness of an internal control.

Accountability theory and construal level theory (CLT) establish expectations regarding the impact of power difference and justification timing, respectively. Accountability theory suggests that when there is a large power differential between two conflicting parties, the accountable party will make decisions more in line with the preferences of the more powerful

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<sup>29</sup> Superior refers to the auditor's immediate supervisor. For a senior auditor, this is generally the manager on the engagement.

party (Tetlock 1999). This is due to the ability of the more powerful party to impose consequences for unsatisfactory performance that are more severe than the consequences imposed by the less powerful party. However, when the power differential is small (i.e. there is little difference between power levels) and the auditor faces significant consequences from either party, auditors will engage in more cognitively, complex information processing to reach their decisions (Tetlock 1999). This more effortful decision-making process will result in a decision that will differ significantly from the decision made when the auditor is accountable to parties with a large power differential. This cognitively complex information processing allows individuals to make decisions that they can defend when required to justify their conclusions to parties who may not agree.

Justification timing is also expected to influence auditor decision making. Accountability theory proposes how auditors will react in a variety of accountability settings; however, it does not address how variances in justification timing may impact individuals' decisions. CLT suggests that auditors think about events in the near future differently than they think about events in the distant future (Lieberman and Trope 1998). Events in the near future are assessed using low-level construals, meaning the auditor will consider detailed, specific aspects of an event. Distant events, on the other hand, evoke high level construals, or broader, more general ideas and thoughts. In a decision justification setting, auditors are expected to have an increased focus on the potential reaction of the evaluative party (a low-level construal) when the event is near versus distant, thus causing auditors to align their decision more closely with the preferences of the temporally proximate party.

This study employs a 2x2 between-participants experimental design to investigate the effects of power level difference (i.e. power differential) and justification timing. Power

differential is manipulated as large vs. small by varying the client contact's position as either a staff accountant or the CFO, respectively, while keeping the superior, the audit manager, the same in both conditions. Justification timing is manipulated at two levels by varying whether the participant must first justify their decision to their superior or to the client.

Overall, the results of this study indicate that the level of power differential between conflicting accountability sources influences auditors' decisions. A large power differential between parties results in decisions that align more closely with the superior's preference than does a small power differential. Furthermore, accountability to conflicting sources with a small power differential results in a more integratively complex decision-making process. Justification timing also affected auditors' decisions, but not in a manner consistent with CLT. The pattern of means indicates that auditors' decisions more closely align with the preferences of the last party to whom they justify their decision, rather than the first.

This study contributes to the literature on accountability by furthering our understanding of how two characteristics (power level and justification timing) inherent in conflicting accountability relationships influence decision making. While the literature has frequently acknowledged that multiple accountability pressures are a reality in the audit profession, limited research has examined auditors' decisions when accountable to multiple sources with differing preferences (Gramling 1999; Bierstaker and Wright 2001). This study is the first to consider how a perceived power difference between parties impacts decision making in a multiple accountability setting.

Theoretically, this research has broader implications and helps us understand how the power difference and justification timing between two conflicting parties influences decision

making in a professional context. These findings may generalize to a variety of accountability relationships in the auditing environment.

Practically, this research helps to inform audit firms, professional organizations, and regulatory bodies how two important elements of any multiple accountability relationship influence auditor decision making. Due to the influence of a power differential between parties, audit firms should consider the multiple accountability relationships that auditors manage and the impact that these relationships have on individual auditors' decisions making processes. Knowledge on this topic may help firms identify factors that can mitigate the undue influence of a power difference between parties.

The paper proceeds as follows: The next section discusses the theory and hypotheses development. Section III discusses the experimental method and design. Lastly, section IV provides the results, and section V discusses the conclusion and opportunities for future research.

## II. Theory and Hypotheses Development

### *Accountability*

Prior research on accountability in auditing demonstrates the tendency of auditors to make decisions in line with the party to whom they are accountable, when that party's preference is known (e.g. Gibbins and Newton 1994; Buchman et al. 1996; Peecher 1996; Tan et. al. 1997; Cohen and Trompeter 1998; Turner 2001). Research also recognizes that auditors manage multiple accountability relationships, including the accountability relationships to one's superior and to the client (e.g. Gibbins and Newton 1994; Buchman et al. 1996; Bierstaker and Wright 2001). Bagley (2010) is one of a few studies to consider the effect of multiple accountability pressures on auditor performance. She finds that auditors accountable to multiple sources

experience higher levels of negative affect, which results in decreased performance on low complexity audit tasks. However, due to the manipulation of multiple accountability pressures, she is unable to determine what element of the multiple accountability setting is influencing auditor affect- the sources of pressure, the extent or pressure, or the level of clarity regarding source preferences. She suggests that researchers explore combinations of accountability pressure other than the manager, partner, and PCAOB pressure combination employed in her study.

More closely related to the current study is research that investigates how auditors are influenced by, and respond to, conflicting viewpoints from the client and audit partner (Gramling 1999; Bierstaker and Wright 2001). Gramling (1999) and Bierstaker and Wright (2001) both evaluate auditor decision making in an audit planning context when facing conflicting preferences from the client and the audit partner. Gramling (1999) investigates how auditors are impacted by client pressure (preference to reduce fees vs. receive a high-quality audit), and partner pressure (preference for increased quality and skepticism vs. efficiency and profitability). She finds that audit managers increase reliance on the use of internal audit when the audit client prefers low audit fees to a high-quality audit. Interestingly, the partner's preference for either quality and skepticism or efficiency and profitability do not have a significant impact on the managers' reliance decisions. She also finds no interactive effect between client and partner preference. Bierstaker and Wright (2001) also investigate how client fee pressure (fees are consistent with or less than prior year) and the partner's preference for efficiency (present or absent) impact audit planning decisions regarding budgeted hours and planned testing. They find that auditors budget significantly fewer hours when audit fees have decreased from prior year. Evidence suggests that auditors generally reduce the hours of second year staff auditors. They

do not find that the partner's preference for efficiency impacts budgeting decisions. Related to testing decisions, however, both client fee pressure and partner pressure do have a significant effect on the number of planned audit tests.

While these studies investigate auditor decision-making in the presence of conflicting preferences between accountability sources, they do not consider the impact that a power difference between the conflicting parties has on auditor decision making. Bierstaker and Wright (2001) and Gramling (1999) manipulate client pressure and partner pressure, but they do not specifically manipulate a power level difference between these parties. Rather, they focus on altering the client and partner preferences. Furthermore, these studies do not induce accountability pressure from each source by requiring participants to justify their decision to each party. As such, justification timing has also not been evaluated in these studies. It is important that research consider how specific characteristics associated with conflicting parties and certain environmental factors influence auditor decision making in a multiple accountability setting when conflicting preferences are present.

The power of an accountability source directly relates to the level of control that the party has over resources that the accountable party desires (Tetlock 1999). This control over desired resources gives parties' the ability to impose consequences for unsatisfactory performance by the accountable party. An important element of accountability is the notion that consequences are incurred, positive or negative, depending on whether one's justification is satisfactory or not (Lerner and Tetlock 1999). Lerner and Tetlock (1999) recognize multiple sub-manipulations of accountability, one of which relates to the expectation that one's performance will be evaluated and consequences will be associated with unsatisfactory performance.



In an auditing environment, when accountable to the client contact and superior, the resources that they may control include tangible items such as monetary incentives, or audit evidence, and intangible items such as future job opportunities, promotions, or an accommodating work environment. As such, power level can vary among conflicting parties and may influence an accountable party's decision-making process. Although theoretically power level is either equal or unequal, from a practical perspective the size of the power differential between conflicting parties is subjective.

The level of the client contact with whom an auditor interacts may vary greatly. This variance would then result in differing power levels between the client and superior. Smaller audit clients often have fewer accounting personnel, so there is less diffusion of accounting responsibilities. Management may be performing a variety of accounting functions; thus, auditors at all levels may interact directly with client management. Conversely, larger audit clients have a number of accounting personnel. Individual workers may be assigned responsibilities that focus on one area of the business rather than covering multiple diverse areas. In this situation, audit team members may interact with a lower level accountant specifically responsible for the area under audit.

In the current study, the power differential between accountability sources is operationalized by describing the client as either the CFO or a staff accountant. The superior in this study is the audit manager. The audit manager and a CFO are expected to have a small power differential, as both are capable of enforcing more severe consequences with a longer-term effect. In addition to creating a headache for the auditor on a day-to-day basis by being unhelpful and slow to respond to audit requests, the CFO's position within the organization allows him or her to request the auditors' removal from the engagement or prevent the auditor

from obtaining future employment with the company. Similarly, the auditor's superior may also request the auditor's removal from the audit engagement or give a poor performance review. Conversely, when the client contact is a lower level accountant, the manner in which he or she can react to unsatisfactory responses from the auditor is limited. He or she may create challenges for the auditor by being unhelpful and slow to respond to the auditor's requests, but likely cannot impose consequences as severe or long lasting as the auditor's superior. This situation, therefore, represents a large power differential between the client and superior.

Accountability theory suggests that when one party is more powerful than the other, individuals tend to align their decisions with the more powerful party (Tetlock 1999). However, when the power difference between parties is small, the decision is less clear-cut as auditors will likely feel conflicted about which party to please. In an attempt to manage reactions from both powerful parties, auditors may engage in a more cognitively complex decision-making process. In this situation, individuals' responses will likely differ from the responses formulated when auditors are accountable to parties with a large power differential.

The auditing environment is unique, as significant judgment is involved in determining the proper accounting treatment for a particular situation, often with a range of possible outcomes. As such, when there is a large power differential between parties, precise decision alignment is unlikely. However, the more powerful party is expected to have greater influence on the auditors' decisions. Thus, the auditors' decisions will align more closely with the more powerful party's preference. In the client/superior setting where the superior is the more powerful party, auditors' decisions will align more closely with their superior's preference compared to when the auditor is accountable to a client and superior with a small power differential.

**H1a:** Auditors will make decisions more in line with their superior when the power differential between the client contact and superior is large, compared to when the power differential is small.

Accountability theory also suggests that auditors accountable to conflicting parties will exert more cognitive effort in their decision-making process (Tetlock 1999; Green et al. 2000). They "...may become more integratively complex in their consideration of the issues at hand, recognizing alternative perspectives on an issue....and identifying trade-offs" (Green et al. 2000, 1381). This allows the decision maker to reach a defensible conclusion when called upon by either party to justify their decision. Prior research supports this notion and finds that auditors engage in more effortful decision making when accountable to multiple sources with conflicting viewpoints (Jensen 1999; Wood 2009). Further, as auditors face increased pressure as a result of conflicting views from parties with a small power differential, the cognitive effort exerted is expected to be greater than if the power differential is large. When the power differential is small, the auditor is expected to exert more effort to formulate a unique response. When the power differential is large, the auditor is expected to be influenced by the more powerful party and is expected to exert less cognitive effort.

**H1b:** Auditors will engage in more integrative, complex thinking when the power differential between the client contact and superior is small, compared to when the power differential is large.

### *Construal Level Theory*

Construal level theory is a comprehensive decision-making theory in social psychology, which helps provide a better understanding of individual behavior given various levels of psychological distance (temporal, spatial, social, or hypotheticality) (Trope and Liberman 2003).

Trope and Liberman (2010) describe psychological distance as "...a subjective experience that

something is close or far away from the self, here, and now” (p. 440). Experimental researchers in accounting have begun to apply CLT to predict behavioral outcomes in a variety of areas including managerial accounting (McPhee 2014), financial accounting (e.g. Elliott et al. 2014), and auditing (e.g. Backof et al. 2016). Specific to the audit context, Backof et al. (2016) investigate whether auditor mindset and evidence format influence auditor skepticism regarding managements’ assumptions underlying a complex estimate. Drawing on CLT, they propose and find that priming a concrete mindset improves auditors’ skepticism by increasing auditors’ awareness towards evidence that is inconsistent with management’s assumption. The concrete mindset prime also has an additive effect on skepticism levels when utilized in conjunction with graphical (as opposed to textual) evidence which also increases auditor skepticism. Furthermore, Weisner and Sutton (2015) apply the spatial component of psychological distance and find that increased spatial distance in the location of a teleworking specialist results in reduced auditor reliance on the specialist. Weisner’s (2015) review of CLT research provides additional opportunities for the application of CLT in accounting.

From an auditing perspective, one type of psychological distance that could impact judgments is the temporal component. This is particularly important to consider given that the point at which one must justify his or her decisions may vary by accountability source. For example, the audit review process may be delayed (Lambert and Agoglia 2011), thus justification to one’s superior may occur weeks after the completion of section work, while justification to the client is required during the execution of the required audit tasks. While not directly related to the experimental context in this study, Peecher and Solomon (2014) acknowledge that PCAOB inspections occur subsequent to the completion of fieldwork and in a different study Peecher et al. (2013) propose research questions that consider differences in

concurrent and retrospective inspections. Auditors may have to justify their decisions to regulators months after the completion of the audit work. CLT provides an explanation of how auditors might respond to conflicting accountabilities with varying justification timing.

CLT suggests that variance in temporal distance affects the way in which individuals evaluate or think about certain events. When assessing events in the near future and distant future, individuals use low-level and high level construals, respectively. High level construals consist of broader, more general thoughts about the event and include features that are essential to its occurrence, while low level construals consist of more contextual features or aspects of the event that are situation specific (Trope and Liberman 2003).

Given that individuals assess temporally proximate events using low-level construals, one can infer auditors' actions in situations where justification of a decision is more immediate. In thinking about the requirement to justify their decision to certain evaluative others, auditors will consider specific, contextual details associated with the justification process when required to justify their decisions in the near future. They may imagine the person to whom they will justify their decision, and how and when the justification process will take place. They will likely consider the immediate reaction they will receive for providing an undesirable explanation and consider how both they and the evaluative party will feel. For temporally distant events, however, the auditor will think about the event in broader terms. They may only consider that justification will require them to explain their decisions, but fail to consider specific, contextual details of the situation.

Differences in justification timing are expected to alter decision outcomes. When justification timing differs between two conflicting parties, the auditor is expected to focus on the preferences of the party to whom they must justify their decision in the near future over the

preferences of the party to whom they must justify their decision in the distant future. This is due to the more focused and detailed consideration given to the temporally proximate event.

**H2:** When justification timing varies, auditors will make decisions more in line with the party to whom they must first justify their response.

When auditors must first justify their decision to their superior, the consequences perceived by auditors in both the large and small power differential conditions would be similar. Thus, in this situation, auditors in each power differential condition will make judgments that align more closely with their superior's preferences. This is due to the auditor's focus on the potential consequences for providing an unsatisfactory response to this more temporally proximate party. However, when they must first justify their decision to the client, the power differential between parties has an effect. When the power difference between the client (staff accountant) and superior is large, auditors are expected to perceive the consequences associated with an unfavorable response to be less severe than auditors who are accountable to the client (CFO) and superior with a small power difference. Given this difference in perceived consequences, auditors are expected to most closely align their decisions with the client preferences when they must first justify their decision to the client and there is a small power differential between the client and the superior.

**H3:** Justification timing will moderate the effect of power level such that auditors will make decisions more in line with the client when there is a low power differential between the client contact and the superior, and the auditor must justify their decision to the client first.

### III. Experimental Method and Design

#### *Participants*

Auditor participants were obtained through Qualtrics Panel, which used a “double opt-in process” when recruiting panel members to help guarantee high-quality participants. Panel

members were screened prior to participation to ensure they had the appropriate credentials. Only those recruits who were currently employed as an external auditor and worked at a firm with greater than 1,000 people were qualified to participate. Useable responses were obtained from 80 auditors.<sup>30</sup> Table 6 presents demographic information for the participants. Approximately 81% of participants had 1-10 years of auditing experience. The majority of participants had only external audit experience (72.5%), but some had experience in both external and internal audit (27.5%). Participants were also primarily current staff and senior auditors (68.8%). Fifty-five percent of all participants were female and 45% were male.

Table 6: Demographic Profile of Participants

|                                      | n (%)     |
|--------------------------------------|-----------|
| <b>Gender:</b>                       |           |
| <i>Female</i>                        | 44 (55.0) |
| <i>Male</i>                          | 36 (45.0) |
| <b>Age:</b>                          |           |
| <i>18-20</i>                         | 1 (1.2)   |
| <i>21-25</i>                         | 8 (10.0)  |
| <i>26-30</i>                         | 22 (27.5) |
| <i>31-35</i>                         | 18 (22.5) |
| <i>36-40</i>                         | 12 (15.0) |
| <i>40+</i>                           | 19 (23.8) |
| <b>Years of Auditing Experience:</b> |           |
| <i>1-5 years</i>                     | 34 (42.5) |
| <i>6-10 years</i>                    | 31 (38.8) |
| <i>11-15 years</i>                   | 9 (11.2)  |
| <i>16+ years</i>                     | 6 (7.5)   |
| <b>Type of Auditing Experience:</b>  |           |
| <i>External Audit</i>                | 58 (72.5) |
| <i>Internal Audit and External</i>   | 22 (27.5) |

<sup>30</sup> Upon collection, qualitative data associated with the DV was evaluated to ensure quality responses and sufficient effort. Those responses were reviewed for the following characteristics- gibberish, uninterpretable incomplete sentences, responses that do not relate to the question or materials provided, and responses that indicate a lack of interest in the study. Data with these characteristics were excluded due to poor quality and additional data were obtained by Qualtrics Panel. Three rounds of data collection were executed to obtain 105 responses, 80 of which were deemed usable. In the overall sample of 105 participants, 25 participants were excluded for the following reasons: 13 were removed due to an improper response to an open-ended question regarding the DV, 10 were removed due to an unreasonable number of auditors being on an average.

|                              | n (%)     |
|------------------------------|-----------|
| <b>Level within the Firm</b> |           |
| <i>Staff</i>                 | 18 (22.5) |
| <i>Senior</i>                | 37 (46.3) |
| <i>Manager/Sr. Manager</i>   | 20 (25)   |
| <i>Partner</i>               | 5 (6.3)   |

### *Experimental Task*

This experiment is a 2 x 2 between-participants experimental design that manipulates power differential (small vs. large) between parties with conflicting viewpoints and justification timing (superior first vs. client first). The participants are told that their client contact is either the staff accountant or the CFO, which represents the manipulation of the large and small power differential, respectively. They are then told they must immediately explain their decision to either their superior or the client contact. They are also told that they will be asked to explain their decision to the remaining party at a later point in time.

Participants receive a hypothetical case about the calculation for the allowance for uncollectible accounts.<sup>31</sup> They assume the role of the audit senior on the engagement for CWN where they are responsible for the audit of the allowance for doubtful accounts. Due to a change in marketing strategy at CWN, the client has elected to change the reserve percentages associated with this account. The new marketing strategy has resulted in the addition of four major customers to CWN's customer base. After the change in marketing strategy, multiple smaller customers from prior years make up a significantly smaller portion of CWN's accounts receivable than they have in the past. As a result, the client has changed the way that the reserve percentages are calculated. They have opted to use only current year information to calculate the

<sup>31</sup> Task was adapted from Johnstone and Muztako (2002).



uncollectibility of each aging bucket resulting in an allowance account balance of \$400,000. In prior years, however, they have used a five-year historical average for this calculation.

Participants are told that their superior, the audit manager on the engagement, prefers a more conservative approach and favors the methodology used in the prior year. The methodology used in prior years would yield a balance of \$600,000 in the allowance account. The new methodology results in a balance that is \$200,000 less than it would be if the balance were calculated using the methodology the client has employed in prior years. This scenario is designed to elicit feelings of conflict between the client and the superior. Information concerning the four new customers and their credit histories, as well as the client's reserve calculation and the prior year audit workpaper are made available to participants. They are then asked to make a decision regarding the appropriate balance for the allowance for doubtful accounts and to provide a justification for that decision.

### *Independent Variables*

Power differential between the superior and client contact is manipulated by altering the client's position within their organization. As discussed previously, the ability to control resources that a decision maker values represents an individual's power level. The control of these resources allows an individual to impose consequences upon a decision maker for unsatisfactory performance. While imposing actual consequences upon participants is not possible, the participants are told what consequences they may incur for disagreeing with their client or superior. The wording utilized in the case materials to describe the consequences associated with unsatisfactory responses to the various parties is provided in Appendix A.

A large power differential is operationalized by describing the client contact as a staff accountant and the superior as an audit manager. The scenario describes potential consequences

for not agreeing with each of the respective parties. The staff accountant is unlikely to be able to impose consequences as severe as the auditor's superior, thus representing a large power differential between the two parties. The accountant may create challenges for the auditor by being unhelpful and slow to respond to the auditors' requests. However, they likely cannot impose consequences as severe or long lasting as the auditor's superior, such as providing a poor performance review or requesting the auditor's removal from the audit engagement.

A small power differential, on the other hand, is operationalized by describing the client contact as the CFO; the superior is the audit manager in this condition as well. The CFO also has the ability to potentially impose severe consequences with a longer-term effect, similar to those of the audit superior. The CFO's position within their organization will likely allow him or her to request the auditors' removal from the engagement and prevent the auditor from being considered for future job opportunities with the company. The ability to impose more severe, potentially long-term consequences represents the small power difference between the audit superior and the CFO.

Justification timing is manipulated as superior first or client first. Participants are told they must immediately provide an explanation to the audit manager [staff accountant/CFO] for their decision regarding the appropriate balance for the allowance for doubtful accounts. They are then told that they will also be asked to provide an explanation for their decision to the staff accountant/CFO [audit manager] at a later point in time. Although participants did not experience an actual, significant time delay, prior psychology research on construal level theory has successfully manipulated temporal distance by describing a time delay (Liberman and Trope 1998; Trope and Liberman 2000). As such, the manipulation utilized in this study is expected to

successfully manipulate temporal distance such that participants consider the immediate event using low level construals and the distant event using high level construals.

To operationalize accountability in the experimental setting, participants were told that their work will be reviewed and they will be asked to immediately provide an explanation for their decision to one of the two parties to whom they are accountable. This party varies depending on experimental condition. They were also told they will be required to provide an explanation to the remaining party at a later point in time. Participants were required to “sign off” on the balance they deem to be appropriate, which consisted of them agreeing to a statement acknowledging that they feel the balance they selected is appropriate and that they are signing off on their work.

#### *Attention and Manipulation Check Questions*

Prior to the dependent variable, participants were asked what role they were to assume in the case provided. They were not allowed to continue with the survey until they provided the correct response. This was done to ensure participants assumed the proper role when responding to the dependent variable. This question is an attention check and is not deemed to be a manipulation check as participants across all conditions assumed the role of audit senior.

Immediately following the screen with the dependent variable, the first manipulation check question asked participants to indicate the position of their client contact in the case materials provided. Those participants who responded incorrectly to this question were not allowed to continue with the survey, as it suggests insufficient attention was paid to the case materials.

To determine if the participants perceived a power difference between the client contact and the superior, they were asked two questions related to perceived consequences. The first

question asked about the severity of consequences associated with making a decision that does not align with the client contact and the second asked about the severity of consequences associated with making a decision that does not align with the audit manager. Theoretically, power difference represents the variability in consequences that may occur between two accountability sources. In the small power differential condition, the Wilcoxon signed-rank test indicates there was no significant difference in the perceived consequences for disagreeing with the CFO (mean = 3.23) and the audit manager (mean = 3.23) ( $p = 0.39$ , one-tailed). However, participants in the large power differential condition did perceive the consequences for disagreeing with the audit manager (mean = 3.25) to be significantly more severe than the consequences for disagreeing with the staff accountant (mean = 2.88) ( $p = 0.02$ , one-tailed). These results indicate that the variation in the client contact's position successfully manipulated the perceived power level difference between the accountability sources, such that there was a large and small power difference in the staff accountant and CFO conditions, respectively.

### *Dependent Variables*

The primary dependent variable is the extent to which the participant's response aligns with the superior's preference. The measure used to assess decision alignment (H1a, H2 and H3) is the dollar difference between the client's preferred balance in the allowance for doubtful accounts and the participant's judgment regarding the appropriate balance. The client prefers a balance of \$400,000, and the superior prefers a balance of \$600,000; thus, the amount can range from \$0 to \$200,000. The larger the difference, the greater the alignment between the participant's assessment and the superior's preference.

The extent of integratively complex thinking employed by each participant (H1b) is measured based on the total number of factors that the participant considered in making their

decision. These factors consist of items related to the decision itself as well as to the external decision making environment. More factors identified by the auditors suggest a greater consideration of “alternative perspectives on an issue” as well as trade-offs between various decision outcomes (Green et al. 2000, 1381). Those participants employing more integrative complex thinking should identify more factors as applicable to their decision-making process.

#### IV. Results

##### *Decision Alignment*

Table 7, Panel A provides the descriptive statistics for decision alignment for each experimental condition. The higher the value, the greater the alignment of the participant’s decision and the superior’s preference. The values displayed are in thousands of dollars. A review of the means associated with each power differential condition shows that auditors accountable to the staff accountant made decisions that were \$13,500 closer to their superior’s preference (mean = 114.35) than did auditors accountable to the CFO (mean = 100.05). The mean difference between the small power difference and large power difference indicates that auditors tend to more closely align their decisions with the preferences of their superior when there is a large power differential between the client and their superior. Justification timing also appears to impact auditors’ decisions. However, a comparison of group means suggests that auditors align their decisions more closely to the preferences of their superior when they must justify their decision to the client first (mean = 118.56) compared to when they must justify their decision to their superior first (mean = 95.26). A graphical depiction of the results is provided in Figure 5.

Table 7: Descriptive Statistics and Tests of H1a, H2, and H3.

| <b>Decision Alignment (in 000's) *</b>  |                             |                           |                             |                |
|---|-----------------------------|---------------------------|-----------------------------|----------------|
| <b>Panel A: Descriptive Statistics- Decision Alignment (higher value equals greater alignment with superior) Mean [Standard Deviation]</b>  |                             |                           |                             |                |
| <b>Power Differential</b>   | <b>Justification Timing</b> |                           |                             |                |
|   | <b>Client First</b>         | <b>Superior First</b>     |                             |                |
| <b>Small Power Differential- CFO Client Contact</b>   | 114.45<br>[50.28]<br>n=20   | 85.65<br>[38.63]<br>n=20  | 100.05<br>[46.60]<br>n=40   |                |
| <b>Large Power Differential- Staff Accountant Client Contact</b>  | 122.48<br>[50.45]<br>n=21   | 105.37<br>[36.90]<br>n=19 | 114.35<br>[44.81]<br>n=40   |                |
|   | 118.56<br>[49.90]<br>n=41   | 95.26<br>[38.61]<br>n=39  |                             |                |
| <b>Panel B: ANCOVA Results</b>  |                             |                           |                             |                |
| <b>Source of Variation</b>  | <b>df</b>                   | <b>MSE</b>                | <b>F-statistic</b>          | <b>p-value</b> |
| Power Difference  | 1                           | 5709.42                   | 2.945                       | 0.090          |
| Justification Timing  | 1                           | 9665.42                   | 4.986                       | 0.029          |
| Power Diff X Justification Timing   | 1                           | 592.95                    | .306                        | 0.582          |
| Prior AR Audit Experience   | 1                           | 6410.04                   | 3.307                       | 0.073          |
| Error   | 75                          |                           |                             |                |
| <b>Panel C: Planned Comparison Tests <sup>a</sup></b>   |                             |                           |                             |                |
|   |                             | <b>T-statistic</b>        | <b>p-value <sup>b</sup></b> |                |
| H1a: Small Power Differential < Large Power Differential (+1,+1,-1,-1)  |                             | -1.745                    | 0.043                       |                |
| H2: Client First < Superior First (+1,+1,-1,-1)   |                             | 2.274                     | 0.985                       |                |
| H3: Small Power Differential/Client First < Small Power Differential/Superior First, Large Power Differential/Client First, Large Power Differential/Superior First (-3,+1,+1,+1) |                             | -.592                     | 0.278                       |                |

<sup>a</sup> Includes covariate of prior AR experience

<sup>b</sup> Reported p-value is the one-tailed equivalent

\* Decision alignment is the dollar difference between the client's preferred balance in the allowance for doubtful accounts and the participant's judgment regarding the appropriate balance. The amount can range from \$0 to \$200,000. The larger the difference, the greater the alignment between the participant's assessment and the superior's preference.

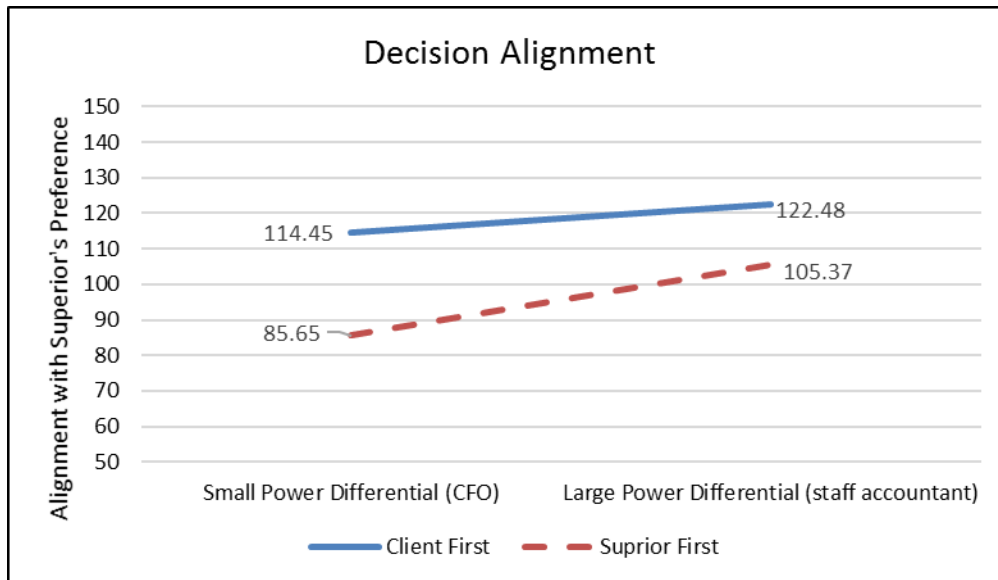


Figure 5: Graphical Depiction of Results- Decision Alignment

H1a predicts that an auditor’s decision will align more closely with the preference of their superior when there is a large power differential between the client and superior compared to when there is a small power differential between the client and the superior. A 2 x 2 ANCOVA is conducted with power difference and justification timing as the independent variables and prior experience with accounts receivable as the control variable.<sup>32</sup> The results are provided in Table 7, Panel B. The results suggest there is a marginally significant main effect for power difference ( $F = 2.945, p = 0.090$ , two-tailed). Due to the directional nature of the hypothesis, a planned comparison of the means between the large power differential condition and small power differential condition was conducted. The small power differential condition is

<sup>32</sup> Participants were asked to respond to demographic questions regarding age, gender, and work experience. Questions about work experience include information regarding years of prior work experience in accounting and auditing, type of prior work experience, prior experience auditing accounts receivable, firm type, current level within their firm, and primary industry. All demographic variables were regressed on the primary dependent variable of decision alignment and evaluated for significance. Of those variables, only two, gender and prior experience with accounts receivable, were significant at  $p < .10$ . However, when including these variables in the ANCOVA model, gender was insignificant at  $p = 0.174$ . As such, the ANCOVA model included only prior AR experience as a covariate. The conclusions reached based on the statistical analysis do not differ whether you include or exclude gender as a covariate in the ANCOVA model.

assigned a contrast weight of +1, and the large power differential is assigned a contrast weight of -1. Table 7, Panel C shows that the planned comparison is significant ( $t = -1.745$ ,  $p = 0.043$ , one-tailed). Furthermore, a review of the group means also indicates the significant results are in the expected direction. Auditors' decisions more closely align with the preferences of the auditor's superior when there is large power differential between the client and superior, thus H1a is supported.

H2 predicts that when auditors justify their decisions to two conflicting parties, the decision will more closely align with the party to whom they must first provide their justification. As shown in Table 7, Panel B, the results indicate a significant main effect for justification timing ( $F = 4.986$ ;  $p = 0.029$ , two-tailed). H2 is tested using a planned comparison, with the client first condition assigned a contrast weight of +1, and the superior first condition assigned a contrast weight of -1. The results shown in Table 7, Panel C suggest that the main effect of justification timing is not significant in the predicted direction ( $t = 2.274$ ,  $p = 0.985$ , one-tailed). Rather, the group means indicate that auditors align their decisions with the preference of the party to whom they must justify their decision *last* rather than first. As such, H2 is not supported.

Finally, H3 predicts an interactive effect between power level and justification timing such that justification timing moderates the effect of power differential. More specifically, decisions should align most closely with the client when the power differential between the client and superior is small, and the auditor must first justify his or her decision to the client. A planned comparison was conducted to identify whether participants in the small power differential/client first condition made decisions that are significantly different than participants in all other conditions. The small power differential/client first condition was assigned a contrast weight of -



3, while all other conditions were assigned contrast weights of +1. Table 7, Panel C presents the results of the planned contrast and suggests no significant difference between the small power differential/client first condition and all other conditions ( $t = -.592$ ;  $p = 0.278$ , one-tailed). As such, H3 is not supported.

### *Integrative Complexity*

H1b evaluates the extent of integratively complex thinking employed in the auditor's decision-making process. It predicts that auditors accountable to conflicting parties with a small power differential will engage in a more integrative complexity decision-making process than those accountable to conflicting parties with a large power differential. The dependent variable of interest is the number of factors each participant identified as being part of their decision-making process. Table 8 provides a description of each factor and the number of participants who identified that factor as being important in their decision-making process. The reasonableness of the client's new method for calculating the allowance was the most frequently selected factor.

Table 8: Number of Factors Identified by Factor Type

| Reasonableness of Client's New Method | Ability to Explain the Decision to Others | Manager's Happiness with the Decision | Client's Happiness with the Decision | Background and Experience of the Client | Customer Credit Histories | Background and Experience of the Manager | Client Contact's Rank within the Company |
|---------------------------------------|---|---------------------------------------|--------------------------------------|---|---------------------------|--|--|
| 53                                    | 51  | 42                                    | 40                                   | 40                                      | 39                        | 26                                       | 15                                       |

\*Each participant could select 1-9 factors that they considered in their allowance decision. The ninth category was "other" and allowed for text entry to capture any additional items that the participants may have considered in their decision-making processes. No participants selected this category, thus it has been excluded from the table.

Table 9, Panel A provides the descriptive statistics for this measure. A review of the means suggests that participants in the small power differential condition identified more factors

as being related to their allowance decision (mean = 4.20) than participants in the large power differential condition (mean = 3.45). Figure 6 provides a graphical depiction of the results related to integrative complexity.

Table 9: Descriptive Statistics and Tests of H1b

| <b>Extent of Integrative Complexity</b>   |                             |                         |                            |                |
|---|-----------------------------|-------------------------|----------------------------|----------------|
| <b>Panel A: Descriptive Statistics- Extent of Integrative Complexity (Number of Factors Identified) Mean [Standard Deviation]</b> |                             |                         |                            |                |
| <b>Power Differential</b>   | <b>Justification Timing</b> |                         |                            |                |
|   | <b>Client First</b>         | <b>Manager First</b>    |                            |                |
| <b>Small Power Differential-CFO Client Contact</b>  | 3.95<br>[2.417]<br>n=20     | 4.45<br>[2.089]<br>n=20 | 4.20<br>[2.244]<br>n=40    |                |
| <b>Large Power Differential-Staff Accountant Client Contact</b>   | 3.67<br>[1.826]<br>n=21     | 3.21<br>[1.653]<br>n=19 | 3.45<br>[1.739]<br>n=40    |                |
|   | 3.80<br>[2.112]<br>n=41     | 3.85<br>[1.967]<br>n=39 |                            |                |
| <b>Panel B: ANOVA Results</b>   |                             |                         |                            |                |
| <b>Source of Variation</b>  | <b>df</b>                   | <b>MSE</b>              | <b>F-statistic</b>         | <b>p-value</b> |
| Power Difference  | 1                           | 11.580                  | 2.842                      | 0.096          |
| Justification Timing  | 1                           | .010                    | .002                       | 0.961          |
| Power Diff X Justification Timing   | 1                           | 4.565                   | 1.120                      | 0.293          |
| Error   | 76                          |                         |                            |                |
| <b>Panel C: Planned Comparison Test</b>   |                             |                         |                            |                |
|   |                             | <b>T-statistic</b>      | <b>p-value<sup>a</sup></b> |                |
| H1b: Small Power Differential > Large Power Differential (+1,+1,-1,-1)  |                             | 1.686                   | 0.048                      |                |
| <sup>a</sup> Reported p-value is the one-tailed equivalent  |                             |                         |                            |                |

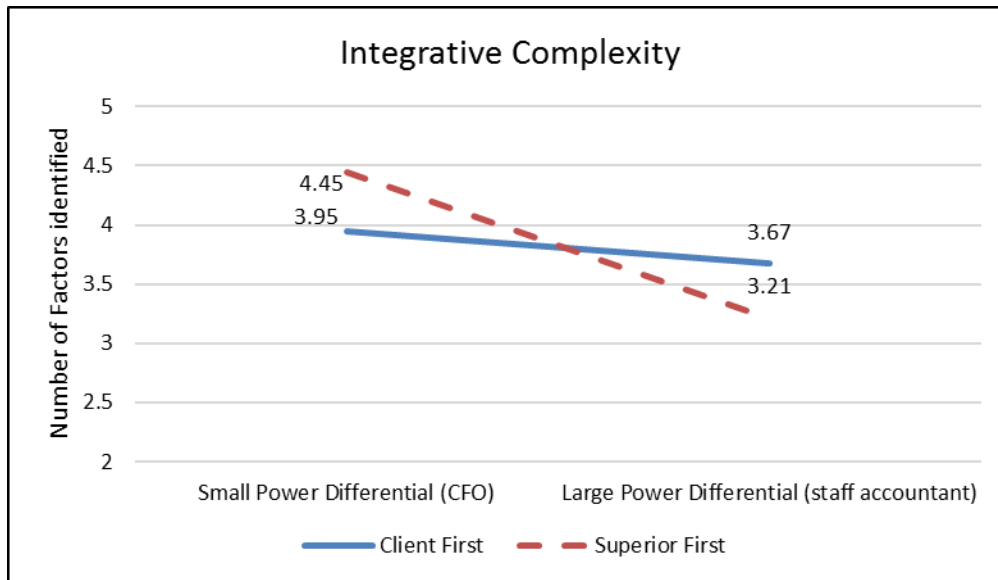


Figure 6: Graphical Depiction of Results- Integrative Complexity

To test H1b, a 2 x 2 ANOVA was conducted with the number of factors the participant identified as being part of their decision-making process representing the dependent variable, and power differential and justification timing as the independent variables.<sup>33</sup> Table 9, Panel B presents the main effect for power differential ( $F= 2.842$ ,  $p = 0.096$ , two-tailed). The planned comparison evaluating whether participants in the small power differential condition identified more factors as being relevant to their decision than participants in the large power differential condition is presented in Table 9, Panel C. The results of the planned comparison suggest that participants in the small power differential condition identified significantly more factors than those in the large power differential condition ( $t=1.686$ ,  $p = 0.048$ , one-tailed<sup>34</sup>), thus, H1b is supported for this measure.

<sup>33</sup> Participants were asked to respond to demographic questions regarding age, gender, and work experience. Questions about work experience include information regarding years of prior work experience in accounting and auditing, type of prior work experience, prior experience auditing accounts receivable, firm type, current level within their firm, and primary industry. All demographic variables were regressed on the dependent variables (total factors identified) and evaluated for significance. Of those variables, none were significant at  $p < .10$ , thus no covariates were included in the analysis.

<sup>34</sup> The Levene's test is not significant, thus the assumption of homogeneity of variance is satisfied.

#### IV. Conclusion

This results from this study provide evidence that the power level difference between two conflicting parties does influence auditors' decisions. Consistent with accountability theory, when there is a large power differential between two conflicting parties, auditors' decisions align more closely with the preferences of the more powerful party. The results also suggest that the difference in these decisions is due to the auditors employing a more integratively complex decision-making process when accountable to conflicting parties with a small power difference. However, justification timing also appears to influence auditor decision making, but not in a manner consistent with the predictions of CLT. Participants align their decisions with the preferences of the temporally distant party, rather than the temporally proximate party.

The unexpected findings regarding justification timing may be attributable to a couple of factors centered around the possibility that the participants employed a negotiation mindset when making their decision. They may have made a decision that aligns more with the party to whom they must justify their decision last, thus providing some flexibility to compromise and somewhat accommodate the first party's preference when meeting with them. Thereby, pleasing the first party through compromise, yet still aligning their decision, to a greater degree, with the party to whom they must last justify their decision, ultimately pleasing both parties to some extent. Participants may have also perceived a greater social connection with the audit manager. As such, they side with their manager when they must justify their decision to the manager last. In this instance, they may feel there is less opportunity to change their decision because they have already talked with the client, and ultimately, they want to please their manager due the strong social connection. However, when they justify their decision to the manager first, they side with the client as they may perceive that the manager would want to accommodate the client's position to some extent. Furthermore, they may feel they that if the manager is adamant

against taking the client's position, they can adjust their position if necessary. They would then contact the client with their decision, knowing they have the support of their manager. Although the experimental design did not provide opportunity for negotiation and an ability to alter the decision made throughout the justification process, the participants may have approached the task with their knowledge of the audit environment where this would likely be possible.

The findings of this study contribute to auditing research on accountability by identifying another way in which auditors' decisions are influenced by accountability pressure. Historically, research in this area has focused on accountability to a single source. This study is one of the first to investigate how certain characteristics within a multiple accountability setting influence auditor decision making. This is particularly important given the multiple accountability pressures that auditors face in practice. Understanding the impact of a power differential between conflicting accountability sources allows audit firms to implement mechanisms that may be able to mitigate these effects.

As with any study, there are limitations that must be recognized. The use of practicing auditors allowed the participants to better internalize the case materials and provided an understanding of the audit environment that audit students likely would not have. However, the electronic distribution of this experiment to auditors in remote locations provides less control than if the study were conducted in a laboratory setting. Due to this electronic distribution, the temporal manipulation was simulated by using specific wording in the case provided. It is possible, however, that a laboratory setting could produce results consistent with CLT when a significant timing delay between justifications to multiple accountability sources can be implemented. Furthermore, audit participants may have applied their understanding of the environment to the audit experiment, thus making assumptions that extend beyond the

experimental manipulations and thereby influencing their decisions in a manner inconsistent with theory.

The presence of multiple accountability pressures alone does not influence auditor decision making in a standard, predictable manner. Furthermore, the need to concurrently manage multiple accountability pressures is somewhat unique to the audit environment and differentiates the audit setting from a number of other work environments. Future research should investigate additional environmental factors or accountability source characteristics that influence decision making in a multiple accountability setting. Research should also consider contexts outside of the client/superior relationship and investigate auditor decision making when accountable to multiple other parties from regulators to the audit committee and various other stakeholders. Related to this study, researchers may also want to explore why the predictions associated with CLT do not apply in the audit setting. This could provide a better understanding of those factors that influence auditor decision making and provide more insight into those situations where CLT may not be applicable.

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## GENERAL CONCLUSION

This dissertation contains three studies examining accountability in auditing. Phillip Tetlock's social contingency model serves as the common underlying theory utilized in each study (Tetlock 1992, Tetlock and Lerner 1999, Tetlock 1999). This social psychological theory focuses on conceptualizing individuals' responses to accountability pressure. The first study develops an organizing framework for the experimental auditing literature on accountability and provides a discussion of the research based on this framework. It also synthesizes this literature and compares the overall findings to the social contingency model, offering a discussion of where these findings are consistent with the social contingency model and those instances where the findings deviate from theory. Studies two and three, which utilize Tetlock's social contingency model as theoretical motivation, experimentally investigate individual auditors' decision making under accountability pressure. In addition to utilizing Tetlock's theory, the second study uses the strength model of self-control (Baumeister et al. 1998) to examine whether accountability can mitigate the effect that ego depletion has on auditor performance. The third study investigates the influence of multiple accountability pressures on auditor decision making, also utilizing the social contingency model, as well as construal level theory (Liberman and Trope 1998) as theoretical motivation. While these studies all have a common theme of accountability, they contribute to our understanding of accountability in three unique ways.

Study one reviews the experimental audit literature on accountability and provides opportunities for future research. While much of the research on accountability focuses on the effect that accountability pressure from a single source has on auditor decision making, far less investigates the effects of multiple accountability pressures. Furthermore, limited research considers the way in which auditors respond to process and outcome accountability, thus

providing another fruitful area of research. Research focuses heavily on the impact that accountability has on auditor judgment and decision making. Surprisingly, very little research considers how environmental factors influence perceptions of accountability. To fully understand how accountability will influence auditors in practice, it is important to understand those factors that influence feelings of accountability within the audit context.

Overall, the literature review also suggests that the findings of the auditing research on accountability are generally consistent with the social contingency model. However, there are some instances where research appears to deviate from this model. A closer look suggests that the results are not necessarily inconsistent with the model, but rather, the studies encompass factors not captured in the model. Specifically, knowledge of an accountability source's preferences does not always hinder auditor effort. When these preferences are for an effective audit process, auditor effort and testing strategies can be improved.

Study two experimentally investigates the moderating effect of accountability. It examines whether accountability mitigates the performance declines auditor's experience when suffering from ego depletion. While prior research shows depletion negatively impacts auditor performance (Bhaskar et al. 2016), the results of this study indicate that depletion may improve auditor performance in certain circumstances. Additionally, the findings suggest that the performance of auditors who are accountable for their work does not differ significantly based on the presence or absence of ego depletion.

Study three examines how multiple accountability pressures influence auditors' decisions. It considers how a power level difference between two accountability sources, as well as a variance in justification timing, impact auditors' decisions. Specifically, this study operationalizes multiple accountability pressures as conflicting preferences from the audit client

and audit manager regarding the appropriate balance in allowance for doubtful accounts. These findings indicate that auditors are influenced by a power level difference between conflicting parties, and that justification timing also has an effect on auditors' decisions.

Taken together, studies two and three further our understanding of how individual auditors respond to accountability pressure(s). These studies also contribute to two other streams of research outside of accountability, one looking at the effects of ego depletion on auditor performance (study two), and the other focusing on the application of construal level theory in auditing (study three). Study two provides evidence that accountability is successful at improving auditor performance. However, ego depletion is also found to improve performance, but the effect of depletion and accountability is not additive. As such, accountability can be seen as a substitute for depletion as a means of improving auditor performance. Study three highlights the importance of considering the way in which certain characteristics associated with multiple accountability relationships influence decision making. Investigating the impact of multiple accountability pressures requires the manipulation of accountability source attributes or environmental characteristics to fully understand the extent to which auditors are influenced by multiple parties.

The results of this dissertation should be of interest to accounting firms due to the practical implications of the findings. Prior research on accountability in auditing suggests that firms should focus on communicating preferences for conducting the audit in an effective manner, with an emphasis on skepticism and objectivity. This will help to increase audit effort and result in a less biased decision making process. Firms should also be interested in the performance gains that depleted auditors may experience in certain circumstances, likely by priming auditors' system one to engage in more effortful cognitive processing. Accountability

also improves auditor performance to a similar degree in instances where auditors are not depleted. Lastly, firms should consider identifying mechanisms that may mitigate the unwelcomed effects that a power differential and justification timing have on auditor decision making, or consider restructuring certain elements of the accountability relationships in a manner that limits these effects. Overall, this dissertation offers useful information to firms and regulators, which can help them to maximize auditor objectivity in the decision-making process when accountability pressure is present, thereby improving overall audit quality.

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## APPENDIX A: DESCRIPTION OF CONSEQUENCES

Potential consequences for disagreeing with the audit manager's preference:

*"You recognize that taking a position counter to your Manager's preference may (also) result in consequences, such as a request for your removal from the engagement team or unfavorable scheduling on other client engagements."*

Potential consequences for disagreeing with the CFO's preference:

*"You recognize that taking a position counter to the CFO's preference may (also) result in consequences, such as a request for your removal from the engagement team or lost job opportunities at CWN in the future."*

Potential consequences for disagreeing with the staff accountant's preference:

*"You recognize that taking a position counter to the staff accountant's preference may (also) result in consequences, such as delayed responses to audit requests and an unfriendly demeanor towards the audit team."*



## APPENDIX B: EXPERIMENTAL MATERIALS

## Study 2- Experimental Materials- Initial Experiment

### All- Consent

#### **EXPLANATION OF RESEARCH**

Title of Project: Staff Auditor Decision Making and Audit Risk Assessments

Principal Investigator: Amy Donnelly

Faculty Supervisor: Dr. Vicky Arnold

You are being invited to take part in a research study. Whether you participate is up to you, as participation in this study is completely voluntary. The purpose of this study is to gain a better understanding of staff auditors' decision-making process regarding audit risk assessments. You will be provided information regarding a hypothetical audit client and will then be asked to make a series of audit risk assessments related to that client. You will also be asked to complete certain tasks unrelated to auditing. Lastly, you will respond to questions about yourself. The estimated time to complete the study is approximately 45 minutes and the study must be completed in the UCF College of Business behavioral lab.

You must be 18 years of age or older to take part in this research study.

**Study contact for questions about the study or to report a problem:** If you have questions, concerns, or complaints please contact Amy Donnelly, Doctoral Candidate, Dixon School of Accounting at (407) 823-4874 or [Amy.Donnelly@ucf.edu](mailto:Amy.Donnelly@ucf.edu), or Dr. Vicky Arnold, Faculty Supervisor at (407) 823-3192 or at [Vicky.Arnold@ucf.edu](mailto:Vicky.Arnold@ucf.edu)

**IRB contact about your rights in the study or to report a complaint:** Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3248 or by telephone at (407) 823-2901.

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Please click the ">>" button to continue.

>>

## All- Agreement to Participate

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Please read the statement below and click the circle in order to continue with this study.

- By clicking this circle, I am confirming that I will take this experiment seriously and complete the materials to the best of my abilities.
- 

Please enter the number from the top of the paperwork provided.

>>

## Depleted Group– E-Counting Task Part 1

---

In the following passage, please count the number of times you see the letter "e" (either upper or lower case) and enter that amount in the box provided below. Please be as accurate and quick as possible. Your answer will be evaluated on accuracy and completeness.

Licensors own all proprietary rights in and to numerous copyrightable works, generally described as fantasy architecture designs and products, all of which are displayed and viewable online or upon request from Licensors, (hereinafter the "Work"), and has the exclusive right to license others to produce, copy, make, or sell the Work.

>>

## Depleted Group– E-Counting Task Part 2

In the following passage, please count the number of times you see the letter "e" (either upper or lower case) and enter that amount in the box provided below. This time, however, do not count the letter "e" when it is followed by another vowel (i.e. read) or when a vowel is one letter removed from the "e" in either direction (i.e. vowel) within the same word. Please be as accurate and quick as possible. Your answer will be evaluated on accuracy and completeness.

In the event that Licensee sells all of its assets to a third party, or otherwise cease to exist in its current form, Licensor, at its discretion, may immediately terminate this Agreement. Upon termination or expiration of the license granted under this Agreement, all rights (including the right to use the Work), privileges and obligations arising from this Agreement shall cease to exist.

>>

## Non- Accountable- Task Instructions

You are being asked to complete a short audit risk assessment exercise. On the following screens you will be provided an example of how the exercise is to be completed. You will then be asked to complete the risk assessments for "Company A." Your work will be reviewed by the researcher in charge of this study. However, your name will not be associated with your responses in any way.

>>

## Non-Accountable- Task Instructions

### Audit Task Instructions

Please assume that you are the auditor for a company ("Company A"), and you are responsible for conducting the risk assessment for the client. You have been provided a paper handout with current year information about Company A, which should be used in determining the current year risk assessments. **You must read the paper handout to determine if the current year risk assessment should be adjusted from prior year.** Below is an example of how this exercise will work. The risk assessment task you are being asked to complete will begin on the following screen.

### Risk Assessment Example:

Below, please find an example of the risk assessment that we will ask you to prepare.

- The first column displays the relevant risk (in bold), followed by comments made by the audit team when documenting their prior year risk assessment decision. You will see this information when completing the current year risk assessment.
- The second column displays the auditor's prior year risk assessment rating. You will see this information when completing the current year risk assessment.
- The third column displays the area in which you should input the risk assessment rating that you decide is appropriate for the current year. **By default, the current year risk is assessment is pre-populated with the prior year risk risk assessment. If you determine the current year risk assessment should be different from the prior year risk assessment, you must click the appropriate button in the current year risk assessment column.** As shown in the example, the **risk assessment rating could be the same as, or different from, the prior year risk assessment rating.**

### Part I. Regulatory Factors

|   | Prior Year Risk Assessment       |                       |                       |                                  |                       |                       |                       | Current Year Risk Assessment<br>(Update for the current year, if necessary) |                       |                       |                       |                       |                                  |                       |
|---|----------------------------------|-----------------------|-----------------------|----------------------------------|-----------------------|-----------------------|-----------------------|---|-----------------------|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|
|   | Low                              |                       | Moderate              |                                  |                       | High                  |                       | Low   |                       | Moderate              |                       |                       | High                             |                       |
|   | 1                                | 2                     | 3                     | 4                                | 5                     | 6                     | 7                     | 1   | 2                     | 3                     | 4                     | 5                     | 6                                | 7                     |
| <p><b>1. Are there any legislations or regulations that could significantly affect the Company's operations?</b> Prior year comments: Company A is in compliance with food regulations and we are unaware of any current proposed legislations that could affect the Company's operations. However, the industry always faces a risk for possible food contamination. Therefore, we deem this as moderate risk.</p> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| <p><b>2. Are there any government policies that could affect the conduct of the Company's business?</b></p> <p>Prior year comments:<br/>We are not aware of any proposed government policies that could affect the Company's business. We will continue to monitor throughout the year. We deem this low risk.</p>  | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> |



## Non-Accountable- Task Instructions

You are about to begin the auditing task. Your task is to complete the risk assessments for the current year using the information in the paper handout that was provided. As a reminder, your responses will be reviewed by the researcher in charge of this study. However, your name will not be associated with your responses in any way.

There will be multiple screens associated with this risk assessment task. You may click between screens (both forward and backward), and you may also change your current year risk assessments and comments throughout your work on the task.

- For each item, please select the appropriate current year risk assessment in the third column. If you believe it should stay the same as the prior year, you may leave the pre-populated assessment.
- Please do not make any changes to the prior year risk ratings.
- We value your work on this auditing task. Thank you for your participation today!

Please click on the forward arrow below to begin.





# Non Accountable- Risk Assessment Exercise (Dependent Variable)

## Part I. Factors related to the nature of the entity

|  | Prior Year Risk Assessment       |                       |                       |                                  |                       |                                  |                       | Current Year Risk Assessment<br><i>(Update for the current year, if necessary)</i> |                       |                       |                                  |                       |                                  |                       |
|--|----------------------------------|-----------------------|-----------------------|----------------------------------|-----------------------|----------------------------------|-----------------------|--|-----------------------|-----------------------|----------------------------------|-----------------------|----------------------------------|-----------------------|
|  | Low                              |                       | Moderate              |                                  |                       | High                             |                       | Low  |                       | Moderate              |                                  |                       | High                             |                       |
|  | 1                                | 2                     | 3                     | 4                                | 5                     | 6                                | 7                     | 1  | 2                     | 3                     | 4                                | 5                     | 6                                | 7                     |
| <p><b>1. Evaluate the organization's structural characteristics (e.g. size, complexity, geographic dispersion), including any changes.</b></p> <p>Prior year comments:</p> <p>Company A is a large, publicly traded company. It holds 20 percent of the market share. Company A operates in multiple geographical regions but all in one country. Company A has strong organic growth and growth through acquisitions but the risk is low because Company A has not entered into any new markets. Company A maintains a regional focus but overall the organizational complexity is low risk. Given the size of the company and the number of users relying on the financial statements (e.g. investors and analysts following), we rate the risk as moderate.</p> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> |
| <p><b>2. Evaluate the Company's key personnel, including any changes in key executives.</b></p> <p>Prior year comments:</p> <p>All executives seem to have adequate skills necessary to successfully complete their jobs. No changes in executives for the current year. Area deemed very low risk.</p>  | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> |
| <p><b>3. Evaluate the source, nature, and profitability of the Company's revenue sources.</b></p> <p>Prior year comments:</p> <p>Company A's revenue sources are consistent, profitable, and are in line with industry standards. No concerns identified.</p>  | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> |
| <p><b>4. Evaluate the Company's key customers, including the existence of any union contracts.</b></p> <p>Prior year comments:</p> <p>Company A's customer base is steady. It also has many union workers which leads to favorable relations with its customers. Many of the union contracts expired this year and were not yet renewed; negotiations currently taking place. There was also some discussion that some executives of Company A may take a harder stance with unions in current negotiations. It is unknown as to how this union negotiation may affect relations with Company A's customers. Therefore, we are rating this a higher risk area in the current year.</p>   | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |



## Non Accountable- Risk Assessment Exercise (Dependent Variable)

### Part II. Factors related to the Company's internal controls

|   | Prior Year Risk Assessment |                                  |                       |                       |                       |                                  |                       | Current Year Risk Assessment<br>(Update for the current year, if necessary) |                                  |                       |                       |                       |                                  |                       |
|---|----------------------------|----------------------------------|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|---|----------------------------------|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|
|   | Low                        |                                  | Moderate              |                       |                       | High                             |                       | Low   |                                  | Moderate              |                       |                       | High                             |                       |
|   | 1                          | 2                                | 3                     | 4                     | 5                     | 6                                | 7                     | 1   | 2                                | 3                     | 4                     | 5                     | 6                                | 7                     |
| <p><b>1. Are sound integrity and ethical values from top management developed and understood?</b></p> <p>Prior year comments:</p> <p>The CEO supports established procedures and encourages his top executives to set an appropriate ethical tone that the organization appears to follow. However, Company A is missing some key initiatives that are important to promoting sound ethical values from top management. For example, the organization does not have an ethics hotline or a program for ethical training. Our audit team recommended they implement these items as soon as possible.</p> | <input type="radio"/>      | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| <p><b>2. Is the board of directors active and qualified? Are the audit committee members independent from the Company?</b></p> <p>Prior year comments:</p> <p>Board is active and has one financial expert on the audit committee. We have a private meeting with the audit committee, where all members have been actively engaged. In addition, all topside adjustments have appropriate, documented support and have been appropriately approved. Area deemed low risk.</p>  | <input type="radio"/>      | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>   | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> |



## Non Accountable- Risk Assessment Exercise (Dependent Variable)

### Part III. Factors related to the Company's business risk (business objectives and strategies)

|  | Prior Year Risk Assessment |                       |                                  |                                  |                       |                       |                       | Current Year Risk Assessment<br>(Update for the current year, if necessary) |                       |                                  |                                  |                       |                       |                       |
|--|----------------------------|-----------------------|----------------------------------|----------------------------------|-----------------------|-----------------------|-----------------------|---|-----------------------|----------------------------------|----------------------------------|-----------------------|-----------------------|-----------------------|
|  | Low                        |                       | Moderate                         |                                  |                       | High                  |                       | Low   |                       | Moderate                         |                                  |                       | High                  |                       |
|  | 1                          | 2                     | 3                                | 4                                | 5                     | 6                     | 7                     | 1   | 2                     | 3                                | 4                                | 5                     | 6                     | 7                     |
| <p><b>1. Evaluate the Company's industry developments for possible risks. Consider demand, market capacity, and competition.</b></p> <p>Prior year comments:</p> <p>The industry is strong but has shown little growth in recent years. The industry faces some competition but no large threats. Despite competition, Company A continues to grow and gain market share. They have responded well to industry changes and those changes in strategies are not too aggressive. Therefore, while there is a higher than normal risk in the industry, we deem the risk low to moderate for Company A given their current stance in the industry.</p> | <input type="radio"/>      | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <p><b>2. Are there any expected change in the entity such as large acquisitions, reorganizations, or other unusual events?</b></p> <p>Prior year comments:</p> <p>Company A continues to expand with some acquisitions. But the acquisitions are all relatively small; no single acquisition is material to Company A as a whole. Prior acquisitions have been assimilated without concerns. There were no restructurings in current year.</p>   | <input type="radio"/>      | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <p><b>3. Has the Company expanded its business (e.g. entering into new markets, locations, or product offerings)?</b></p> <p>Prior year comments:</p> <p>Company A has begun to expand business by introducing several new product lines, such as ready-made meals and more fresh produce. Company A also has strong organic growth and has been expanding the size of current stores. The larger stores are offering greater selection of goods. The expansions have been successful and do not present large risks. Company A has not expanded into any new markets or regions. Therefore, we continue to rate the risk as low to moderate.</p>  | <input type="radio"/>      | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <p><b>4. Evaluate the complexity of the Company's revenue recognition policies.</b></p> <p>Prior year comments:</p> <p>Revenue recognition always presents a risk of misstatement due to error or fraud. However, there are no specific issues noted during the current year. Company A's revenue recognition policies are in line with the industry standards.</p>  | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



## Accountable- Task Instructions

You are being asked to complete a short audit risk assessment exercise. On the following screens you will be provided an example of how the exercise is to be completed. You will then be asked to complete the risk assessments for "Company A." It is important to note that you will be required to provide explanations for your assessments and asked to "sign-off" (initial) your assessment and explanation. We also ask that you provide your name in the box below. Your work will be reviewed by the researcher in charge of this study



# Accountable- Task Instructions

## Audit Task Instructions

Please assume that you are the auditor for a company ("Company A"), and you are responsible for conducting the risk assessment for the client. You have been provided a paper handout with current year information about Company A, which should be used in determining the current year risk assessments. **You must read the paper handout to determine if the current year risk assessment should be adjusted from prior year.** Below is an example of how this exercise will work. The risk assessment task you are being asked to complete will begin on the following screen.

### Risk Assessment Example:

Below, please find an example of the risk assessment that we will ask you to prepare.

- The first column displays the relevant risk (in bold), followed by comments made by the audit team when documenting their prior year risk assessment decision. You will see this information when completing the current year risk assessment.
- The second column displays the auditor's prior year risk assessment rating. You will see this information when completing the current year risk assessment.
- The third column displays the area in which you should input the risk assessment rating that you decide is appropriate for the current year. **By default, the current year risk is assessment is pre-populated with the prior year risk risk assessment. If you determine the current year risk assessment should be different from the prior year risk assessment, you must click the appropriate button in the current year risk assessment column.** As shown in the example, the **risk assessment rating could be the same as, or different from, the prior year risk assessment rating.**
- The fourth column requires you to provide a justification for your current year risk assessment decision. This is required even if you feel the risk assessment should not change from prior year. Simply indicate in the explanation box that no changes from prior year were noted.
- The fifth column requires you to input your initial in the box to indicate your sign-off.

### Part I. Regulatory Factors

|   | Prior Year Risk Assessment       |                       |                       |                                  |                       |                       |                       | Current Year Risk Assessment<br>(Update for the current year, if necessary) |                       |                       |                       |                       |                                  |                       | Explanation for Change in Current Year Risk Assessment.<br><br>(Please enter)               | Sign-off<br><br>(Initial when complete) |
|---|----------------------------------|-----------------------|-----------------------|----------------------------------|-----------------------|-----------------------|-----------------------|---|-----------------------|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|---|---|
|   | Low                              |                       | Moderate              |                                  |                       | High                  |                       | Low   |                       | Moderate              |                       |                       | High                             |                       |   |   |
|   | 1                                | 2                     | 3                     | 4                                | 5                     | 6                     | 7                     | 1   | 2                     | 3                     | 4                     | 5                     | 6                                | 7                     |   |   |
| <p><b>1. Are there any legislations or regulations that could significantly affect the Company's operations?</b> Prior year comments: Company A is in compliance with food regulations and we are unaware of any current proposed legislations that could affect the Company's operations. However, the industry always faces a risk for possible food contamination. Therefore, we deem this as moderate risk.</p> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | We increased risk due food contamination this year resulting in lawsuits against Company A. | LS                                      |
| <p><b>2. Are there any government policies that could affect the conduct of the Company's business?</b></p> <p>Prior year comments:<br/>We are not aware of any proposed government policies that could affect the Company's business. We will continue to monitor throughout the year. We deem this low risk.</p>  | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | No changes noted.     | LS  |   |

>>

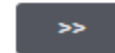
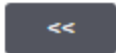
## Accountable- Task Instructions

You are about to begin the auditing task. Your task is to complete the risk assessments for the current year using the information in the paper handout that was provided. As a reminder, you will be required to provide explanations for you assessments and "sign-off" (initial) the assessment and explanation. Your work will be reviewed by the researcher in charge of this study.

There will be multiple screens associated with this risk assessment task. You may click between screens (both forward and backward), and you may also change your current year risk assessments and comments throughout your work on the task.

- **For each item, please select the appropriate current year risk assessment in the third column.** If you believe it should stay the same as the prior year, you may leave the pre-populated assessment. However, please indicate in the box requiring explanation that no changes from the prior year were noted.
- Please **do not make any changes to the prior year risk ratings.**
- We value your work on this auditing task. Thank you for your participation today!

Please click on the forward arrow below to begin.



# Accountable- Risk Assessment Exercise (Dependent Variable)

## Part I. Factors related to the nature of the entity

|  | Prior Year Risk Assessment       |                       |                       |                                  |                       |                                  |                       | Current Year Risk Assessment<br><i>(Update for the current year, if necessary)</i> |                       |                       |                                  |                       |                                  |                       | Explanation for Change in Current Year Risk Assessment<br><br>(Please enter) | Sign-off<br><br>(Initial when complete) |
|--|----------------------------------|-----------------------|-----------------------|----------------------------------|-----------------------|----------------------------------|-----------------------|--|-----------------------|-----------------------|----------------------------------|-----------------------|----------------------------------|-----------------------|--|---|
|  | Low                              |                       | Moderate              |                                  |                       | High                             |                       | Low  |                       | Moderate              |                                  |                       | High                             |                       |  |   |
|  | 1                                | 2                     | 3                     | 4                                | 5                     | 6                                | 7                     | 1  | 2                     | 3                     | 4                                | 5                     | 6                                | 7                     |  |   |
| <p><b>1. Evaluate the organization's structural characteristics (e.g. size, complexity, geographic dispersion), including any changes.</b></p> <p>Prior year comments:</p> <p>Company A is a large, publicly traded company. It holds 20 percent of the market share. Company A operates in multiple geographical regions but all in one country. Company A has strong organic growth and growth through acquisitions but the risk is low because Company A has not entered into any new markets. Company A maintains a regional focus but overall the organizational complexity is low risk. Given the size of the company and the number of users relying on the financial statements (e.g. investors and analysts following), we rate the risk as moderate.</p> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> |  | <input type="text"/>                    |
| <p><b>2. Evaluate the Company's key personnel, including any changes in key executives.</b></p> <p>Prior year comments:</p> <p>All executives seem to have adequate skills necessary to successfully complete their jobs. No changes in executives for the current year. Area deemed very low risk.</p>  | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> |  | <input type="text"/>                    |
| <p><b>3. Evaluate the source, nature, and profitability of the Company's revenue sources.</b></p> <p>Prior year comments:</p> <p>Company A's revenue sources are consistent, profitable, and are in line with industry standards. No concerns identified.</p>  | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> |  | <input type="text"/>                    |
| <p><b>4. Evaluate the Company's key customers, including the existence of any union contracts.</b></p> <p>Prior year comments:</p> <p>Company A's customer base is steady. It also has many union workers which leads to favorable relations with its customers. Many of the union contracts expired this year and were not yet renewed; negotiations currently taking place. There was also some discussion that some executives of Company A may take a harder stance with unions in current negotiations. It is unknown as to how this union negotiation may affect relations with Company A's customers. Therefore, we are rating this a higher risk area in the current year.</p>   | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |  | <input type="text"/>                    |

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## Accountable- Risk Assessment Exercise (Dependent Variable)

### Part II. Factors related to the Company's internal controls

|   | Prior Year Risk Assessment |                                  |                       |                       |                       |                                  |                       | Current Year Risk Assessment<br><i>(Update for the current year, if necessary)</i> |                                  |                       |                       |                       |                                  |                       | Explanation for Change in Current Year Risk Assessment<br><br>(Please enter) | Sign-off<br><br>(Initial when complete) |
|---|----------------------------|----------------------------------|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|--|----------------------------------|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|--|---|
|   | Low                        |                                  | Moderate              |                       |                       | High                             |                       | Low  |                                  | Moderate              |                       |                       | High                             |                       |  |   |
|   | 1                          | 2                                | 3                     | 4                     | 5                     | 6                                | 7                     | 1  | 2                                | 3                     | 4                     | 5                     | 6                                | 7                     |  |   |
| <p><b>1. Are sound integrity and ethical values from top management developed and understood?</b></p> <p>Prior year comments:</p> <p>The CEO supports established procedures and encourages his top executives to set an appropriate ethical tone that the organization appears to follow. However, Company A is missing some key initiatives that are important to promoting sound ethical values from top management. For example, the organization does not have an ethics hotline or a program for ethical training. Our audit team recommended they implement these items as soon as possible.</p> | <input type="radio"/>      | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <div style="border: 1px solid black; height: 40px; width: 100%;"></div>      | <input type="text"/>                    |
| <p><b>2. Is the board of directors active and qualified? Are the audit committee members independent from the Company?</b></p> <p>Prior year comments:</p> <p>Board is active and has one financial expert on the audit committee. We have a private meeting with the audit committee, where all members have been actively engaged. In addition, all topside adjustments have appropriate, documented support and have been appropriately approved. Area deemed low risk.</p>  | <input type="radio"/>      | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>  | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <div style="border: 1px solid black; height: 40px; width: 100%;"></div>      | <input type="text"/>                    |

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## Accountable- Risk Assessment Exercise (Dependent Variable)

### Part III. Factors related to the Company's business risk (business objectives and strategies)

|  | Prior Year Risk Assessment |                       |                                  |                                  |                       |                       |                       | Current Year Risk Assessment<br><small>(Update for the current year, if necessary)</small> |                       |                                  |                                  |                       |                       |                       | Explanation for Change in Current Year Risk Assessment<br><br>(Please enter) | Sign-off<br><br>(Initial when complete) |
|--|----------------------------|-----------------------|----------------------------------|----------------------------------|-----------------------|-----------------------|-----------------------|--|-----------------------|----------------------------------|----------------------------------|-----------------------|-----------------------|-----------------------|--|---|
|  | Low                        |                       | Moderate                         |                                  |                       | High                  |                       | Low  |                       | Moderate                         |                                  |                       | High                  |                       |  |   |
|  | 1                          | 2                     | 3                                | 4                                | 5                     | 6                     | 7                     | 1  | 2                     | 3                                | 4                                | 5                     | 6                     | 7                     |  |   |
| <p><b>1. Evaluate the Company's industry developments for possible risks. Consider demand, market capacity, and competition.</b></p> <p>Prior year comments:</p> <p>The industry is strong but has shown little growth in recent years. The industry faces some competition but no large threats. Despite competition, Company A continues to grow and gain market share. They have responded well to industry changes and those changes in strategies are not too aggressive. Therefore, while there is a higher than normal risk in the industry, we deem the risk low to moderate for Company A given their current stance in the industry.</p> | <input type="radio"/>      | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |  | <input type="text"/>                    |
| <p><b>2. Are there any expected change in the entity such as large acquisitions, reorganizations, or other unusual events?</b></p> <p>Prior year comments:</p> <p>Company A continues to expand with some acquisitions. But the acquisitions are all relatively small; no single acquisition is material to Company A as a whole. Prior acquisitions have been assimilated without concerns. There were no restructurings in current year.</p>   | <input type="radio"/>      | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |  | <input type="text"/>                    |
| <p><b>3. Has the Company expanded its business (e.g. entering into new markets, locations, or product offerings)?</b></p> <p>Prior year comments:</p> <p>Company A has begun to expand business by introducing several new product lines, such as ready-made meals and more fresh produce. Company A also has strong organic growth and has been expanding the size of current stores. The larger stores are offering greater selection of goods. The expansions have been successful and do not present large risks. Company A has not expanded into any new markets or regions. Therefore, we continue to rate the risk as low to moderate.</p>  | <input type="radio"/>      | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |  | <input type="text"/>                    |
| <p><b>4. Evaluate the complexity of the Company's revenue recognition policies.</b></p> <p>Prior year comments:</p> <p>Revenue recognition always presents a risk of misstatement due to error or fraud. However, there are no specific issues noted during the current year. Company A's revenue recognition policies are in line with the industry standards.</p>  | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |  | <input type="text"/>                    |

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## All- Overall Risk Assessment

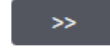
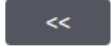
### Part IV. Overall Risk Assessment

|  | Overall Risk Assessment |                       |                       |                       |                       |                       |                       |
|--|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|  | Low                     |                       |                       | Moderate              |                       |                       | High                  |
|  | 1                       | 2                     | 3                     | 4                     | 5                     | 6                     | 7                     |
| 1. How would you assess the overall risk for Company A for the current year? | <input type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



## All- Instructions to Proceed

You have completed the Auditing Task. Once you leave this page, you will not be able to go back and make changes. If you want to change any of your previous answers, please click the back button below to go back. If you are ready to proceed, please click the forward button to continue.



## All- Stroop Task Instructions

Next, you will be redirected to a website to complete another task that is non-audit related. When the web page appears, click the start button and then hit the space bar. Instructions on how to complete the task will be provided at that point.

Lastly, after completion of the non-audit task, you will be asked to complete additional questions that will help us better understand the decisions you made. Your input on these questions is very valuable to us, and we greatly appreciate your assistance!



**After this screen, participants were redirected to another website to complete the Stroop Task. Upon completion of the Stroop Task, they completed the manipulation check questions, post experimental questions, and demographic questions shown on the next several pages.**

## All- Manipulation Check Questions

Please enter the number at the top of the paperwork provided.

|  | Not<br>Accountable    | Slightly<br>Accountable | Accountable           | Very<br>Accountable   | Extremely<br>Accountable |
|--|-----------------------|-------------------------|-----------------------|-----------------------|--------------------------|
| To what extent did you feel accountable for the decisions you made during the risk assessments exercise? | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>    |

When completing the audit risk assessments, were you required to provide an explanation for your current year risk assessment and sign off on your assessment?

- Yes  
 No

As part of this study, have you completed a task requiring you to identify the number of "e"s in a paragraph that is provided?

- Yes  
 No

>>

### All- BMIS Mood Scale (Mayer and Gaschke 1988)

Click the response on the scale below that indicates how well each adjective or phrase describes your present mood.

|             | Do Not Feel           | Feel Slightly         | Feel Quite            | Feel Extremely        |
|-------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. happy    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. lively   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. loving   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. caring   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. calm     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. content  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. active   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. peppy    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. jittery  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10. nervous | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 11. grouchy | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12. fed up  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13. tired   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 14. drowsy  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 15. gloomy  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16. sad     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

>>

## All- Trait Self Control (Tangney et al. 2004)

Using the scale provided, please indicate how much each of the following statements reflects how you typically are.

|   | Not at all            | Slightly              | Moderately            | Very                  | Extremely             |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. I am good at resisting temptation.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. I have a hard time breaking bad habits.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. I am lazy.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. I say inappropriate things.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. I do certain things that are bad for me, if they are fun.                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|   | Not at all            | Slightly              | Moderately            | Very                  | Extremely             |
| 6. I refuse things that are bad for me.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. I wish I had more self-discipline.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. People would say that I have iron self-discipline.                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. Pleasure and fun sometimes keep me from getting work done.                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10. I have trouble concentrating.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|   | Not at all            | Slightly              | Moderately            | Very                  | Extremely             |
| 11. I am able to work effectively toward long-term goals.                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12. Sometimes I can't stop myself from doing something, even if I know it is wrong. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13. I often act without thinking through all the alternatives.                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

>>

## All- Perception of Depletion (Clarkson et al. 2010)

Please click the circle that corresponds with your response to the following question.

|   | Not at all<br>Exhausting | Slightly<br>Exhausting | Exhausting            | Very<br>Exhausting    | Extremely<br>Exhausting |
|---|--------------------------|------------------------|-----------------------|-----------------------|-------------------------|
| How exhausting did you find the audit risk assessment task? | <input type="radio"/>    | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>   |

>>



## All- Trait Skepticism (Hurtt 2010)

Please click the circle that corresponds with your response that indicates how you *generally* feel. There are no right or wrong answers. Do not spend too much time on any one statement.

|  | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. I often accept other people's explanations without further thoughts.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. I feel good about myself.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. I wait to decide on an issue until I can get more information.        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. The prospect of learning excites me.                                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. I am interested in what causes people to behave the way that they do. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. I am confident in my abilities.                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. I often reject statements unless I have proof they are true.          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. Discovering new information is fun.                                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|  | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
| 9. I take my time when making decisions.                                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10. I tend to immediately accept what other people tell me.              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 11. Other people's behavior does not interest me.                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12. I am self-assured.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13. My friends tell me that I usually question things I see or hear.     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 14. I like to understand the reason for other people's behavior.         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

|   |                       |                       |                       |                       |                       |                       |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 15. I think that learning is exciting.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16. I usually accept things I see, read, or hear at face value.                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|   | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
| 17. I do not feel sure of myself.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 18. I usually notice inconsistencies in explanations.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 19. Most often I agree with what the others in my group think.                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 20. I dislike having to make decisions quickly.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 21. I have confidence in myself.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 22. I do not like to decide until I've looked at all the readily available information.       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 23. I like searching for knowledge.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 24. I frequently question things that I see or hear.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|   | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
| 25. It is easy for other people to convince me.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 26. I seldom consider why people behave in a certain way.                                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 27. I like to ensure that I've considered most available information before making decisions. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 28. I enjoy trying to determine if what I read or hear is true.                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 29. I relish learning.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 30. The actions people take and the reasons for those actions are fascinating.                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

>>

## All- Post Experimental Question

What were you doing the hour before arriving for this study?

- Attending class
- Studying
- Taking an exam
- Hanging out with friends
- Watching TV
- Eating
- Other- please briefly describe

>>

## All- Demographic Questions

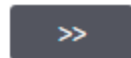
1. Gender (mark one)

- Male  
 Female
- 

Age (in years)

- 18-20  
 21-25  
 26-30  
 31-35  
 36-40  
 40+  
 Prefer not to answer
- 

How many accounting classes have you completed (not credit hours, but classes)?



Are you currently enrolled in an auditing course?

Yes

No

>>

Do you have any auditing work experience?

Yes

No

---

Do you have any accounting work experience (excluding any auditing work experience)?

Yes

No

>>

## All- End of Survey Screen

You have completed the survey. Thank you for your time and assistance! Please proceed to the front of the lab to collect your compensation for participating.

## Study 2- Experimental Materials- Follow Up Experiment

### All- Consent

#### **EXPLANATION OF RESEARCH**

Title of Project: Staff Auditor Decision Making and Audit Risk Assessments

Principal Investigator: Amy Donnelly

Faculty Supervisor: Dr. Vicky Arnold

You are being invited to take part in a research study. Whether you participate is up to you, as participation in this study is completely voluntary. The purpose of this study is to gain a better understanding of staff auditors' decision-making process regarding audit risk assessments. You will be provided information regarding a hypothetical audit client and will then be asked to make a series of audit risk assessments related to that client. You will also be asked to complete certain tasks unrelated to auditing. Lastly, you will respond to questions about yourself. The estimated time to complete the study is approximately 45 minutes and the study must be completed in the UCF College of Business behavioral lab.

You must be 18 years of age or older to take part in this research study.

**Study contact for questions about the study or to report a problem:** If you have questions, concerns, or complaints *please contact Amy Donnelly, Doctoral Candidate, Dixon School of Accounting at (407) 823-4874 or [Amy.Donnelly@ucf.edu](mailto:Amy.Donnelly@ucf.edu), or Dr. Vicky Arnold, Faculty Supervisor at (407) 823-3192 or at [Vicky.Arnold@ucf.edu](mailto:Vicky.Arnold@ucf.edu).*

**IRB contact about your rights in the study or to report a complaint:** Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901.

Please click the ">>" button to continue.

>>

## All- Agreement to Participate

Please read the statement below and click the circle in order to continue with this study.

- By clicking this circle, I am confirming that I will take this experiment seriously and complete the materials to the best of my abilities.

>>



## Depleted Group- E-Counting Task Part 1

In the following passage, please count the number of times you see the letter "e" (either upper or lower case) and enter that amount in the box provided below. Please be as accurate and quick as possible. Your answer will be evaluated on accuracy and completeness.

Licensor owns all proprietary rights in and to numerous copyrightable works, generally described as fantasy architecture designs and products, all of which are displayed and viewable online or upon request from Licensor, (hereinafter the "Work"), and has the exclusive right to license others to produce, copy, make, or sell the Work. Licensor owns all rights in and to the Work and retains all rights to the Work which are not transferred herein, and retains all common law copyrights and all federal copyrights which have been, or which may be granted by the Library of Congress. Licensee desires to obtain, and Licensor has agreed to grant, a license authorizing the use of the Work by Licensee in accordance with the terms and conditions of this Agreement. Now, therefore, for and in consideration of the premises and the mutual covenants and agreements hereinafter set forth and other good and valuable consideration, as set forth herein, Licensor and Licensee agree as follows:

>>

## Depleted Group- E-Counting Task Part 2

In the following passage, please count the number of times you see the letter "e" (either upper or lower case) and enter that amount in the box provided below. This time, however, do not count the letter "e" when it is followed by another vowel (i.e. read) or when a vowel is one letter removed from the "e" in either direction (i.e. vowel) within the same word. Please be as accurate and quick as possible. Your answer will be evaluated on accuracy and completeness.

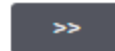
In the event that Licensee sells all of its assets to a third party, or otherwise cease to exist in its current form, Licensor, at its discretion, may immediately terminate this Agreement. Upon termination or expiration of the license granted under this Agreement by operation of law or otherwise, all rights (including the right to use the Work) privileges and obligations arising from this Agreement shall cease to exist, except for Licensee's obligation to pay royalties to Licensor pursuant to the terms herein. Upon termination of this Agreement, Licensor agrees to allow Licensee six months to cease all use of the Work, including a reasonable time to change labels, packaging and advertising, and twelve months to deplete existing inventories of goods bearing the Work. Licensee agrees to discontinue use of the work, upon termination of this agreement as quickly as practicable, and in no event longer than the time specified herein.

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## Non-Depleted Group- E-Counting Task Part 1

In the following passage, please count the number of times you see the letter "e" (either upper or lower case) and enter that amount in the box provided below. Please be as accurate and quick as possible. Your answer will be evaluated on accuracy and completeness.

Licensor owns all proprietary rights in and to numerous copyrightable works, generally described as fantasy architecture designs and products, all of which are displayed and viewable online or upon request from Licensor, (hereinafter the "Work"), and has the exclusive right to license others to produce, copy, make, or sell the Work. Licensor owns all rights in and to the Work and retains all rights to the Work which are not transferred herein, and retains all common law copyrights and all federal copyrights which have been, or which may be granted by the Library of Congress. Licensee desires to obtain, and Licensor has agreed to grant, a license authorizing the use of the Work by Licensee in accordance with the terms and conditions of this Agreement. Now, therefore, for and in consideration of the premises and the mutual covenants and agreements hereinafter set forth and other good and valuable consideration, as set forth herein, Licensor and Licensee agree as follows:



## Non-Depleted Group- E-Counting Task Part 2

Again, please count the number of times you see the letter "e" (either upper or lower case) in the following passage and enter that amount in the box provided below. Please be as accurate and quick as possible. Your answer will be evaluated on accuracy and completeness.

In the event that Licensee sells all of its assets to a third party, or otherwise cease to exist in its current form, Licensor, at its discretion, may immediately terminate this Agreement. Upon termination or expiration of the license granted under this Agreement by operation of law or otherwise, all rights (including the right to use the Work) privileges and obligations arising from this Agreement shall cease to exist, except for Licensee's obligation to pay royalties to Licensor pursuant to the terms herein. Upon termination of this Agreement, Licensor agrees to allow Licensee six months to cease all use of the Work, including a reasonable time to change labels, packaging and advertising, and twelve months to deplete existing inventories of goods bearing the Work. Licensee agrees to discontinue use of the work, upon termination of this agreement as quickly as practicable, and in no event longer than the time specified herein.

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## Non-Accountable- Task Instructions

You are being asked to complete a short audit risk assessment exercise. On the following screens you will be provided an example of how the exercise is to be completed. You will then be asked to complete the risk assessments for "Company A." Your work will be reviewed by the researcher in charge of this study. However, your name will not be associated with your responses in any way.

>>

## Non-Accountable- Task Instructions

### Audit Task Instructions

Please assume that you are the auditor for a company ("Company A"), and you are responsible for conducting the risk assessment for the client. You have been provided a paper handout with current year information about Company A, which should be used in determining the current year risk assessments. **You must read the paper handout to determine if the current year risk assessment should be adjusted from prior year.** Below is an example of how this exercise will work. The risk assessment task you are being asked to complete will begin on the following screen.

### Risk Assessment Example:

Below, please find an example of the risk assessment that we will ask you to prepare.

- The first column displays the relevant risk (in bold), followed by comments made by the audit team when documenting their prior year risk assessment decision. You will see this information when completing the current year risk assessment.
- The second column displays the auditor's prior year risk assessment rating. You will see this information when completing the current year risk assessment.
- The third column displays the area in which you should input the risk assessment rating that you decide is appropriate for the current year. **By default, the current year risk is assessment is pre-populated with the prior year risk risk assessment. If you determine the current year risk assessment should be different from the prior year risk assessment, you must click the appropriate button in the current year risk assessment column.** As shown in the example, the **risk assessment rating could be the same as, or different from, the prior year risk assessment rating.**

### Part I. Regulatory Factors

|  | Prior Year Risk Assessment       |                       |                       |                                  |                       |                       |                       | Current Year Risk Assessment<br><small>(Update for the current year, if necessary)</small> |                       |                       |                       |                       |                                  |                       |
|--|----------------------------------|-----------------------|-----------------------|----------------------------------|-----------------------|-----------------------|-----------------------|--|-----------------------|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|
|  | Low                              |                       | Moderate              |                                  |                       | High                  |                       | Low  |                       | Moderate              |                       |                       | High                             |                       |
|  | 1                                | 2                     | 3                     | 4                                | 5                     | 6                     | 7                     | 1  | 2                     | 3                     | 4                     | 5                     | 6                                | 7                     |
| <p><b>1. Are there any legislations or regulations that could significantly affect the Company's operations?</b>Prior year comments: Company A is in compliance with food regulations and we are unaware of any current proposed legislations that could affect the Company's operations. However, the industry always faces a risk for possible food contamination. Therefore, we deem this as moderate risk.</p> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| <p><b>2. Are there any government policies that could affect the conduct of the Company's business?</b></p> <p>Prior year comments:</p> <p>We are not aware of any proposed government policies that could affect the Company's business. We will continue to monitor throughout the year. We deem this low risk.</p>  | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> |

>>

## Non-Accountable- Task Instructions

You are about to begin the auditing task. Your task is to complete the risk assessments for the current year using the information in the paper handout that was provided. As a reminder, your responses will be reviewed by the researcher in charge of this study. However, your name will not be associated with your responses in any way.

There will be multiple screens associated with this risk assessment task. You may click between screens (both forward and backward), and you may also change your current year risk assessments and comments throughout your work on the task.

- **For each item, please select the appropriate current year risk assessment in the third column.** If you believe it should stay the same as the prior year, you may leave the pre-populated assessment.
- Please **do not make any changes to the prior year risk ratings.**
- We value your work on this auditing task. Thank you for your participation today!

Please click on the forward arrow below to begin.

<<

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## Non-Accountable- Risk Assessment Exercise (Dependent Variable)

### Part I. Factors related to the nature of the entity

|  | Prior Year Risk Assessment       |                       |                       |                                  |                       |                                  |                       | Current Year Risk Assessment<br><i>(Update for the current year, if necessary)</i> |                       |                       |                                  |                       |                                  |                       |
|--|----------------------------------|-----------------------|-----------------------|----------------------------------|-----------------------|----------------------------------|-----------------------|--|-----------------------|-----------------------|----------------------------------|-----------------------|----------------------------------|-----------------------|
|  | Low                              |                       | Moderate              |                                  |                       | High                             |                       | Low  |                       | Moderate              |                                  |                       | High                             |                       |
|  | 1                                | 2                     | 3                     | 4                                | 5                     | 6                                | 7                     | 1  | 2                     | 3                     | 4                                | 5                     | 6                                | 7                     |
| <p><b>1. Evaluate the organization's structural characteristics (e.g. size, complexity, geographic dispersion), including any changes.</b></p> <p>Prior year comments:</p> <p>Company A is a large, publicly traded company. It holds 20 percent of the market share. Company A operates in multiple geographical regions but all in one country. Company A has strong organic growth and growth through acquisitions but the risk is low because Company A has not entered into any new markets. Company A maintains a regional focus but overall the organizational complexity is low risk. Given the size of the company and the number of users relying on the financial statements (e.g. investors and analysts following), we rate the risk as moderate.</p> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> |
| <p><b>2. Evaluate the Company's key personnel, including any changes in key executives.</b></p> <p>Prior year comments:</p> <p>All executives seem to have adequate skills necessary to successfully complete their jobs. No changes in executives for the current year. Area deemed very low risk.</p>  | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> |
| <p><b>3. Evaluate the source, nature, and profitability of the Company's revenue sources.</b></p> <p>Prior year comments:</p> <p>Company A's revenue sources are consistent, profitable, and are in line with industry standards. No concerns identified.</p>  | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> |
| <p><b>4. Evaluate the Company's key customers, including the existence of any union contracts.</b></p> <p>Prior year comments:</p> <p>Company A's customer base is steady. It also has many union workers which leads to favorable relations with its customers. Many of the union contracts expired this year and were not yet renewed; negotiations currently taking place. There was also some discussion that some executives of Company A may take a harder stance with unions in current negotiations. It is unknown as to how this union negotiation may affect relations with Company A's customers. Therefore, we are rating this a higher risk area in the current year.</p>   | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |





## Non Accountable- Risk Assessment Exercise (Dependent Variable)

### Part II. Factors related to the Company's internal controls

|   | Prior Year Risk Assessment |                                  |                       |                       |                       |                                  |                       | Current Year Risk Assessment<br>(Update for the current year, if necessary) |                                  |                       |                       |                       |                                  |                       |
|---|----------------------------|----------------------------------|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|---|----------------------------------|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|
|   | Low                        |                                  | Moderate              |                       |                       | High                             |                       | Low   |                                  | Moderate              |                       |                       | High                             |                       |
|   | 1                          | 2                                | 3                     | 4                     | 5                     | 6                                | 7                     | 1   | 2                                | 3                     | 4                     | 5                     | 6                                | 7                     |
| <p><b>1. Are sound integrity and ethical values from top management developed and understood?</b></p> <p>Prior year comments:</p> <p>The CEO supports established procedures and encourages his top executives to set an appropriate ethical tone that the organization appears to follow. However, Company A is missing some key initiatives that are important to promoting sound ethical values from top management. For example, the organization does not have an ethics hotline or a program for ethical training. Our audit team recommended they implement these items as soon as possible.</p> | <input type="radio"/>      | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| <p><b>2. Is the board of directors active and qualified? Are the audit committee members independent from the Company?</b></p> <p>Prior year comments:</p> <p>Board is active and has one financial expert on the audit committee. We have a private meeting with the audit committee, where all members have been actively engaged. In addition, all topside adjustments have appropriate, documented support and have been appropriately approved. Area deemed low risk.</p>  | <input type="radio"/>      | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>   | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> |



## Non Accountable- Risk Assessment Exercise (Dependent Variable)

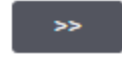
### Part III. Factors related to the Company's business risk (business objectives and strategies)

|  | Prior Year Risk Assessment |                       |                                  |                                  |                       |                       |                       | Current Year Risk Assessment<br><i>(Update for the current year, if necessary)</i> |                       |                                  |                                  |                       |                       |                       |
|--|----------------------------|-----------------------|----------------------------------|----------------------------------|-----------------------|-----------------------|-----------------------|--|-----------------------|----------------------------------|----------------------------------|-----------------------|-----------------------|-----------------------|
|  | Low                        |                       | Moderate                         |                                  |                       | High                  |                       | Low  |                       | Moderate                         |                                  |                       | High                  |                       |
|  | 1                          | 2                     | 3                                | 4                                | 5                     | 6                     | 7                     | 1  | 2                     | 3                                | 4                                | 5                     | 6                     | 7                     |
| <p><b>1. Evaluate the Company's industry developments for possible risks. Consider demand, market capacity, and competition.</b></p> <p>Prior year comments:</p> <p>The industry is strong but has shown little growth in recent years. The industry faces some competition but no large threats. Despite competition, Company A continues to grow and gain market share. They have responded well to industry changes and those changes in strategies are not too aggressive. Therefore, while there is a higher than normal risk in the industry, we deem the risk low to moderate for Company A given their current stance in the industry.</p> | <input type="radio"/>      | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <p><b>2. Are there any expected change in the entity such as large acquisitions, reorganizations, or other unusual events?</b></p> <p>Prior year comments:</p> <p>Company A continues to expand with some acquisitions. But the acquisitions are all relatively small; no single acquisition is material to Company A as a whole. Prior acquisitions have been assimilated without concerns. There were no restructurings in current year.</p>   | <input type="radio"/>      | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <p><b>3. Has the Company expanded its business (e.g. entering into new markets, locations, or product offerings)?</b></p> <p>Prior year comments:</p> <p>Company A has begun to expand business by introducing several new product lines, such as ready-made meals and more fresh produce. Company A also has strong organic growth and has been expanding the size of current stores. The larger stores are offering greater selection of goods. The expansions have been successful and do not present large risks. Company A has not expanded into any new markets or regions. Therefore, we continue to rate the risk as low to moderate.</p>  | <input type="radio"/>      | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <p><b>4. Evaluate the complexity of the Company's revenue recognition policies.</b></p> <p>Prior year comments:</p> <p>Revenue recognition always presents a risk of misstatement due to error or fraud. However, there are no specific issues noted during the current year. Company A's revenue recognition policies are in line with the industry standards.</p>  | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



## Accountable- Task Instructions

You are being asked to complete a short audit risk assessment exercise. On the following screens you will be provided an example of how the exercise is to be completed. You will then be asked to complete the risk assessments for "Company A." It is important to note that you will be required to provide explanations for your assessments and asked to "sign-off" (initial) your assessment and explanation. We also ask that you provide your name in the box below. Your work will be reviewed by the researcher in charge of this study



# Accountable- Task Instructions

## Audit Task Instructions

Please assume that you are the auditor for a company ("Company A"), and you are responsible for conducting the risk assessment for the client. You have been provided a paper handout with current year information about Company A, which should be used in determining the current year risk assessments. **You must read the paper handout to determine if the current year risk assessment should be adjusted from prior year.** Below is an example of how this exercise will work. The risk assessment task you are being asked to complete will begin on the following screen.

### Risk Assessment Example:

Below, please find an example of the risk assessment that we will ask you to prepare.

- The first column displays the relevant risk (in bold), followed by comments made by the audit team when documenting their prior year risk assessment decision. You will see this information when completing the current year risk assessment.
- The second column displays the auditor's prior year risk assessment rating. You will see this information when completing the current year risk assessment.
- The third column displays the area in which you should input the risk assessment rating that you decide is appropriate for the current year. **By default, the current year risk is assessment is pre-populated with the prior year risk risk assessment. If you determine the current year risk assessment should be different from the prior year risk assessment, you must click the appropriate button in the current year risk assessment column.** As shown in the example, the **risk assessment rating could be the same as, or different from, the prior year risk assessment rating.**
- The fourth column requires you to provide a justification for your current year risk assessment decision. This is required even if you feel the risk assessment should not change from prior year. Simply indicate in the explanation box that no changes from prior year were noted.
- The fifth column requires you to input your initial in the box to indicate your sign-off.

### Part I. Regulatory Factors

|  | Prior Year Risk Assessment       |                       |                       |                                  |                       |                       |                       | Current Year Risk Assessment<br><i>(Update for the current year, if necessary)</i> |                       |                       |                       |                       |                                  |                       | Explanation for Change in Current Year Risk Assessment<br><br>(Please enter)                | Sign-off<br><br>(Initial when complete) |
|--|----------------------------------|-----------------------|-----------------------|----------------------------------|-----------------------|-----------------------|-----------------------|--|-----------------------|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|---|---|
|  | Low                              | Moderate              |                       |                                  |                       | High                  | Low                   | Moderate   |                       |                       |                       | High                  |                                  |                       |   |   |
|  | 1                                | 2                     | 3                     | 4                                | 5                     | 6                     | 7                     | 1  | 2                     | 3                     | 4                     | 5                     | 6                                | 7                     |   |   |
| <b>1. Are there any legislations or regulations that could significantly affect the Company's operations?</b> Prior year comments: Company A is in compliance with food regulations and we are unaware of any current proposed legislations that could affect the Company's operations. However, the industry always faces a risk for possible food contamination. Therefore, we deem this as moderate risk. | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | We increased risk due food contamination this year resulting in lawsuits against Company A. | LS                                      |
| <b>2. Are there any government policies that could affect the conduct of the Company's business?</b><br><br>Prior year comments:<br><br>We are not aware of any proposed government policies that could affect the Company's business. We will continue to monitor throughout the year. We deem this low risk.   | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | No changes noted.   | LS                                      |



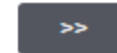
## Accountable- Task Instructions

You are about to begin the auditing task. Your task is to complete the risk assessments for the current year using the information in the paper handout that was provided. As a reminder, you will be required to provide explanations for you assessments and "sign-off" (initial) the assessment and explanation. Your work will be reviewed by the researcher in charge of this study.

There will be multiple screens associated with this risk assessment task. You may click between screens (both forward and backward), and you may also change your current year risk assessments and comments throughout your work on the task.

- **For each item, please select the appropriate current year risk assessment in the third column.** If you believe it should stay the same as the prior year, you may leave the pre-populated assessment. However, please indicate in the box requiring explanation that no changes from the prior year were noted.
- Please **do not make any changes to the prior year risk ratings.**
- We value your work on this auditing task. Thank you for your participation today!

Please click on the forward arrow below to begin.



# Accountable- Risk Assessment Exercise (Dependent Variable)

## Part I. Factors related to the nature of the entity

|   | Prior Year Risk Assessment       |                       |                       |                                  |                       |                                  |                       | Current Year Risk Assessment<br><i>(Update for the current year, if necessary)</i> |                       |                       |                                  |                       |                       |                                  | Explanation for Change in Current Year Risk Assessment<br><br>(Please enter) | Sign-off<br><br>(Initial when complete) |
|---|----------------------------------|-----------------------|-----------------------|----------------------------------|-----------------------|----------------------------------|-----------------------|--|-----------------------|-----------------------|----------------------------------|-----------------------|-----------------------|----------------------------------|--|---|
|   | Low                              |                       | Moderate              |                                  |                       | High                             |                       | Low  |                       | Moderate              |                                  |                       | High                  |                                  |  |   |
|   | 1                                | 2                     | 3                     | 4                                | 5                     | 6                                | 7                     | 1  | 2                     | 3                     | 4                                | 5                     | 6                     | 7                                |  |   |
| <p><b>1. Evaluate the organization's structural characteristics (e.g. size, complexity, geographic dispersion), including any changes.</b></p> <p><i>Prior year comments:</i></p> <p>Company A is a large, publicly traded company. It holds 20 percent of the market share. Company A operates in multiple geographical regions but all in one country. Company A has strong organic growth and growth through acquisitions but the risk is low because Company A has not entered into any new markets. Company A maintains a regional focus but overall the organizational complexity is low risk. Given the size of the company and the number of users relying on the financial statements (e.g. investors and analysts following), we rate the risk as moderate.</p> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            |  | <input type="text"/>                    |
| <p><b>2. Evaluate the Company's key personnel, including any changes in key executives.</b></p> <p><i>Prior year comments:</i></p> <p>All executives seem to have adequate skills necessary to successfully complete their jobs. No changes in executives for the current year. Area deemed very low risk.</p>  | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            |  | <input type="text"/>                    |
| <p><b>3. Evaluate the source, nature, and profitability of the Company's revenue sources.</b></p> <p><i>Prior year comments:</i></p> <p>Company A's revenue sources are consistent, profitable, and are in line with industry standards. No concerns identified.</p>  | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            |  | <input type="text"/>                    |
| <p><b>4. Evaluate the Company's key customers, including the existence of any union contracts.</b></p> <p><i>Prior year comments:</i></p> <p>Company A's customer base is steady. It also has many union workers which leads to favorable relations with its customers. Many of the union contracts expired this year and were not yet renewed; negotiations currently taking place. There was also some discussion that some executives of Company A may take a harder stance with unions in current negotiations. It is unknown as to how this union negotiation may affect relations with Company A's customers. Therefore, we are rating this a higher risk area in the current year.</p>   | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |  | <input type="text"/>                    |

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## Accountable- Risk Assessment Exercise (Dependent Variable)

### Part II. Factors related to the Company's internal controls

|   | Prior Year Risk Assessment |                                  |                       |                       |                       |                                  |                       | Current Year Risk Assessment<br><small>(Update for the current year, if necessary)</small> |                       |                       |                       |                       |                                  |                       | Explanation for Change in Current Year Risk Assessment<br><br>(Please enter) | Sign-off<br><br>(Initial when complete) |
|---|----------------------------|----------------------------------|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|--|-----------------------|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|--|---|
|   | Low                        | Moderate                         |                       |                       |                       | High                             | Low                   | Moderate   |                       |                       |                       | High                  |                                  |                       |  |   |
|   | 1                          | 2                                | 3                     | 4                     | 5                     | 6                                | 7                     | 1  | 2                     | 3                     | 4                     | 5                     | 6                                | 7                     |  |   |
| <p><b>1. Are sound integrity and ethical values from top management developed and understood?</b></p> <p>Prior year comments:</p> <p>The CEO supports established procedures and encourages his top executives to set an appropriate ethical tone that the organization appears to follow. However, Company A is missing some key initiatives that are important to promoting sound ethical values from top management. For example, the organization does not have an ethics hotline or a program for ethical training. Our audit team recommended they implement these items as soon as possible.</p> | <input type="radio"/>      | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |  | <input type="text"/>                    |
| <p><b>2. Is the board of directors active and qualified? Are the audit committee members independent from the Company?</b></p> <p>Prior year comments:</p> <p>Board is active and has one financial expert on the audit committee. We have a private meeting with the audit committee, where all members have been actively engaged. In addition, all topside adjustments have appropriate, documented support and have been appropriately approved. Area deemed low risk.</p>  | <input type="radio"/>      | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> |  | <input type="text"/>                    |

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## Accountable- Risk Assessment Exercise (Dependent Variable)

### Part III. Factors related to the Company's business risk (business objectives and strategies)

|  | Prior Year Risk Assessment |                       |                                  |                                  |                       |                       |                       | Current Year Risk Assessment<br><small>(Update for the current year, if necessary)</small> |                       |                                  |                                  |                       |                       |                       | Explanation for Change in Current Year Risk Assessment<br><br>(Please enter) | Sign-off<br><br>(Initial when complete) |
|--|----------------------------|-----------------------|----------------------------------|----------------------------------|-----------------------|-----------------------|-----------------------|--|-----------------------|----------------------------------|----------------------------------|-----------------------|-----------------------|-----------------------|--|---|
|  | Low                        |                       | Moderate                         |                                  |                       | High                  | Low                   |  | Moderate              |                                  |                                  | High                  |                       |                       |  |   |
|  | 1                          | 2                     | 3                                | 4                                | 5                     | 6                     | 7                     | 1  | 2                     | 3                                | 4                                | 5                     | 6                     | 7                     |  |   |
| <p><b>1. Evaluate the Company's industry developments for possible risks. Consider demand, market capacity, and competition.</b></p> <p>Prior year comments:</p> <p>The industry is strong but has shown little growth in recent years. The industry faces some competition but no large threats. Despite competition, Company A continues to grow and gain market share. They have responded well to industry changes and those changes in strategies are not too aggressive. Therefore, while there is a higher than normal risk in the industry, we deem the risk low to moderate for Company A given their current stance in the industry.</p> | <input type="radio"/>      | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="text"/>   | <input type="text"/>                    |
| <p><b>2. Are there any expected change in the entity such as large acquisitions, reorganizations, or other unusual events?</b></p> <p>Prior year comments:</p> <p>Company A continues to expand with some acquisitions. But the acquisitions are all relatively small; no single acquisition is material to Company A as a whole. Prior acquisitions have been assimilated without concerns. There were no restructurings in current year.</p>   | <input type="radio"/>      | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="text"/>   | <input type="text"/>                    |
| <p><b>3. Has the Company expanded its business (e.g. entering into new markets, locations, or product offerings)?</b></p> <p>Prior year comments:</p> <p>Company A has begun to expand business by introducing several new product lines, such as ready-made meals and more fresh produce. Company A also has strong organic growth and has been expanding the size of current stores. The larger stores are offering greater selection of goods. The expansions have been successful and do not present large risks. Company A has not expanded into any new markets or regions. Therefore, we continue to rate the risk as low to moderate.</p>  | <input type="radio"/>      | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="text"/>   | <input type="text"/>                    |
| <p><b>4. Evaluate the complexity of the Company's revenue recognition policies.</b></p> <p>Prior year comments:</p> <p>Revenue recognition always presents a risk of misstatement due to error or fraud. However, there are no specific issues noted during the current year. Company A's revenue recognition policies are in line with the industry standards.</p>  | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="text"/>   | <input type="text"/>                    |

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## All- Overall Risk Assessment

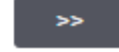
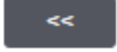
### Part IV. Overall Risk Assessment

|  | Overall Risk Assessment |                       |                       |                       |                       |                       |                       |
|--|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|  | Low                     |                       |                       | Moderate              |                       |                       | High                  |
|  | 1                       | 2                     | 3                     | 4                     | 5                     | 6                     | 7                     |
| 1. How would you assess the overall risk for Company A for the current year? | <input type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



## All- End of Risk Assessment Exercise

You have completed the Auditing Task. Once you leave this page, you will not be able to go back and make changes. If you want to change any of your previous answers, please click the back button below to go back. If you are ready to proceed, please click the forward button to continue.



## All- State Mood (PANAS Scale- Watson et al. 1988)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then indicate the extent to which you feel this way at the *present moment*. Click the circle that best corresponds with your response.

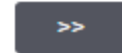
|              | 1                              | 2                     | 3                     | 4                     | 5                     |
|--------------|--------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|              | very slightly<br>or not at all | a little              | moderately            | quite a bit           | extremely             |
| interested   | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| distressed   | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| excited      | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| upset        | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| strong       | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| guilty       | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| scared       | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| hostile      | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| enthusiastic | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| proud        | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| irritable    | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| alert        | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ashamed      | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| inspired     | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| nervous      | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| determined   | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| attentive    | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| jittery      | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| active       | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| afraid       | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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## All- Manipulation Check Question

When completing the audit risk assessments, were you required to provide an explanation for your current year risk assessment and sign off on your assessment?

- Yes
- No



## All- Perception of Depletion (Clarkson et al. 2010) and level of motivation

Please click the circle that corresponds with your response to the following question.

|   | Not at all<br>Exhausting | Slightly<br>Exhausting | Exhausting            | Very<br>Exhausting    | Extremely<br>Exhausting |
|---|--------------------------|------------------------|-----------------------|-----------------------|-------------------------|
| How exhausting did you find the audit risk assessment task? | <input type="radio"/>    | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>   |

How motivated were you to do well on the risk assessment exercise?

- Extremely Motivated
- Moderately Motivated
- Somewhat Motivated
- Slightly Motivated
- Not at all Motivated

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## All- Trait Self Control (Tangney et al. 2004)

Using the scale provided, please indicate how much each of the following statements reflects how you typically are.

|   | Not at all            | Slightly              | Moderately            | Very                  | Extremely             |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. I am good at resisting temptation.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. I have a hard time breaking bad habits.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. I am lazy.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. I say inappropriate things.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. I do certain things that are bad for me, if they are fun.                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|   | Not at all            | Slightly              | Moderately            | Very                  | Extremely             |
| 6. I refuse things that are bad for me.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. I wish I had more self-discipline.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. People would say that I have iron self-discipline.                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. Pleasure and fun sometimes keep me from getting work done.                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10. I have trouble concentrating.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|   | Not at all            | Slightly              | Moderately            | Very                  | Extremely             |
| 11. I am able to work effectively toward long-term goals.                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12. Sometimes I can't stop myself from doing something, even if I know it is wrong. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13. I often act without thinking through all the alternatives.                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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## All- Trait Skepticism (Hurt 2010)

Please click the circle that corresponds with your response that indicates how you *generally* feel. There are no right or wrong answers. Do not spend too much time on any one statement.

|  | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. I often accept other people's explanations without further thoughts.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. I feel good about myself.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. I wait to decide on an issue until I can get more information.        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. The prospect of learning excites me.                                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. I am interested in what causes people to behave the way that they do. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. I am confident in my abilities.                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. I often reject statements unless I have proof they are true.          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. Discovering new information is fun.                                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|  | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
| 9. I take my time when making decisions.                                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10. I tend to immediately accept what other people tell me.              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 11. Other people's behavior does not interest me.                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12. I am self-assured.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13. My friends tell me that I usually question things I see or hear.     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 14. I like to understand the reason for other people's behavior.         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 15. I think that learning is exciting.                                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16. I usually accept things I see, read, or hear at face value.          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

|   | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 17. I do not feel sure of myself.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 18. I usually notice inconsistencies in explanations.                                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 19. Most often I agree with what the others in my group think.                          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 20. I dislike having to make decisions quickly.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 21. I have confidence in myself.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 22. I do not like to decide until I've looked at all the readily available information. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 23. I like searching for knowledge.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 24. I frequently question things that I see or hear.                                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

|   | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 25. It is easy for other people to convince me.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 26. I seldom consider why people behave in a certain way.                                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 27. I like to ensure that I've considered most available information before making decisions. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 28. I enjoy trying to determine if what I read or hear is true.                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 29. I relish learning.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 30. The actions people take and the reasons for those actions are fascinating.                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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## All Demographic Questions

What were you doing the hour before arriving for this study?

- Attending class
  - Studying
  - Taking an exam
  - Hanging out with friends
  - Watching TV
  - Eating
  - Other- please briefly describe
- 

Gender (mark one)

- Male
  - Female
- 

Age (in years)

- 18-20
- 21-25
- 26-30
- 31-35
- 36-40
- 40+
- Prefer not to answer

How many accounting classes have you completed (not credit hours, but classes)?

Are you currently enrolled in an auditing course?

- Yes  
 No

What is your overall GPA?

- greater than or equal to 3.5  
 3.0-3.49  
 2.5-2.99  
 2.0-2.49  
 less than 2.0

What is your Accounting GPA?

- greater than or equal to 3.5  
 3.0-3.49  
 2.5-2.99  
 2.0-2.49  
 less than 2.0

Do you have any auditing work experience?

- Yes  
 No

Do you have any accounting work experience (excluding any auditing work experience)?

- Yes  
 No

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## All- Trait Mood (PANAS Scale- Watson et al. 1988)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then indicate the extent to which you have felt this way *during the past year*. Click the circle that best corresponds with your response.

|              | 1                              | 2                     | 3                     | 4                     | 5                     |
|--------------|--------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|              | very slightly<br>or not at all | a little              | moderately            | quite a bit           | extremely             |
| interested   | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| distressed   | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| excited      | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| upset        | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| strong       | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| guilty       | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| scared       | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| hostile      | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| enthusiastic | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| proud        | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| irritable    | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| alert        | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ashamed      | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| inspired     | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| nervous      | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| determined   | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| attentive    | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| jittery      | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| active       | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| afraid       | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

<<

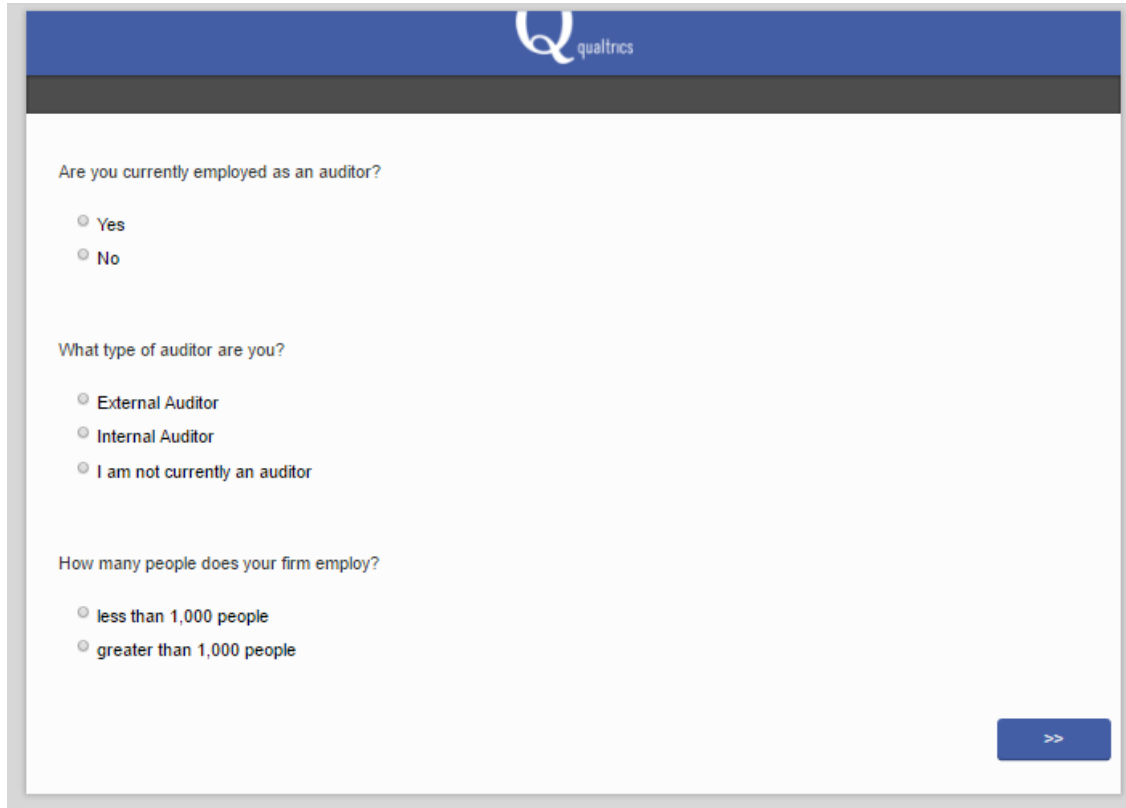
>>

## All- End of Survey Screen

We thank you for your time spent taking this survey.  
Your response has been recorded.

## Study 3- Experimental Materials

### All- Screening Questions



The image shows a Qualtrics survey interface with a blue header containing the Qualtrics logo. The survey content is on a white background with a dark grey bar at the top. It contains three screening questions, each with radio button options. A blue button with a double arrow icon is located in the bottom right corner of the survey area.

Are you currently employed as an auditor?

- Yes
- No

What type of auditor are you?


- External Auditor
- Internal Auditor
- I am not currently an auditor

How many people does your firm employ?

- less than 1,000 people
- greater than 1,000 people

>>

## All- Consent



**EXPLANATION OF RESEARCH**

Title of Project: Subjective Audit Areas and Auditor Decision-Making

Principal Investigator: Amy Donnelly

Faculty Supervisor: Vicky Arnold

You are being invited to take part in a research study. Participation is completely voluntary. The purpose of this study is to gain a better understanding of how auditors make decisions when dealing with subjective audit areas. You will read background information about a hypothetical audit client and will then be asked to make a decision regarding the audit issue presented in the case. You will also be asked to provide an explanation for your decision, which will be reviewed upon completion of the experiment, and answer a few questions about the case. Lastly, you will there will be questions regarding your various feelings and perspectives, as well as questions capturing demographic information. The estimated time to complete this study is approximately 20 minutes.


You must be 18 years of age or older to take part in this research study.

**Study contact for questions about the study or to report a problem:** If you have questions, concerns, or complaints please contact Amy Donnelly, Doctoral Candidate, Dixon School of Accounting at (407) 623-4874 or Amy.Donnelly@ucf.edu, or Dr. Vicky Arnold, Faculty Supervisor at (407) 623-3192 or Vicky.Arnold@ucf.edu.

**IRB contact about your rights in the study or to report a complaint:** Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 623-2901.

If you chose to participate in this study, please take your time in completing the survey and read all information carefully. There will be questions pertaining to the case information provided.

By clicking the ">>" arrow below, you are indicating that you wish to participate in this study.



## **CFO Client Contact**

**Version A- CFO/Client First**

**Version B- CFO/Superior First**

## CFO – Background Reading (Versions A&B)

PLEASE READ THE FOLLOWING CASE INFORMATION VERY CAREFULLY. YOU WILL BE ASKED QUESTIONS AT THE END OF THE CASE TO INSURE THAT YOU READ THE INFORMATION CAREFULLY.

### *Client Background*

You are a **senior auditor** at a public accounting firm and you have recently been assigned to the 2015 year-end audit of College Wear Novelties (CWN). You are currently auditing accounts receivable and your primary client contact is the **company's CFO**, Bob Reese. Bob has significant influence within the company, and he has a detailed understanding of numerous accounting areas, including accounts receivable. He is responsible for interacting with the auditors on various audit areas and he provides you with the necessary documentation to complete your audit procedures.

### *Current Issue*

During the first quarter of 2015, CWN implemented a new product-marketing strategy due to a decreased demand for their products. Based on this new strategy, CWN became a distributor of products to four major retailers rather than a distributor of products to numerous small retailers. Despite the strategic change, sales for 2015 were still poor.

Accounts receivable is a significant balance on the financial statements affected by the change in CWN's marketing strategy. The company's CFO, Bob Reese, discusses with you his concerns about the valuation of the allowance for doubtful accounts and believes the way the account is valued should change. In prior years, the allowance was calculated using reserve percentages based on a five year historical average of uncollectibility for each aging bucket. However, due to the change in the customer base, the CFO strongly feels that it is more appropriate to use percentages based on current year information only to calculate the uncollectibility of each aging bucket, as this more accurately reflects the new customers' abilities to pay. The CFO recognizes the subjectivity in determining this allowance; however, he is adamant that the balance in the allowance for doubtful accounts should be \$400,000, which is \$200,000 less than it would be using the old method. This has a significant effect on the financial statements as bad debt expense using the new method is \$200,000 less than it is using the old method, **thus increasing net income by \$200,000**. Using the new method proposed by the CFO would result in the following changes to the balance sheet:

|                                    | Balance Based on<br>CFO Preference | Balance Based on 5-year<br>Historical Average |
|------------------------------------|------------------------------------|---|
| BALANCE SHEET<br>INFORMATION       |                                    |   |
| Accounts Receivable                | \$1,942,683                        | \$1,942,683                                   |
| Allowance for Doubtful<br>Accounts | 400,000                            | 600,000                                       |
| Net Accounts Receivable            | \$1,542,683                        | \$1,342,683                                   |

>>



## CFO/Client First- Task Description (Version A)

### Your Task

As the **audit senior**, you are responsible for determining the appropriate balance for the allowance for doubtful accounts. You know that when subjective audit issues like this arise during the audit, the CFO usually prefers the more aggressive position, which in this instance results in a lower balance in the allowance account and a higher net income. You recognize that taking a position counter to the CFO's preference may result in consequences to you, such as a request for your removal from the engagement team or lost job opportunities at CWN in the future.

Your Audit Manager, Ryan Hall, however, tends to favor a more conservative position when handling subjective audit issues. In this situation, that means a final allowance balance of \$600,000. You recognize that taking a position counter to your Audit Manager's preference may also result in consequences, such as a request for your removal from the engagement team or unfavorable scheduling on other client engagements.

Thus, the CFO and your Audit Manager have conflicting preferences regarding their approach to valuing this subjective audit area.

On the following screen you will be provided with evidence that you may consider in determining the appropriate balance for the allowance for doubtful accounts. You will also be asked:

1. To **determine** what you think the **appropriate balance** is for the allowance for doubtful accounts.
2. To **provide an explanation to the CFO**, Bob Reese, as to your decision regarding the appropriate balance.

Please note that after leaving this screen you will not be able to go back and review the case information provided thus far. Please review any information you would like prior to proceeding.

At a later point in time, you will be asked to explain the decision you made to the Audit Manager, Ryan Hall, as well. The balance you determine to be appropriate and the explanations you provide will be reviewed. You will also be required to sign off on your work.

In the case information provided, what was your position within the audit firm?

- Audit Staff
- Audit Senior
- Audit Manager
- Audit Partner

## CFO/Client First- Dependent Variable (Version A)

The following documentation is available for your consideration in determining appropriate balance for the allowance for doubtful accounts.

1. A schedule prepared by the CFO showing the detail and aging of the accounts receivable balance as of December 31, 2015 as well as his calculation of the difference between the new and old methodologies- you've verified that the reserve percentages used in the new methodology accurately reflect the average percentage of uncollectibility for each aging bucket in 2015.

[Client's Allowance Calculation](#)

2. The prior year audit workpaper related to the allowance for doubtful accounts.


[Prior Year Audit Work Paper](#)

3. Credit reports for each of the four new customers obtained by CWN at the beginning of the 2015 calendar year, which provide historical information regarding the customers' risk of late payment, payment performance trends, as well as credit limit recommendations and any legal liabilities as of 12/31/14.

[Super Colossal Credit Report](#)  
[Discount Suburbia Credit Report](#)  
[Mega Department Credit Report](#)  
[Ultra Stores Credit Report](#)

As previously discussed, the CFO feels that the balance in the allowance account should be \$400,000. The Audit Manager prefers a more conservative approach using last year's methodology resulting in a balance of \$600,000. As the **senior auditor** on the engagement, you must now make a decision. **Please select an amount between \$400,000 and \$600,000 that you feel is the appropriate balance for the allowance for doubtful accounts.** Use the slider below to indicate the dollar amount (to the nearest thousand) that you selected. PLEASE NOTE THAT THE EXACT AMOUNT YOU SELECT WILL SHOW UP TO THE RIGHT OF THE SLIDER BAR.

| Aggressive | (in thousands) | Conservative |
|------------|----------------|--------------|
| 400        |                | 600          |



Please explain to the *CFO* why you made the decision that you did:

I verify that I approve of the amount selected above and I am signing off on this amount as the senior on the audit engagement.

>>

From the "items" list below, please identify all of the factors that were considered in making your decision regarding the appropriate balance for the allowance for doubtful accounts. Drag the factors into the box provided and then rank them based on their level of importance in your decision making process (1= most important). Rank the items by dragging them up or down in the box provided to reorder them. Please select *only* those factors used in making your decision. You must select at least one factor from the "items" list.

- Items
- Whether the client's new methodology seemed "reasonable"
  - The new customers' credit histories
  - How happy my client would be with my decision
  - How happy my manager would be with my decision
  - Whether I would be able to explain my decision to others
  - The background and experience of the client contact I was working with
  - The background and experience of my manager
  - My client contact's position within the company
  - Other
- 

Factors Considered in Decision Making Process

>>

## CFO/Superior First- Task Description (Version B)

### Your Task

As the **audit senior**, you are responsible for determining the appropriate balance for the allowance for doubtful accounts. You know that when subjective audit issues like this arise during the audit, your Audit Manager, Ryan Hall, tends to favor a more conservative position. In this situation, that means a final allowance balance of \$600,000. You recognize that taking a position counter to your Audit Manager's preference may result in consequences to you, such as a request for your removal from the engagement team or unfavorable scheduling on other client engagements.

The CFO, however, usually prefers the more aggressive position when handling subjective audit issues, which in this instance results in a lower balance in the allowance account and a higher net income. You recognize that taking a position counter to the CFO's preference may also result in consequences, such as a request for your removal from the engagement team or lost job opportunities at CWN in the future.

Thus, your Audit Manager and the CFO have conflicting preferences regarding their approach to valuing this subjective audit area.

On the following screen you will be provided with evidence that you may consider in determining the appropriate balance for the allowance for doubtful accounts. You will also be asked:

1. To **determine** what you think the **appropriate balance** is for the allowance for doubtful accounts.
2. To **provide an explanation to the Audit Manager**, Ryan Hall, as to your decision regarding the appropriate balance.

Please note that after leaving this screen you will not be able to go back and review the case information provided thus far. Please review any information you would like prior to proceeding.

At a later point in time, you will be asked to explain the decision you made to the CFO, Bob Reese, as well. The balance you determine to be appropriate and the explanations you provide will be reviewed. You will also be required to sign off on your work.

In the case information provided, what was your position within the audit firm?

- Audit Staff
- Audit Senior
- Audit Manager
- Audit Partner

## CFO/Superior First- Dependent Variable (Version B)

The following documentation is available for your consideration in determining appropriate balance for the allowance for doubtful accounts.

1. A schedule prepared by the CFO showing the detail and aging of the accounts receivable balance as of December 31, 2015 as well as his calculation of the difference between the new and old methodologies- you've verified that the reserve percentages used in the new methodology accurately reflect the average percentage of uncollectibility for each aging bucket in 2015.

[Client's Allowance Calculation](#)

2. The prior year audit workpaper related to the allowance for doubtful accounts.


[Prior Year Audit Work Paper](#)

3. Credit reports for each of the four new customers obtained by CWN at the beginning of the 2015 calendar year, which provide historical information regarding the customers' risk of late payment, payment performance trends, as well as credit limit recommendations and any legal liabilities as of 12/31/14.

[Super Colossal Credit Report](#)  
[Discount Suburbia Credit Report](#)  
[Mega Department Credit Report](#)  
[Ultra Stores Credit Report](#)

As previously discussed, the Audit Manager prefers a more conservative approach using last year's methodology resulting in a balance of \$600,000. The CFO feels that the balance in the allowance account should be \$400,000. As the **senior auditor** on the engagement, you must now make a decision. **Please select an amount between \$400,000 and \$600,000 that you feel is the appropriate balance for the allowance for doubtful accounts.** Use the slider below to indicate the dollar amount (to the nearest thousand) that you selected. PLEASE NOTE THAT THE EXACT AMOUNT YOU SELECT WILL SHOW UP TO THE RIGHT OF THE SLIDER BAR.

| Aggressive | (in thousands) | Conservative |
|------------|----------------|--------------|
| 400        |                | 600          |



Please explain to your **Audit Manager** why you made the decision that you did:

I verify that I approve of the amount selected above and I am signing off on this amount as the senior on the audit engagement.

>>

From the "items" list below, please identify all of the factors that were considered in making your decision regarding the appropriate balance for the allowance for doubtful accounts. Drag the factors into the box provided and then rank them based on their level of importance in your decision making process (1= most important). Rank the items by dragging them up or down in the box provided to reorder them. Please select *only* those factors used in making your decision. You must select at least one factor from the "items" list.

- Items
- Whether the client's new methodology seemed "reasonable"
  - The new customers' credit histories
  - How happy my client would be with my decision
  - How happy my manager would be with my decision
  - Whether I would be able to explain my decision to others
  - The background and experience of the client contact I was working with
  - The background and experience of my manager
  - My client contact's position within the company
  - Other

Factors Considered in Decision Making Process



## All- Manipulation Check

Please respond to the following question *about the information presented in the case materials*.

1. In case information provided, your client contact was named Bob Reese. What position did he hold?

- CFO
- Staff Accountant

>>

## CFO – Post Experimental Questions Part 1 (Versions A & B)

Given your role as the audit senior in the case provided, please respond to the following questions.

1. How much pressure did you feel to make a decision consistent with your **Manager's** preference for a more conservative approach regarding the balance of the allowance for doubtful accounts?

No Pressure      Slight Pressure      Moderate Pressure      Significant Pressure      Extreme Pressure

2. How much pressure did you feel to make a decision consistent with the CFO's preference for a more aggressive approach regarding the balance of the allowance for doubtful accounts?

No Pressure      Slight Pressure      Moderate Pressure      Significant Pressure      Extreme Pressure

3. How accountable did you feel to the **Audit Manager** for the decision you made regarding the appropriate balance for the allowance for doubtful accounts?

Not at all Accountable      Slightly Accountable      Moderately Accountable      Very Accountable      Extremely Accountable

4. How accountable did you feel to the CFO for the decision you made regarding the appropriate balance for the allowance for doubtful accounts?

Not at all Accountable      Slightly Accountable      Moderately Accountable      Very Accountable      Extremely Accountable

5. In the case provided, to what extent did you feel conflicted about what the appropriate balance was for allowance for doubtful accounts?

Not at all Conflicted      Slightly Conflicted      Moderately Conflicted      Very Conflicted      Extremely Conflicted

6. Please evaluate the CFO on the following dimensions:

|                 |   |             |
|-----------------|---|-------------|
| Not Trustworthy | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Trustworthy |
| Not Open-Minded | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Open-Minded |
| Bad             | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Good        |
| Not Expert      | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Expert      |
| Not Experienced | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Experienced |
| Untrained       | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Trained     |

7. Please evaluate your **Audit Manager** on the following dimensions:

|                 |   |             |
|-----------------|---|-------------|
| Not Trustworthy | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Trustworthy |
| Not Open-Minded | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Open-Minded |
| Bad             | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Good        |
| Not Expert      | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Expert      |
| Not Experienced | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Experienced |
| Untrained       | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Trained     |

>>



## CFO- Post Experimental Questions Part 2 (Versions A&B)

Please answer each of the following questions by selecting the item that best corresponds with how you *generally* feel.

1. As an auditor, how severe do you perceive the consequences to be for making a decision that does not align with the preferences of a CFO client contact?

Not Severe



Slightly Severe



Moderately Severe



Very Severe



Extremely Severe



2. As an auditor, how severe do you perceive the consequences to be for making a decision that does not align with the preferences of your **Audit Manager**?

Not Severe



Slightly Severe



Moderately Severe



Very Severe



Extremely Severe



3. As an auditor, how comfortable do you feel making a decision that counters the CFO's preference when the CFO is your client contact on an engagement?

Very Uncomfortable



Uncomfortable



Somewhat Uncomfortable



Neither Comfortable nor Uncomfortable



Somewhat Comfortable



Comfortable



Very Comfortable



4. As an auditor, how comfortable do you feel making a decision that counters your **Audit Manager's** preference?

Very Uncomfortable



Uncomfortable



Somewhat Uncomfortable



Neither Comfortable nor Uncomfortable



Somewhat Comfortable



Comfortable



Very Comfortable



## All- Skepticism Scale

For each statement below, please click the circle that indicates how you *generally* feel. There are no right or wrong answers. Do not spend too much time on any one statement.

|  | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. I often accept other people's explanations without further thoughts.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. I feel good about myself.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. I wait to decide on an issue until I can get more information.        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. The prospect of learning excites me.                                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. I am interested in what causes people to behave the way that they do. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. I am confident in my abilities.                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. I often reject statements unless I have proof they are true.          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|  | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
| 8. Discovering new information is fun.                                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. I take my time when making decisions.                                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10. I tend to immediately accept what other people tell me.              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 11. Other people's behavior does not interest me.                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12. I am self-assured.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13. My friends tell me that I usually question things I see or hear.     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 14. I like to understand the reason for other people's behavior.         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

|   | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 15. I think that learning is exciting.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16. I usually accept things I see, read, or hear at face value.                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 17. I do not feel sure of myself.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 18. I usually notice inconsistencies in explanations.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 19. Most often I agree with what the others in my group think.                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 20. I dislike having to make decisions quickly.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 21. I have confidence in myself.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|   | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
| 22. I do not like to decide until I've looked at all the readily available information.       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 23. I like searching for knowledge.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 24. I frequently question things that I see or hear.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 25. It is easy for other people to convince me.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 26. If you are paying attention, please select disagree.                                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 27. I seldom consider why people behave in a certain way.                                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 28. I like to ensure that I've considered most available information before making decisions. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

|  | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 29. I enjoy trying to determine if what I read or hear is true.                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 30. I relish learning.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 31. The actions people take and the reasons for those actions are fascinating. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |


>>

## CFO/Client First- Second Explanation (Versions A)

Please explain to your **Audit Manager** why you made the decision that you did regarding the appropriate balance for the allowance for doubtful accounts:

>>

## CFO/Superior First- Second Explanation (Version B)



Please explain to the CFO why you made the decision that you did regarding the appropriate balance for the allowance for doubtful accounts:

>>

## **Staff Accountant Client Contact**

**Version C- Staff Accountant/Client First**

**Version D- Staff Accountant/Superior First**

## Staff Accountant- Background Reading (Versions C&D)



PLEASE READ THE FOLLOWING CASE INFORMATION VERY CAREFULLY. YOU WILL BE ASKED QUESTIONS AT THE END OF THE CASE TO INSURE THAT YOU READ THE INFORMATION CAREFULLY.

### Client Background

You are a senior auditor at a public accounting firm and you have recently been assigned to the 2015 year-end audit of College Wear Novelties (CWN). You are currently auditing accounts receivable and your primary client contact is the company's staff accountant, Bob Reese. Bob has influence within the accounting department, and he has a detailed understanding of accounts receivable. He is responsible for interacting with the auditors on accounts receivable and he provides you with the necessary documentation to complete your audit procedures.

### Current Issue

During the first quarter of 2015, CWN implemented a new product-marketing strategy due to a decreased demand for their products. Based on this new strategy, CWN became a distributor of products to four major retailers rather than a distributor of products to numerous small retailers. Despite the strategic change, sales for 2015 were still poor.

Accounts receivable is a significant balance on the financial statements affected by the change in CWN's marketing strategy. The company's staff accountant, Bob Reese, discusses with you his concerns about the valuation of the allowance for doubtful accounts and believes the way the account is valued should change. In prior years, the allowance was calculated using reserve percentages based on a five year historical average of uncollectibility for each aging bucket. However, due to the change in the customer base, the staff accountant strongly feels that it is more appropriate to use percentages based on current year information only to calculate the uncollectibility of each aging bucket, as this more accurately reflects the new customers' abilities to pay. The staff accountant recognizes the subjectivity in determining this allowance; however, he is adamant that the balance in the allowance for doubtful accounts should be \$400,000, which is \$200,000 less than it would be using the old method. This has a significant effect on the financial statements as bad debt expense using the new method is \$200,000 less than it is using the old method, thus increasing net income by \$200,000. Using the new method proposed by the staff accountant would result in the following changes to the balance sheet:

|                                 | Balance Based on Staff Accountant Preference | Balance Based on 5-year Historical Average |
|---------------------------------|--|--|
| BALANCE SHEET INFORMATION       |  |  |
| Accounts Receivable             | \$1,942,683                                  | \$1,942,683                                |
| Allowance for Doubtful Accounts | 400,000                                      | 600,000                                    |
| Net Accounts Receivable         | \$1,542,683                                  | \$1,342,683                                |

>>

## Staff Accountant/Client First- Task Description (Version C)

### Your Task

As the **audit senior**, you are responsible for determining the appropriate balance for the allowance for doubtful accounts. You know that when subjective audit issues like this arise during the audit, the staff accountant usually prefers the more aggressive position, which in this instance results in a lower balance in the allowance account and a higher net income. You recognize that taking a position counter to the staff accountant's preference may result in consequences to you, such as delayed responses to audit requests and an unfriendly demeanor towards the audit team.

Your Audit Manager, Ryan Hall, however, tends to favor a more conservative position when handling subjective audit issues. In this situation, that means a final allowance balance of \$600,000. You recognize that taking a position counter to your Audit Manager's preference may also result in consequences, such as a request for your removal from the engagement team or unfavorable scheduling on other client engagements.

Thus, the staff accountant and your Audit Manager have conflicting preferences regarding their approach to valuing this subjective audit area.

On the following screen you will be provided with evidence that you may consider in determining the appropriate balance for the allowance for doubtful accounts. You will also be asked:

1. To **determine** what you think the **appropriate balance** is for the allowance for doubtful accounts.
2. To **provide an explanation to the staff accountant**, Bob Reese, as to your decision regarding the appropriate balance.

Please note that after leaving this screen you will not be able to go back and review the case information provided thus far. Please review any information you would like prior to proceeding.

At a later point in time, you will be asked to explain the decision you made to the Audit Manager, Ryan Hall, as well. The balance you determine to be appropriate and the explanations you provide will be reviewed. You will also be required to sign off on your work.

In the case information provided, what was your position within the audit firm?

- Audit Staff
- Audit Senior
- Audit Manager
- Audit Partner



## Staff Accountant/Client First- Dependent Variable (Version C)

The following documentation is available for your consideration in determining appropriate balance for the allowance for doubtful accounts.

1. A schedule prepared by the staff accountant showing the detail and aging of the accounts receivable balance as of December 31, 2015 as well as his calculation of the difference between the new and old methodologies- you've verified that the reserve percentages used in the new methodology accurately reflect the average percentage of uncollectibility for each aging bucket in 2015.

[Client's Allowance Calculation](#)

2. The prior year audit workpaper related to the allowance for doubtful accounts.

[Prior Year Audit Work Paper](#)

3. Credit reports for each of the four new customers obtained by CWN at the beginning of the 2015 calendar year, which provide historical information regarding the customers' risk of late payment, payment performance trends, as well as credit limit recommendations and any legal liabilities as of 12/31/14.

[Super Colossal Credit Report](#)


[Discount Suburbia Credit Report](#)

[Mega Department Credit Report](#)

[Ultra Stores Credit Report](#)

As previously discussed, the staff accountant feels that the balance in the allowance account should be \$400,000. The Audit Manager prefers a more conservative approach using last year's methodology resulting in a balance of \$600,000. As the **senior auditor** on the engagement, you must now make a decision. **Please select an amount between \$400,000 and \$600,000 that you feel is the appropriate balance for the allowance for doubtful accounts.** Use the slider below to indicate the dollar amount (to the nearest thousand) that you selected. PLEASE NOTE THAT THE EXACT AMOUNT YOU SELECT WILL SHOW UP TO THE RIGHT OF THE SLIDER BAR.

| Aggressive | (in thousands) | Conservative |
|------------|----------------|--------------|
| 400        |                | 600          |



Please explain to the *staff accountant* why you made the decision that you did:

I verify that I approve of the amount selected above and I am signing off on this amount as the senior on the audit engagement.

>>

From the "items" list below, please identify all of the factors that were considered in making your decision regarding the appropriate balance for the allowance for doubtful accounts. Drag the factors into the box provided and then rank them based on their level of importance in your decision making process (1= most important). Rank the items by dragging them up or down in the box provided to reorder them. Please select *only* those factors used in making your decision. You must select at least one factor from the "items" list.

Items

Whether the client's new methodology seemed "reasonable"

The new customers' credit histories

How happy my client would be with my decision

How happy my manager would be with my decision

Whether I would be able to explain my decision to others

The background and experience of the client contact I was working with

The background and experience of my manager

My client contact's position within the company

Other

Factors Considered in Decision Making Process

## Staff Accountant/Superior First – Task Description (Version D)

### Your Task

As the **audit senior**, you are responsible for determining the appropriate balance for the allowance for doubtful accounts. You know that when subjective audit issues like this arise during the audit, your Audit Manager, Ryan Hall, tends to favor a more conservative position. In this situation, that means a final allowance balance of \$600,000. You recognize that taking a position counter to your Audit Manager's preference may result in consequences to you, such as a request for your removal from the engagement team or unfavorable scheduling on other client engagements.

The staff accountant, however, usually prefers the more aggressive position when handling subjective audit issues, which in this instance results in a lower balance in the allowance account and a higher net income. You recognize that taking a position counter to the staff accountant's preference may also result in consequences, such as delayed responses to audit requests and an unfriendly demeanor towards the audit team.

Thus, your Audit Manager and the staff accountant have conflicting preferences regarding their approach to valuing this subjective audit area.

On the following screen you will be provided with evidence that you may consider in determining the appropriate balance for the allowance for doubtful accounts. You will also be asked:

1. To **determine** what you think the **appropriate balance** is for the allowance for doubtful accounts.
2. To **provide an explanation to the Audit Manager**, Ryan Hall, as to your decision regarding the appropriate balance.

Please note that after leaving this screen you will not be able to go back and review the case information provided thus far. Please review any information you would like prior to proceeding.

At a later point in time, you will be asked to explain the decision you made to the staff accountant, Bob Reese, as well. The balance you determine to be appropriate and the explanations you provide will be reviewed. You will also be required to sign off on your work.

In the case information provided, what was your position within the audit firm?

- Audit Staff
- Audit Senior
- Audit Manager
- Audit Partner

<<

>>

## Staff Accountant/Superior First – Dependent Variable (Version D)

The following documentation is available for your consideration in determining appropriate balance for the allowance for doubtful accounts.

1. A schedule prepared by the staff accountant showing the detail and aging of the accounts receivable balance as of December 31, 2015 as well as his calculation of the difference between the new and old methodologies- you've verified that the reserve percentages used in the new methodology accurately reflect the average percentage of uncollectibility for each aging bucket in 2015.

[Client's Allowance Calculation](#)

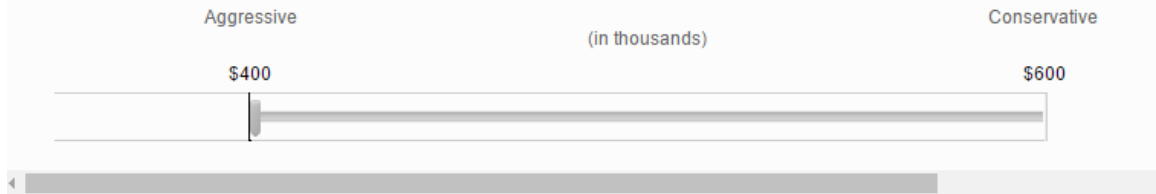
2. The prior year audit workpaper related to the allowance for doubtful accounts.

[Prior Year Audit Work Paper](#)

3. Credit reports for each of the four new customers obtained by CWN at the beginning of the 2015 calendar year, which provide historical information regarding the customers' risk of late payment, payment performance trends, as well as credit limit recommendations and any legal liabilities as of 12/31/14.

[Super Colossal Credit Report](#)  
[Discount Suburbia Credit Report](#)  
[Mega Department Credit Report](#)  
[Ultra Stores Credit Report](#)

As previously discussed, the Audit Manager prefers a more conservative approach using last year's methodology resulting in a balance of \$600,000. The staff accountant feels that the balance in the allowance account should be \$400,000. As the **senior auditor** on the engagement, you must now make a decision. **Please select an amount between \$400,000 and \$600,000 that you feel is the appropriate balance for the allowance for doubtful accounts.** Use the slider below to indicate the dollar amount (to the nearest thousand) that you selected. PLEASE NOTE THAT THE EXACT AMOUNT YOU SELECT WILL SHOW UP TO THE RIGHT OF THE SLIDER BAR.



Please explain to your **Audit Manager** why you made the decision that you did:

I verify that I approve of the amount selected above and I am signing off on this amount as the senior on the audit engagement.

>>

From the "items" list below, please identify all of the factors that were considered in making your decision regarding the appropriate balance for the allowance for doubtful accounts. Drag the factors into the box provided and then rank them based on their level of importance in your decision making process (1= most important). Rank the items by dragging them up or down in the box provided to reorder them. Please select *only* those factors used in making your decision. You must select at least one factor from the "items" list.

Items

Whether the client's new methodology seemed "reasonable"

The new customers' credit histories

How happy my client would be with my decision

How happy my manager would be with my decision

Whether I would be able to explain my decision to others

The background and experience of the client contact I was working with

The background and experience of my manager

My client contact's position within the company

Other

Factors Considered in Decision Making Process

## All- Manipulation Check

Please respond to the following question *about the information presented in the case materials*.

1. In case information provided, your client contact was named Bob Reese. What position did he hold?

- CFO
- Staff Accountant

>>

## Staff Accountant- Post Experimental Questions part 1 (Versions C&D)

Given your role as the audit senior in the case provided, please respond to the following questions.

1. How much pressure did you feel to make a decision consistent with your **Manager's** preference for a more conservative approach regarding the balance of the allowance for doubtful accounts?

No Pressure      Slight Pressure      Moderate Pressure      Significant Pressure      Extreme Pressure

2. How much pressure did you feel to make a decision consistent with the **staff accountant's** preference for a more aggressive approach regarding the balance of the allowance for doubtful accounts?

No Pressure      Slight Pressure      Moderate Pressure      Significant Pressure      Extreme Pressure

3. How accountable did you feel to the **Audit Manager** for the decision you made regarding the appropriate balance for the allowance for doubtful accounts?

Not at all Accountable      Slightly Accountable      Moderately Accountable      Very Accountable      Extremely Accountable

4. How accountable did you feel to the **staff accountant** for the decision you made regarding the appropriate balance for the allowance for doubtful accounts?

Not at all Accountable      Slightly Accountable      Moderately Accountable      Very Accountable      Extremely Accountable

5. In the case provided, to what extent did you feel conflicted about what the appropriate balance was for allowance for doubtful accounts?

Not at all Conflicted      Slightly Conflicted      Moderately Conflicted      Very Conflicted      Extremely Conflicted

6. Please evaluate the **staff accountant** on the following dimensions:

|                 |   |             |
|-----------------|---|-------------|
| Not Trustworthy | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Trustworthy |
| Not Open-Minded | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Open-Minded |
| Bad             | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Good        |
| Not Expert      | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Expert      |
| Not Experienced | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Experienced |
| Untrained       | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Trained     |

7. Please evaluate your **Audit Manager** on the following dimensions:

|                 |   |             |
|-----------------|---|-------------|
| Not Trustworthy | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Trustworthy |
| Not Open-Minded | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Open-Minded |
| Bad             | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Good        |
| Not Expert      | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Expert      |
| Not Experienced | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Experienced |
| Untrained       | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Trained     |

>>

## Staff Accountant- Post Experimental Questions Part 2 (Versions C&D)

Please answer each of the following questions by selecting the item that best corresponds with how you *generally* feel.

1. As an auditor, how severe do you perceive the consequences to be for making a decision that does not align with the preferences of a **staff accountant** client contact?

Not Severe      Slightly Severe      Moderately Severe      Very Severe      Extremely Severe

2. As an auditor, how severe do you perceive the consequences to be for making a decision that does not align with the preferences of your **Audit Manager**?

Not Severe      Slightly Severe      Moderately Severe      Very Severe      Extremely Severe

3. As an auditor, how comfortable do you feel making a decision that counters the **staff accountant's** preference when the staff accountant is your client contact on an engagement?

Very Uncomfortable      Uncomfortable      Somewhat Uncomfortable      Neither Comfortable nor Uncomfortable      Somewhat Comfortable      Comfortable      Very Comfortable

4. As an auditor, how comfortable do you feel making a decision that counters your **Audit Managers's** preference?

Very Uncomfortable      Uncomfortable      Somewhat Uncomfortable      Neither Comfortable nor Uncomfortable      Somewhat Comfortable      Comfortable      Very Comfortable

>>



## All- Skepticism Scale

For each statement below, please click the circle that indicates how you *generally* feel. There are no right or wrong answers. Do not spend too much time on any one statement.

|  | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. I often accept other people's explanations without further thoughts.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. I feel good about myself.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. I wait to decide on an issue until I can get more information.        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. The prospect of learning excites me.                                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. I am interested in what causes people to behave the way that they do. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. I am confident in my abilities.                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. I often reject statements unless I have proof they are true.          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|  | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
| 8. Discovering new information is fun.                                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. I take my time when making decisions.                                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10. I tend to immediately accept what other people tell me.              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 11. Other people's behavior does not interest me.                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12. I am self-assured.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13. My friends tell me that I usually question things I see or hear.     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 14. I like to understand the reason for other people's behavior.         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

|   | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 15. I think that learning is exciting.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16. I usually accept things I see, read, or hear at face value.                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 17. I do not feel sure of myself.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 18. I usually notice inconsistencies in explanations.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 19. Most often I agree with what the others in my group think.                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 20. I dislike having to make decisions quickly.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 21. I have confidence in myself.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|   | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
| 22. I do not like to decide until I've looked at all the readily available information.       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 23. I like searching for knowledge.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 24. I frequently question things that I see or hear.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 25. It is easy for other people to convince me.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 26. If you are paying attention, please select disagree.                                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 27. I seldom consider why people behave in a certain way.                                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 28. I like to ensure that I've considered most available information before making decisions. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

|  | Strongly Disagree     | Disagree              | Slightly Disagree     | Slightly Agree        | Agree                 | Strongly Agree        |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 29. I enjoy trying to determine if what I read or hear is true.                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 30. I relish learning.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 31. The actions people take and the reasons for those actions are fascinating. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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## Staff Accountant/Client First- Second Explanation (Versions C)

Please explain to your **Audit Manager** why you made the decision that you did regarding the appropriate balance for the allowance for doubtful accounts:

>>

## Staff Accountant/Superior First- Second Explanation (Version D)

Please explain to the *staff accountant* why you made the decision that you did regarding the appropriate balance for the allowance for doubtful accounts:

>>

## All – Demographic Questions

Please answer each of the following questions as accurately as possible. These questions capture demographic information as well as information regarding your personal work experience.

1. Gender (mark one):

- Female
- Male
- Other (please specify)

2. Age (in years)

- 18-20
- 21-25
- 26-30
- 31-35
- 36-40
- 40+
- Prefer not to answer

3. Years of Work Experience (round to the nearest full year):

4. Years of Auditing Experience (round to the nearest full year):

5. What type of auditing experience do you have?

- Internal Audit
- External Audit
- Both

6. Years at your current employer (round to the nearest full year):

7. Level within the firm:

- Staff
- Senior
- Manager/Sr. Manager
- Partner

8. On average, how many auditors are on the engagement teams that you work on?

9. Have you ever worked on the audit of a publicly traded company?

- Yes
- No

10. Have you ever audited accounts receivable?

- Yes
- No

11. In what industry are the majority of the clients you work on?

- Retail or Manufacturing
- Banking or Financial Services
- Government or Not for Profit
- Other (please specify)

12. What type of firm do you currently work for?

- Big 4
- National/Regional Firm
- Local Firm (no offices outside of the immediate geographical area)
- Prefer not to answer

>>

## **Audit Evidence**

**Links were provided on the dependent variable screen**



**Client's Allowance Calculation:**

| College Wear Novelties<br>Accounts Receivable Aging Detail<br>As of 12/31/2015 |                                 |                            |                       |                        |                          |
|--|---------------------------------|----------------------------|-----------------------|------------------------|--------------------------|
| Customer   | Unaudited Balance<br>12/31/2015 | Current<br>(terms: net 30) | 1-30 days<br>past due | 31-90 days<br>past due | Over 90 days<br>past due |
| Super Colossal   | \$ 533,265                      | \$ 297,899                 | \$ 107,222            | \$ 94,557              | \$ 33,587                |
| Discount Suburbia  | 546,962                         | 198,752                    | 225,784               | 84,572                 | 37,854                   |
| Mega Department  | 381,677                         | 185,743                    | 78,544                | 74,179                 | 43,211                   |
| Ultra Stores   | 281,183                         | 132,579                    | 82,113                | 51,244                 | 15,247                   |
| All Others (37 customers)  | 199,596                         | 105,247                    | 79,888                | 9,874                  | 4,587                    |
| <b>Total</b>   | <b>\$ 1,942,683</b>             | <b>\$ 920,220</b>          | <b>\$ 573,551</b>     | <b>\$ 314,426</b>      | <b>\$ 134,486</b>        |
|  | <i>Agrees to Balance Sheet</i>  |                            |                       |                        |                          |

| Allowance Calculation   |    |           |     |         |            |         |    |            |
|---|----|-----------|-----|---------|------------|---------|----|------------|
| Aging Bucket Balances   | \$ | 920,220   | \$  | 573,551 | \$         | 314,426 | \$ | 134,486    |
| Reserve Percentages Based on New Methodology                          |    |           |     |         |            |         |    |            |
| Estimated Allowance Needed (immaterially rounded)                     | \$ | 400,000   | ≈   | \$      | 138,033.00 | +       | \$ | 114,710.20 |
| Allowance Balance Using Prior Year Methodology (immaterially rounded) | \$ | 600,000   | !!! |         |            | +       | \$ | 94,327.80  |
| Difference  | \$ | (200,000) |     |         |            | +       | \$ | 53,794.40  |

**&&** Reserve percentages are based on the average percentage of uncollectible receivables for each aging bucket in 2015.

**!!!** Allowance balance using prior year reserve percentages which were based on a five year historical average of collectibility as of 12/31/14.

**Prior Year Audit Workpaper:**

| College Wear Novelties<br>Allowance for Doubtful Accounts<br>As of 12/31/2014<br>Prepared by Auditor |                                 | Reviewer Signoff             |                 | DT 3/22/15      |                 |
|--|---------------------------------|------------------------------|-----------------|-----------------|-----------------|
|  |                                 | Preparer Signoff             |                 | AS 3/15/15      |                 |
|  | Unaudited Balance<br>12/31/2014 | Current                      | 1-30 days       | 31-90 days      | Over<br>90 days |
| <b>All Customers</b>   | \$ 1,849,564.00                 | \$ 721,448.00                | \$ 422,587.00   | \$ 336,785.00   | \$ 368,744.00   |
|  |                                 |                              | !!!             |                 |                 |
|  |                                 |                              |                 | ##              |                 |
|  |                                 | 20%                          | 30%             | 50%             | 70%             |
| <b>Estimated Reserve Needed</b>  | \$ 697,579.00                   | = \$144,289.60               | + \$ 126,776.10 | + \$ 168,392.50 | + \$ 258,120.80 |
| <b>Recorded Allowance for<br/>Doubtful Accounts</b>  | \$ 700,000.00                   |                              |                 |                 |                 |
| <b>Difference</b>  | \$ (2,421.00)                   | <b>Immaterial Difference</b> |                 |                 |                 |

!!! Agrees without exception to AR aging buckets as of 12/31/2014

## Reserve percentages based on the **five year historical average** of collectability for each aging bucket .

**Conclusion:** Allowance for Doubtful Accounts appears reasonable and fairly stated. No further testing deemed necessary.

## Credit Reports

### Super Colossal

Report as of 12/31/14

#### Credit Information

##### Risk Summary

###### Risk of Late Payment



Risk of late payment is based on the following prioritized factors in addition to other information

- Proportion of past due balance to total amount owing
- Proportion of slow payment in recent months
- Higher risk customer based on delinquency rates for this industry
- Financial Ratios
- Evidence of open suits, liens, and judgments

Indications of slowness can be the result of disputes over merchandise, skipped invoices, etc.

###### Payment Performance Trend



Unchanged

The payment performance trend for this company is Unchanged. Payment Trend currently is Unchanged compared to payment three months ago. The most recent payment information is:

- Payments currently: 55 days beyond invoice terms
- Payments 3 months ago: 55 days beyond invoice terms
- Industry Average: GENERALLY WITHIN terms

#### Credit Limit Recommendation

Recommendation Date: 12/31/2014

Risk Category

**Moderate**

Conservative Credit Limit

**\$550K**

Aggressive Credit Limit

**\$620K**

**Moderate** risk category reflects a moderate projected risk of delinquency and a moderate to low risk of failure.

Credit Limits are based on the company profile and on the profiles of other companies of similar size, industry, and credit usage.

#### Legal Filings and Other Important Information

|                       |          |  |          |
|-----------------------|----------|--|----------|
| <b>Bankruptcies:</b>  | None     | <b>* Negative Payment Experience:</b>      | 2        |
| <b>Judgments:</b>     | None     | <b>Negative Payment Experience Amount:</b> | \$24,000 |
| <b>Liens:</b>         | None     | <b>Payments Placed for Collection:</b>     | 0        |
| <b>Suits:</b>         | 1        |  |          |
| <b>Suits Amounts:</b> | \$15,000 |  |          |

The public record items reported may have been paid, terminated, vacated or released prior to the date this data is transmitted. Accounts are sometimes placed to collection even though the existence or amount of the debt is disputed.

\* Consists of amounts related to non-sufficient funds, credit refused or amounts placed for collection.

# Discount Suburbia

Report as of 12/31/14

## Credit Information

### Risk Summary

#### Risk of Late Payment



Risk of late payment is based on the following prioritized factors in addition to other information

- Proportion of past due balance to total amount owing
- Proportion of slow payment in recent months
- Higher risk customer based on delinquency rates for this industry
- Financial Ratios
- Evidence of open suits, liens, and judgments

Indications of slowness can be the result of disputes over merchandise, skipped invoices, etc.

#### Payment Performance Trend



The payment performance trend for this company is Declining. Payment Trend currently is Declining compared to payment three months ago. The most recent payment information is:

- Payments currently: 94 days beyond invoice terms
- Payments 3 months ago: 92 days beyond invoice terms
- Industry Average: GENERALLY WITHIN terms

### Credit Limit Recommendation

Recommendation Date: 12/31/2014

Risk Category

**Moderate**

Conservative Credit Limit

**\$450K**

Aggressive Credit Limit

**\$600K**

**Moderate** risk category reflects a moderate projected risk of delinquency and a moderate to low risk of failure.

Credit Limits are based on the company profile and on the profiles of other companies of similar size, industry, and credit usage.

### Legal Filings and Other Important Information

|                       |                |  |          |
|-----------------------|----------------|--|----------|
| <b>Bankruptcies:</b>  | None           | <b>* Negative Payment Experience:</b>      | 1        |
| <b>Judgments:</b>     | None           | <b>Negative Payment Experience Amount:</b> | \$10,000 |
| <b>Liens:</b>         | None           | <b>Payments Placed for Collection:</b>     | 0        |
| <b>Suits:</b>         | 0              |  |          |
| <b>Suits Amounts:</b> | Not Applicable |  |          |

The public record items reported may have been paid, terminated, vacated or released prior to the date this data is transmitted. Accounts are sometimes placed to collection even though the existence or amount of the debt is disputed.

\* Consists of amounts related to non-sufficient funds, credit refused or amounts placed for collection.

# Mega Department

Report as of 12/31/14

## Credit Information

### Risk Summary

#### Risk of Late Payment



Risk of late payment is based on the following prioritized factors in addition to other information

- Proportion of past due balance to total amount owing
- Proportion of slow payment in recent months
- Higher risk customer based on delinquency rates for this industry
- Financial Ratios
- Evidence of open suits, liens, and judgments

Indications of slowness can be the result of disputes over merchandise, skipped invoices, etc.

#### Payment Performance Trend



Unchanged

The payment performance trend for this company is Unchanged. Payment Trend currently is Unchanged compared to payment three months ago. The most recent payment information is:

- Payments currently: 42 days beyond invoice terms
- Payments 3 months ago: 42 days beyond invoice terms
- Industry Average: GENERALLY WITHIN terms

### Credit Limit Recommendation

Recommendation Date: 12/31/2014

Risk Category

**Moderate**

Conservative Credit Limit

**\$500K**

Aggressive Credit Limit

**\$650K**

**Moderate** risk category reflects a moderate projected risk of delinquency and a moderate to low risk of failure.

Credit Limits are based on the company profile and on the profiles of other companies of similar size, industry, and credit usage.

### Legal Filings and Other Important Information

|                       |           |  |                |
|-----------------------|-----------|--|----------------|
| <b>Bankruptcies:</b>  | None      | <b>* Negative Payment Experience:</b>      | 0              |
| <b>Judgments:</b>     | None      | <b>Negative Payment Experience Amount:</b> | Not Applicable |
| <b>Liens:</b>         | None      | <b>Payments Placed for Collection:</b>     | 0              |
| <b>Suits:</b>         | 1         |  |                |
| <b>Suits Amounts:</b> | \$700,000 |  |                |

The public record items reported may have been paid, terminated, vacated or released prior to the date this data is transmitted. Accounts are sometimes placed to collection even though the existence or amount of the debt is disputed.

\* Consists of amounts related to non-sufficient funds, credit refused or amounts placed for collection.

# Ultra Stores

Report as of 12/31/14

## Credit Information

### Risk Summary

#### Risk of Late Payment



Risk of late payment is based on the following prioritized factors in addition to other information

- Proportion of past due balance to total amount owing
- Proportion of slow payment in recent months
- Higher risk customer based on delinquency rates for this industry
- Financial Ratios
- Evidence of open suits, liens, and judgments

Indications of slowness can be the result of disputes over merchandise, skipped invoices, etc.

#### Payment Performance Trend



The payment performance trend for this company is Improving. Payment Trend currently is Improving compared to payment three months ago. The most recent payment information is:

- Payments currently: 12 days beyond terms
- Payments 3 months ago: 19 days beyond terms
- Industry Average: GENERALLY WITHIN terms

### Credit Limit Recommendation

Recommendation Date: 12/31/2014

Risk Category

**Low**

Conservative Credit Limit

**\$300K**

Aggressive Credit Limit

**\$400K**

**Low** risk category reflects a low projected risk of delinquency and a moderate to low risk of failure.

Credit Limits are based on the company profile and on the profiles of other companies of similar size, industry, and credit usage.

### Legal Filings and Other Important Information

**Bankruptcies:** None  
**Judgments:** None  
**Liens:** None  
**Suits:** 2  
**Suits Amounts:** \$43,000

**\* Negative Payment Experience:** 0  
**Negative Payment Experience Amount:** Not Applicable  
**Payments Placed for Collection:** 0

The public record items reported may have been paid, terminated, vacated or released prior to the date this data is transmitted. Accounts are sometimes placed to collection even though the existence or amount of the debt is disputed.

\* Consists of amounts related to non-sufficient funds, credit refused or amounts placed for collection.

## APPENDIX C: IRB APPROVAL LETTERS

## Study 2 IRB Approval



University of Central Florida Institutional Review Board  
Office of Research & Commercialization  
12201 Research Parkway, Suite 501  
Orlando, Florida 32826-3246  
Telephone: 407-823-2901 or 407-882-2276  
[www.research.ucf.edu/compliance/irb.html](http://www.research.ucf.edu/compliance/irb.html)

### Approval of Exempt Human Research

From: UCF Institutional Review Board #1  
FWA00000351, IRB00001138

To: Amy Donnelly

Date: September 17, 2015

Dear Researcher:

On 09/17/2015, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review: Exempt Determination  
Project Title: Ego Depletion and Accountability  
Investigator: Amy Donnelly  
IRB Number: SBE-15-11599  
Funding Agency:  
Grant Title:  
Research ID: N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the [Investigator Manual](#).

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

A handwritten signature in black ink that reads "Joanne Muratori".

Signature applied by Joanne Muratori on 09/17/2015 09:10:11 AM EDT

IRB manager



## Study 3 IRB Approval



University of Central Florida Institutional Review Board  
Office of Research & Commercialization  
12201 Research Parkway, Suite 501  
Orlando, Florida 32826-3246  
Telephone: 407-823-2901 or 407-882-2276  
[www.research.ucf.edu/compliance/irb.html](http://www.research.ucf.edu/compliance/irb.html)

### Approval of Exempt Human Research

From: **UCF Institutional Review Board #1  
FWA00000351, IRB00001138**

To: **Amy Donnelly and Co-PI: Vicky Jane Arnold**

Date: **July 22, 2016**

Dear Researcher:

On 07/22/2016, the IRB approved the following activity as minor modifications to human participant research that is exempt from regulation:

Type of Review: Exempt Determination  
Modification Type: Revised Qualtrics survey as well as case material was reduced.  
Total time did not change. A revised Informed Consent document has been approved for use.

Project Title: Subjective Audit Areas and Auditor Decision-Making  
Investigator: Amy Donnelly  
IRB Number: SBE-15-11225  
Funding Agency:  
Grant Title:  
Research ID: N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in IRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the [Investigator Manual](#).

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

A handwritten signature in black ink that reads "Kanille Chay" with a horizontal line extending to the right.

IRB Coordinator