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EXPRESSED CONFIDENCE AND SKEPTICISM: THE EFFECT OF EXPRESSED CONFIDENCE ON AUDITOR JUDGMENTS

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DEDICATION

I dedicate this dissertation to my parents, Fereydoun Aghazadeh and Mitra Aghazadeh, who have provided me with love and support during the dissertation process. I thank my brother, Monty Aghazadeh, for all the laughs.

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ABSTRACT

I examine the effects of clients' expressions of confidence on auditor judgments. The confidence heuristic suggests decision makers use expressions of confidence as a cue for reliability (Price and Stone 2004). However, Van Swol (2009) posits that in some environments decision makers may use expressions of confidence as a cue for deception. The auditing environment provides a unique setting to examine this assertion because the auditing standards prescribe that auditors should maintain a skeptical mindset. One interpretation of the auditing standards suggests auditors' responses to expressions of confidence may be dependent on cues from the control and business environment. When a client has a weaker control and business environment, auditors may use expressed confidence as a cue for deception. When a client has a stronger control and business environment, auditors may use expressed confidence as a cue for reliability. I use an experiment to test these hypotheses. Results indicate that auditors do not use expressed confidence in their decision making when the client has a stronger control and business environment. In contrast, results indicate that auditors use the confidence heuristic when the client has a weaker control and business environment. The results provide new theoretical insights into decision makers' use of expressed confidence that extend both accounting and psychology research and may be useful to standard setters.

CHAPTER I. INTRODUCTION

The purpose of this study is to understand the effects of clients' expressions of confidence on auditor judgments. The psychology literature defines confidence as the strength of a person's belief about the quality or accuracy of a statement, opinion, or choice (Peterson and Pitz 1988). Using the expressed level of confidence as a cue for the accuracy or reliability of the information relayed or the competence or knowledge of the source of information is called the confidence heuristic (Price and Stone 2004).

If auditors use the confidence heuristic, clients' expressed confidence impacts auditor judgments. Auditors rely on management explanations throughout the audit, from the planning to the substantive testing phase. Auditors evaluate management explanations based on cues regarding client competence and motives found in the control and business environment. Often, auditors are faced with clients expressing confidence in the explanations they provide to the auditors. However, auditors must determine that management explanations are reliable before using them. Some studies suggest auditors over-rely on management explanations (i.e., Trompeter and Wright 2010; Messier et al. 2010). Auditor over-reliance on management explanations can be costly to the auditor because PCAOB (Public Company Accounting Oversight Board) inspections with negative results may occur. One possible reason auditors over-rely on management explanations is that auditors use client characteristics, such as client confidence, as a cue for reliability. In this study, I experimentally investigate how clients' expressions of confidence influence auditors' judgments. Specifically, I conduct an experiment to investigate how

auditors react to clients' expressions of confidence when they observe cues regarding client competence and cues from the control and business environment.

I use (1) findings from the psychology literature regarding the confidence heuristic and (2) the auditing standards to develop competing hypotheses regarding how auditors are likely to respond to client expressions of confidence. Specifically, the confidence heuristic, a psychology-based theory, suggests that when clients express confidence, auditors will interpret this as a cue for knowledge or reliability. That is, auditors are more likely to rely on client-provided information when the client provides the information with an expression of confidence. In contrast, the auditing standards require auditors to have a skeptical mindset. Auditing researchers have developed two interpretations of skepticism based on wording in the auditing standards (Nelson 2009).[1] One interpretation of the auditing standards suggests that auditors will use expressed confidence as a cue for deception, consistent with Van Swol (2009) who posits that when people are suspicious, they will use expressed confidence as a cue for deception instead of reliability. The other interpretation of skepticism suggests the auditors' response to expressed confidence will be based on cues from the control and business environment. When the cues are indicative of a weak control and business environment, the skeptical auditor will use expressed confidence as a cue for deception because the client's expressed confidence will be inconsistent with the entity's information environment. In contrast, when the cues are indicative of a strong control and business environment, the auditor will use expressed confidence as a cue for reliability. Thus, the confidence heuristic and

[1] These interpretations are discussed in detail in a later section.

auditing standards suggest differing effects for client expressions of confidence on auditor judgments, and I provide an experimental test of these predictions.

Furthermore, I compare auditors' behavior in the auditing task to their behavior in a non-audit task studied in prior psychology literature to determine whether auditors behave like the decision makers in psychology studies when engaging in a non-audit task. I also examine the auditor's own trait skepticism to determine whether it is the trait skepticism or the decision context that explains the auditors' reactions in the non-audit task.

I find that participants (auditors) assuming the role of an auditor performing inquiry for an inventory valuation task rely on the auditing environment to determine if they will use expressed confidence in their decision making. Specifically, when the client has a strong control and business environment, auditors do not use the client's expressed confidence in their decision making. Instead, auditors rely on cues from the control and business environment. In contrast, when the client has a weak control and business environment, auditors use the confidence heuristic. These results suggest a couple of potential explanations. One potential reason for this effect may be that auditors found the weak control environment to be associated with information uncertainty (Beneish et al. 2008). As a result, auditors were motivated to reduce uncertainty by relying on the controller expressing confidence (Loewenstein 1994). Secondly, auditors may have experienced high cognitive load under the weak control environment condition. When people experience high cognitive load, they are more likely to use heuristics. Auditors may have experienced high cognitive load in the weak control and business environment setting because the information cues

that suggested risk required increased processing. Both of these explanations provide opportunities for further research in this area. Furthermore, I find that in the non-audit task, auditors do not use the expressed confidence in their decision making. Overall, the results indicate that auditors only rely on expressed confidence in riskier environments, perhaps because they cannot rely on cues from the environment.

This study contributes to both the accounting and psychology literatures. First, this study extends the auditing literature by examining another client characteristic that auditors use as a cue for information reliability. However, expressed confidence, unlike other previously studied client characteristics, can have multiple interpretations, i.e., as a cue for knowledge or reliability or as a cue for deception. Prior auditing literature has examined client characteristics having only one interpretation, while my study examines a characteristic which entails two possible interpretations. Furthermore, this study is the first to examine the use of client characteristics to determine information reliability in a post-SOX environment. The significance of the current regulatory environment is that auditors are increasingly aware of their responsibility to the public and as a result perform the audit with increased scrutiny.

Second, I extend the psychology literature by identifying a setting in which expressed confidence may naturally be interpreted as deception, rather than knowledge or reliability, without any priming or warning by the experimenter. Psychology research posits that people may use confidence deceptively to manipulate decision makers (Sniezek and Buckley 1995). Van Swol (2009) followed up on this idea by asking a group of participants to be suspicious of advisors

expressing confidence. However, the participants in his study did not respond by using confidence as a cue for deception. The audit context provides a rich setting in which to build upon this psychology theory because the auditing standards require auditors to act skeptically when performing an audit (i.e., they do not have to be primed to act in this manner). Therefore, this study makes a contribution to the psychology literature by showing that expressed confidence is not interpreted as deception in the auditing context where a skeptical mindset is the norm.

Finally, my study has important implications for audit firms and regulators. My study investigates a reason for the over-reliance on client explanations documented by the PCAOB (PCAOB 2008). Over-reliance on clients has implications for audit quality. Audit firms and regulators can inform auditors of the risks of such reliance and provide auditors with cues for identifying deception so that auditors will be more effective in catching deception. Additionally, accounting scholars will have a better understanding of the reason for research findings which indicate auditors over-rely on client explanations (Trompeter and Wright 2010; Messier et al. 2010)

In the following chapter, I examine relevant research to support my competing hypotheses. Chapter three describes the experiment, chapter four provides results, and in chapter five I draw conclusions from the research findings.

CHAPTER II. BACKGROUND AND HYPOTHESES DEVELOPMENT

In the following section, I review literature related to the auditor's use of management inquiry. I also examine prior literature regarding the control and business environment. Additionally, I discuss the constructs of expressed confidence

and skepticism. I rely on theory and findings from the psychology and auditing literatures to develop my research hypotheses.

Use of Management Inquiry in Auditing

Audit evidence is any information the auditor uses to make a conclusion regarding the fairness of the financial statements of an entity. Evidence can be tangible (e.g., documents) or intangible (e.g., attitudes of management indicating aggressiveness). Regulators set standards emphasizing that evidence should only be used if auditors determine the evidence is reliable (SAS 31; SAS 106). The third standard of fieldwork states that auditors can obtain reliable evidence through inspection, observation, inquiry, or confirmation (AU 150). The reliability of evidence is based on the following principles: independent sources are more reliable than sources within the entity, strong internal controls increase the reliability of information found within the organization, and first hand evidence is more reliable than second hand evidence. For example, documentation provided by a third party is more reliable than management representations or explanations. This standard suggests that auditors should determine that management is reliable before considering management explanations as reliable. However, the standards do not indicate how auditors should determine the reliability of information provided by management.

Management inquiry is one form of evidence often used by auditors in both audits and reviews of financial statements. Since information asymmetry exists between the client and the auditor, management inquiry can be a useful source of information to the auditor because the client has private knowledge of the business.

However, clients also have incentives to provide evidence that will only reflect positively on the entity. Therefore, auditors must consider the reliability of client-provided information when deciding whether to rely on client explanations. During reviews, auditors are not required to perform any testing beyond client inquiry and analytical review. In contrast, during an audit, auditors are required to corroborate client explanations. However, some studies suggest that auditors over-rely on client explanations and fail to corroborate management's explanations with other evidence during an audit (Trompeter and Wright 2010; Messier et al. 2010).

Several studies examine the auditor's consideration of client characteristics (integrity, competence, and objectivity) when evaluating client-provided explanations. Overall, these studies indicate that auditors use characteristics of management as cues to determine the reliability of the client-provided information. Hirst (1994) examines how auditors react to client competence and objectivity when determining the reliability of the client. Hirst (1994) finds that auditors increase their reliance on management when the client is more competent. Additionally, auditors rely on evidence provided by other auditors more than evidence provided by the client because auditors consider management less objective than other auditors (Hirst 1994). Peecher (1996) examines another client characteristic, client integrity, finding that auditors are sensitive to differences in client integrity. Haynes (1999) examines whether auditors are more sensitive to the source reliability or to the informativeness of the evidence when determining evidence reliability. Haynes' results indicate that auditors weigh client characteristics that signal reliability more than the actual information revealed by the evidence. Overall, the aforementioned studies show that

auditors perceive client-provided evidence to be more reliable when the client has high integrity, high competence, and high objectivity. These characteristics can be viewed as cues for reliability. Therefore, these studies indicate that auditors evaluate client reliability, and this evaluation affects their reliance on client explanations. I argue that auditors use expressed confidence as another cue to determine the reliability of client-provided information. Additionally, auditors' interpretations of clients' expressions of confidence may be dependent on cues from the control and business environment. In the next section, I review literature related to the control and business environment.

Control and Business Environment

Auditors may interpret management responses differently depending on cues from the control and business environment. Auditors must consider both factors when making judgments during the audit. First, I will discuss the control environment.

Control Environment

The control environment informs the auditor regarding client competence, client motives, and client opportunities. Auditors assess the control environment when conducting the audit because the control environment is a determinant of the reliability of the financial reporting process, and a weak control environment can be indicative of a riskier auditing environment (SOX 2002). This is because a lack of competence, the presence of motives to deceive, and the presence of opportunities to deceive increase the risk of misstatement. Furthermore, auditors consider the control

environment when planning the nature, timing, and extent of audit procedures required for the audit (SAS 109).

The control environment has seven components: (1) integrity and ethical values, (2) commitment to competence, (3) board of directors and audit committee, (4) management philosophy and operating style, (5) organizational structure, (6) assignment of authority and responsibility, and (7) human resources policies and procedures (COSO 1992). The Center for Audit Quality (CAQ) suggests strong control environments have two important characteristics: independent, knowledgeable boards of directors and audit committees and a tone at the top that emphasizes an ethical culture and the importance of fraud risk management (CAQ 2010). Senior management should notify all levels throughout the organization about the tone at the top, and the actions of senior management should demonstrate this tone at the top. The tone at the top suggests to outside parties that the culture of the company is to take appropriate actions; therefore, management has fewer motives to deceive outside parties. The board of directors and audit committee support the tone at the top by selecting the appropriate management team and providing oversight of the financial reporting process by monitoring risks including fraud. With such mechanisms in place, management is more accountable for their actions and is less likely to engage in aggressive or inappropriate behavior because fewer opportunities to do so are present (CAQ 2010). Therefore, management has less opportunity (due to the presence of the audit committee) and less motive (due to the presence of an appropriate tone at the top) to deceive outside parties. Not only do the standards recognize the importance of an effective tone at the top and an effective board of

directors, but accounting studies have examined auditors' consideration of these elements of the control environment in performing the audit as well. For example, Cohen and Hanno (2000) find that auditors consider the strength of the control environment in planning judgments because a weak control environment is an indicator of risk.

In addition to the above factors, I consider the commitment to competence as an important factor of the control environment because it impacts auditors' assessments of source reliability (the perception that a message source will provide accurate information). If firms' management teams have a high commitment to competence, then this suggests they hire employees with appropriate skill sets and train the employees regularly. Therefore, auditors will be more likely to rely on these more credible sources.

Additionally, the following studies generally indicate that auditors are sensitive to competence which is used as a proxy for source reliability. Bamber (1983) suggests the expertise of other audit team members influences auditor judgments. Rebele et al. (1988) find that auditors increase their reliance on management estimates when the client is more competent rather than less competent during substantive analytical procedures. Anderson et al. (1994) examine client competence in a preliminary analytical procedures task, finding that auditors rely more on results from client inquiry when client competence is higher rather than lower. Furthermore, Hirst (1994) examines auditor sensitivity to client competence during preliminary analytical procedures. Hirst examines evidence objectivity (a client evidence source versus an audit firm evidence source) and client competence

(higher or lower competence), finding that auditors rely on the more competent and more objective evidence source. These studies recognize that auditors examine the competence of the source when evaluating the information provided by the source. Therefore, it is important to recognize that the control and business environment will provide a cue for source reliability. If auditors do not consider the reliability of the source, they may under-rely or over-rely on the client explanation.

Overall, these studies indicate that auditors consider control environment strength when auditing an entity. A commitment to competence (i.e., source reliability) increases the probability that the information source and information provided are accurate. However, competence is not a guarantee of accuracy; therefore, auditors should also consider other cues from the control environment such as motives to deceive (i.e., tone at the top), and opportunities to deceive (i.e., audit committee strength). Next, I will discuss the business environment.

Business Environment

Auditors may interpret management responses during inquiry differently depending on cues from the business environment. The business environment informs the auditor regarding conditions that affect organizational operations. Auditors assess the business environment when conducting the audit because the business environment is a determinant of the reliability of the financial reporting process, and signals from the business environment can be indicative of a riskier auditing environment. Such cues include management concerns with earnings trends, analysts' consensus forecasts, incentive compensation plans, compliance with loan covenants, etc. Prior literature indicates auditors consider these factors when

planning an audit. For example, Anderson et al. (2004) examine the specific risk of management incentives to manage earnings. Anderson et al. (2004) examine auditors' perceptions of management explanations for differences in the revenue accounts when the explanation is consistent or inconsistent with management incentives. They find that auditors perceive management explanations as less persuasive when the explanation is consistent with management's incentive to manage earnings. Therefore, it is important to recognize that the business environment will provide cues as to whether management incentives are present. In the next section, I examine two possible ways in which auditors may interpret confidence.

Interpretations of Expressions of Confidence

As discussed above, prior accounting research has examined the effect of several client characteristics on auditor judgments. I posit that a client's expressions of confidence may be another cue auditors use to evaluate client-provided information's reliability. However, unlike cues examined by prior accounting literature, expressed confidence may be subject to dual interpretations (as reliability or as deception). I develop my competing hypotheses regarding auditors' interpretations of clients' expressions of confidence in the following sections.

Confidence Heuristic - The Role of Confidence in Decision Making

Several studies in psychology examine the impact of expressed confidence on decision making. Research on expressed confidence has been conducted in eyewitness settings, judge-advisor settings, and group settings. Leippe et al. (1992) find that decision makers considered witnesses expressing confidence as more

believable and more accurate. In the judge-advisor setting, studies find that the advisors' expressed confidence causes people to think that the advisor has higher levels of knowledge, and therefore, people are more likely to accept advice provided by the advisor (Price and Stone 2004; Sniezek and Buckley 1995; Sniezek and Van Swol, 2001; Van Swol and Sniezek 2005). In the group setting, researchers find that those group members and supervisors who expressed higher confidence had greater influence on other group members and subordinates (Zarnoth and Sniezek 1997). Sniezek and Van Swol (2001) suggest a reason for these findings. When other information regarding the source is unavailable and information asymmetry exists between two parties, decision makers may use expressed confidence as a cue for reliability (Sniezek and Van Swol 2001); this is called the confidence heuristic. Penrod and Cutler (1995) provide evidence that decision makers use expressed confidence as a cue for accuracy, reliability, competence, or knowledge.

Consistent with prior psychology literature, I define confidence as the strength of a person's belief about the quality or accuracy of a statement, opinion, or choice (Peterson and Pitz 1988). I focus on expressions of confidence, and in this study, an expression of confidence is defined as a statement suggesting certainty or correctness (Penrod and Cutler 1995). Examples of expressions of confidence include "I know it's…" and "I'm absolutely certain it's…" (Wesson and Pulford 2009).[2] Using this expressed level of confidence as a cue for the accuracy or reliability of the information relayed or the competence or knowledge of the source of information is called the confidence heuristic (Price and Stone 2004). Sniezek and

[2] Wesson and Pulford (2009) also find that some expressions indicate a lack of confidence (e.g., "I believe it's…" and "I suppose it's...")

Van Swol (2001) suggest the confidence heuristic is likely developed over time because in communicating beliefs, people express levels of confidence in proportion to their level of certainty in those beliefs. Consequently, people learn to use expressed confidence to evaluate the reliability of information provided by a source (Thomas and McFayden 1995). Therefore, people perceive and judge information as more reliable if the information is expressed confidently rather than with doubt or uncertainty. Like other heuristics, the confidence heuristic can be considered a short cut or decision tool used to arrive at a decision and may lead to systematic errors. Decision makers use heuristics when under time pressure, when experiencing information overload, or when little information is available on which to base judgments (Kahneman et al. 1982).

The use of the confidence heuristic may be observed in auditing. In the auditing environment, auditors cannot always independently validate client-provided information. Because of this, the auditor cannot fully evaluate the reliability of client-provided information, and the auditor will rely on other cues to determine information reliability. If the auditor observes indicators of client competence, the auditor may assume that the client can evaluate her own knowledge. This could lead to auditors using clients' expressions of confidence as a cue for reliability, consistent with findings in the psychology literature (Price and Stone 2004; Thomas and McFadyen 1995; Zarnoth and Sniezek 1997).

In summary, the psychology literature suggests that decision makers use characteristics of a person, such as her expressed confidence, to judge the accuracy or reliability of information the person provides. Additionally, the auditing literature

suggests auditors rely on client characteristics to determine reliability of client explanations. These research streams together suggest that the confidence expressed by a client may lead auditors to rely on the client-provided information, such that the auditor will rely more on the client when the client expresses confidence. Thus, this suggests the following hypothesis (see Figure 1):

> $H1_{(Confidence\ Heuristic\ Prediction)}$: Auditors will use client expressions of confidence as a cue for reliability.

While auditing research reviewed in a prior section indicates that cues from the control and business environment may affect the auditors' decision making, the psychology literature suggests the confidence heuristic holds in all decision making environments. Therefore, according to research in psychology, the confidence heuristic will have the same predicted (positive) effects regardless of control and business environment strength. Interestingly, some auditing standards also suggest a consistent (but negative) effect of clients' expressions of confidence. I explore this in the next section. In a later section, I will revisit the potential effect of the control and business environment on the auditors' use of the client's expressed confidence.

As indicated in the prior section, the confidence heuristic from the psychology literature suggests that auditors may use client confidence as a cue for the reliability of client-provided information, causing the auditor to rely more on the client explanation when the client provides an explanation with an expression of confidence. In this section, I discuss an alternative and contrasting possible effect of clients' expressions of confidence on auditors' judgments. Specifically, I argue

auditors could interpret explanations from clients expressing confidence as more suspicious or deceptive, an idea considered by one study in the communication literature. Van Swol (2009) indicates advisors with a motive to persuade try to benefit from advice seekers' use of the confidence heuristic by deceptively increasing their expressed confidence to hide any uncertainty when providing their advice. However, in Van Swol's experiment, advice seekers were not able to recognize this deception even when instructed to be suspicious. Instead, advice seekers perceived the advisor with the motive to be persuasive to be more knowledgeable and confident when the advice was offered with an expression of confidence. Advice seekers also used the advice of the advisor with the motive to be persuasive.

Consistent with Van Swol (2009), audit clients may also have a persuasion motive and may deceptively express confidence to convince auditors of a benign reason for an unexpected account fluctuation. This idea is based on Interpersonal Deception Theory, a theory that examines how deception and deception detection occur in communication, which suggests that when people have a deception motive, they attempt to hide their uncertainties (Buller and Burgoon 1996). This is because deception involves hiding information or avoiding discussing information (Buller and Burgoon 1996). However, in contrast to Van Swol's findings in a non-audit context, this persuasion strategy may not be successful in the audit context due to differences between this context and those studied in the psychology and communication literatures. Specifically, auditors do not assume their interactions with clients are truthful (called the truth bias) or that the client's statements are

truthful as is typical for people in many other decision making environments (Bond and DePaulo 2006). Instead, auditors are required to act skeptically and may, therefore, interpret expressed confidence as a cue for deception.[3] In the next section, I explore two views of professional skepticism based on (1) auditing researchers' interpretations of the auditing standards (2) specific wording presented in the auditing standards.

Researchers' Interpretations of Professional Skepticism in the Auditing Standards

Many auditing standards emphasize that auditors should act in a skeptical manner. These standards include SAS No. 57, SAS No. 99, and AU 316 among others. The standards define skepticism as having a questioning mind and critically assessing evidence. The standards emphasize skepticism because standard setters suggest that auditors will perform a more effective audit when maintaining an attitude of skepticism.

Auditing researchers have developed two views (interpretations) of skepticism based on wording in the auditing standards: the presumptive doubt view and the neutral view. Nelson (2009) describes the presumptive doubt view as suggesting that "auditor behavior indicates relatively more doubt about the validity of some assertion." Additionally, Bell et al. (2005) describes the presumptive doubt view as "assuming some level of dishonesty." In contrast, Nelson (2009) describes the neutral view as suggesting the "auditor does not assume any bias ex ante." Furthermore, Hurtt (2010) describes the neutral view as "the propensity of the

[3] If auditors respond skeptically and take expressed confidence as a cue for deception, this skepticism may be due to the auditing environment (audit standards), auditing situation, and/or the auditor's trait skepticism.

individual to defer concluding until the evidence provides sufficient support for one alternative over others." I will examine the presumptive doubt view first and examine the neutral view in a later section regarding auditor sensitivity to the audit situation and trait skepticism.

Presumptive Doubt View of Professional Skepticism in the Auditing Standards

Nelson (2009) and Bell et al. (2005) developed the presumptive doubt view (interpretation) of skepticism using wording present in auditing standards such as SAS No. 57, SAS No. 99, and AU 316. Specifically, the wording in SAS No. 57 (regarding accounting estimates) suggests that because accounting estimates are subjective in nature, the auditor should consider that management may be biased in making the estimates, and therefore, the auditor should act skeptically. Similarly, the wording in SAS No. 99 suggests that due to the nature of fraud, the auditor should maintain a mindset that a material misstatement due to fraud is possible despite any prior experiences with the client and despite any impressions the auditor has regarding a client's honesty. Hence, the auditor should always assume that a risk of material misstatement due to fraud is a possibility. The wording in AU 316 also suggests that the auditor should assume a risk of fraud exists in the revenue accounts and respond to this risk by increasing audit procedures and using more unpredictable audit procedures. These standards indicate a move towards the presumptive doubt view (Bell et. al 2005). An increased move towards this presumptive doubt view is likely due to regulators blaming a lack of professional skepticism for many audit failures (PCAOB 2008).

Research on the Presumptive Doubt View of Skepticism

As discussed in the prior section, the presumptive doubt view suggests that the auditor should assume that a discrepancy may exist in the financial statements. This view suggests auditors will require higher quantity and quality evidence to determine whether management has depicted the financial state of the entity accurately. For example, McMillan and White (1993) indicate that when auditors assume a discrepancy is present in the financial statements, they are more sensitive to evidence than when auditors examine the financial statements with a neutral attitude.

In summary, the presumptive doubt view of skepticism requires auditors to maintain an attitude of skepticism. Therefore, I expect that in an auditing environment, where auditors are required to act according to standards, auditors will not use the confidence heuristic. Instead, the auditors' skepticism will lead the auditor to use expressions of confidence as a cue for deception consistent with the ideas of Van Swol (2009). Thus, the presumptive doubt view of skepticism suggests the following (see Figure 1):

> $H2_{(\text{Presumptive Doubt View of Skepticism})}$: Auditors will use expressions of confidence as a cue for deception.

The above presumptive doubt view of skepticism prediction (H2) suggests auditors will be skeptical in all auditing environments due to the requirements of the auditing standards. Consistent with this view, some studies show that audit firms have policies and procedures that require a baseline level of skepticism that must be applied in all audit situations. For example, Rennie et al. (2010) examine factors that

increase the extent to which auditors trust clients. Although they find that management's willingness to communicate and management's demonstration of concern during discussions increases auditors' trust in their clients, the authors note that firm policies and procedures prevent auditors from decreasing their skepticism despite the presence of these management characteristics. Therefore, Rennie et al. (2010) support the idea outlined in H2 that auditors will be skeptical when interpreting management expressions of confidence.

While I suggest the presumptive doubt view will lead the auditor to interpret expressed confidence as deception, another possibility is that the presumptive doubt view may lead the auditor to ignore expressed confidence and instead, treat all management communications as potentially deceptive. However, this seems unlikely for several reasons. (1) The psychology literature indicates that during strategic interactions in which conflicts of interest are present, people fail to ignore cues or discount cues from biased information providers (Wilson and Brekke 1994). (2) The curse of knowledge theory suggests people's decision making is influenced by information they should ignore (Camerer et al. 1989). (3) When people try to decrease the impact of information they should not use, this attempt can lead to increased use of the information (Wegner 1994).Therefore, although the presumptive doubt view may suggest that auditors should ignore expressed confidence altogether, auditors may not do so. Instead, considering the presumptive doubt view in light of prior psychology research, suggests the negative effect of expressed confidence posited in Hypothesis 2 above.

In a prior section, I reviewed literature suggesting auditor decision making is dependent on cues from the control and business environment. This idea is consistent with the neutral view of professional skepticism and research that suggests that auditor skepticism varies according to audit circumstances such as variation in the strength of the control and business environment. I examine this possibility in the following section. Specifically, I will discuss the neutral view of professional skepticism and the auditors' skepticism in response to the audit situation. In a later section, I will examine the impact of the auditor's trait skepticism.

Neutral View of Skepticism in the Auditing Standards

Nelson (2009) and Hurtt (2010) developed the neutral view (interpretation) of skepticism based on wording present in many auditing standards such as SAS 99 and AU 330; this view suggests that auditors' skepticism is dependent on cues from their environment. For example, auditors should begin the audit without bias and exercise increased skepticism in riskier situations, i.e., the auditors' level of skepticism should be a result of the audit situation. Standards adopting the neutral view include SAS 99 which states auditors should be aware of circumstances that indicate a higher level of fraud risk and exercise a greater degree of skepticism in such situations. Additionally, AU 330 addresses confirmations and suggests auditors exercise greater degrees of skepticism in specific circumstances that are of greater risk. These standards suggest auditors will act differently in varying audit situations. In the next section, I examine research on the neutral view of professional skepticism and the situations that may require increased skepticism.

Research on the Neutral View of Skepticism

Research in auditing indicates that auditors act with increased skepticism in riskier situations, consistent with the neutral view of skepticism. For example, Anderson et al. (2004) examine the specific risk of management incentives to manage earnings. Anderson et al. (2004) examine auditors' perceptions of management explanations for differences in the revenue accounts when the explanation is consistent or inconsistent with management incentives. They find that auditors perceive management explanations as less persuasive when the explanation is consistent with management's incentive to manage earnings. Therefore, auditors exercise increased skepticism when faced with a risk factor such as management incentives to manage earnings. Similarly, Shaub and Lawrence (1996) find that auditors respond to the following risky situations with increased skepticism: related party transactions, financial difficulty of the client, client inaccuracies discovered in prior years, and poor communication between the auditor and the client.

In addition, research in auditing has examined the interaction of the auditor's own level of trait skepticism (discussed further in the next section) and situations that bring about increased skeptical behaviors. Hurtt et al. (2008) find a relation between trait skepticism and skeptical actions induced by situational factors. They find that auditors who have a higher level of trait skepticism respond to situations requiring greater skepticism (i.e., situations with greater risk) with more skeptical actions (the extent of audit evidence search and generation of alternate explanations) than do auditors who have a lower level of trait skepticism. Similar to Hurtt et al. (2008), Quadackers et al. (2009) examine trait skepticism using three personality factors (interpersonal trust, locus of control, and suspension of judgment) and the relation to

situations that induce skepticism. They find that a weak control environment is a situation which induces skepticism. Auditors with higher levels of personality factors indicative of skepticism react to skepticism-inducing situations with a greater amount of skeptical actions such as increasing the number of budgeted hours to complete the audit.

The research reviewed above suggests the auditor's interpretation of expressed confidence may be dependent on the situational factors present in the auditor's working environment because the situational factors may trigger a higher or lower level of skepticism. This is consistent with the neutral view of skepticism. Similar to Quadackers et al. (2009) and Anderson et al. (2004), I examine the impact of the control environment and the business environment. The accounting research reviewed above indicates auditors behave in a skeptical manner and act in an even more skeptical manner in riskier situations, such as a when an entity has a weak control environment and when certain incentives are present in the business environment (Quadackers et al. 2009; Anderson et al. 2004). Therefore, I expect the control and business environment to influence the amount of skeptical actions taken by the auditor (i.e., amount of additional evidence obtained) and the auditor's reaction to expressions of confidence. Specifically, I expect clients' expressed confidence to be interpreted in two different ways, depending on the control and business environment. I expect that when the entity has a weak control and business environment, auditors will act with increased skepticism and will not use the confidence heuristic. Instead, auditors will interpret expressed confidence as deception which is consistent with the assertions of Van Swol (2009). This results

because the client's expressed confidence will be inconsistent with the information provided by the audit situation. When auditors are skeptical, they are more aware of inconsistencies because they do not accept explanations at face value. Furthermore, the weak control and business environment will be indicative of a lower commitment to competence, a weaker tone at the top, a less effective audit committee, and a presence of incentives to meet analysts' consensus forecasts. These cues suggest the client has low source reliability and that the client has opportunities and motivations to deceive outside parties, further causing the auditor to be skeptical of clients' expressions of confidence. As a result, the client's expression of confidence will lead the auditor to believe that the client is trying to hide a discrepancy in the financial statements, and this belief will increase the likelihood that the auditor will not rely on the client explanation. Conversely, when the entity has a strong control and business environment, auditors will act with decreased skepticism and will use the confidence heuristic. Therefore, the auditor will take expressed confidence as a cue for reliability. Specifically, the strong control and business environment will be indicative of a higher commitment to competence, a stronger tone at the top, a more effective audit committee, and the absence of incentives to meet analysts' consensus forecasts. Hence, the auditor will find the client to be credible and have fewer opportunities and motives to deceive the auditor (see Figure 2). Stated formally, I hypothesize the following:

> $H3_{\text{(Neutral View of Skepticism)}}$: When a client has a weaker control and business environment, auditors will use expressions of confidence as a cue for deception. When a client has a stronger control and business environment, auditors will use expressions of confidence as a cue for reliability.

While the neutral view of skepticism predicts results consistent with H3, prior literature provides some uncertainty regarding the prediction. Specifically, Karmarkar and Tormala (2010) examine expressions of confidence in a context in which additional information regarding the information source is available. They find that the expressed confidence is only used as a cue for information reliability when there is an inconsistency between the expression of confidence and characteristics of the information source, such as expertise. The authors suggest this occurs because people are surprised by the non-expert's expression of confidence, leading to more information processing and, consequently, a greater effect of the confidently expressed information. Similarly, in my study, I provide additional information regarding the client, and the client has a persuasion motive. In contrast to participants in the Karmarkar and Tormala study, auditors are aware of the possibility of deception, and the auditing standards require that auditors exercise skepticism. If my study follows the pattern of results suggested by Karmarkar and Tormala (2010), then the inconsistency between the weak control and business environment and the expression of confidence would lead the auditor to rely more on the client explanation when there is an expression of confidence in a weak control and business environment. Likewise, the inconsistency between the strong control and business environment and the expression of no confidence would lead the auditor to rely more on the client when the client has a strong control and business environment and the expression of no confidence is present. This relationship is the opposite of H3's prediction. This additional potential pattern of results adds tension and interest to my study.

Comparing Auditors' Behavior to Others

In the prior section, I suggest that the auditor's reaction to expressions of confidence may be dependent on the context of the audit task. In this section, I extend the idea that the auditor's interpretation of expressed confidence may be dependent on the audit task context (e.g., the strength of the control and business environment) by exploring the idea that the auditor's behavior may be dependent on context in general. Specifically, I examine auditors' behavior in a non-audit context that has been examined by the psychology literature, a restaurant review context. I test whether auditors use expressed confidence as a cue for reliability or deception in an everyday task which allows me to determine whether skeptical behavior is brought on by the environment or is due to a trait of the auditor (discussed below). That is, auditors may have some level of skepticism as part of their personality that is separate from any skeptical behavior brought on by the auditing standards or audit situation.

I compare the auditor's reaction to expressions of confidence in a non-audit task and the auditor's reaction to expressions of confidence in an audit task. As depicted in Figure 3, if auditors do not use the confidence heuristic in the auditing task but do use the confidence heuristic in the non-audit task, then I will conclude that the environment determines whether or not the confidence heuristic is used (i.e., auditors behave according to the auditing standards only when performing audits). Conversely, if auditors do not use the confidence heuristic in either environment, then I will conclude that auditors possess a trait that causes them to react differently to expressions of confidence than other people. In other words, the auditor's own

trait skepticism determines the auditor's reaction to expressions of confidence.[4] To determine which situation applies to auditor judgments, I investigate the following research question:

RQ1a: Will auditors use the confidence heuristic in a non-audit task?

Hurtt et al. (2008) indicate auditors have varying levels of trait skepticism. Hurtt (2010) develops a scale to measure trait levels of skepticism. The scale is based on characteristics identified in "auditing standards, psychology, philosophy, and consumer behavior research" (Hurtt 2010). Those with higher levels of skepticism, as indicated by the scale, automatically view various situations with more doubt. Therefore, auditors may vary in their reaction to expressed confidence in a non-audit task (see Figure 3). To measure the auditor's own level of trait skepticism, I use the Hurtt scale. If an auditor has a relatively high level of trait skepticism, I expect that the auditor will be skeptical in the non-audit task and will not act according to the predictions of the confidence heuristic. In contrast, some auditors may have relatively lower levels of trait skepticism than other auditors. If an auditor has a relatively low level of trait skepticism, I expect that this auditor will behave consistently with the findings of the psychology literature (i.e., this auditor will use the confidence heuristic). This leads me to the following research question:

[4] The trait skepticism can be due to a trait that has been learned from the auditing environment. As a result of learning and adopting this trait, auditors apply it in all environments. Alternatively, this trait skepticism may be purely a personality trait that is prevalent in people who join the auditing profession. In either case, auditors would display skepticism as a trait.

RQ1b: Will the auditor's reaction to expressions of confidence in a non-audit task depend on the auditor's level of trait skepticism?

Summary

In summary, I present the confidence heuristic view and two auditing standards views as competing hypotheses regarding auditors' reactions to expressions of confidence. The confidence heuristic literature predicts that auditors will use the confidence heuristic. This will lead auditors to use clients' expressions of confidence as an indicator of client reliability. Therefore, auditors will rely more on the client explanation and collect less additional evidence when interacting with clients expressing confidence (H1). The presumptive doubt view of professional skepticism suggests another possibility. These standards require auditors to assume a discrepancy exists and to be skeptical. Therefore, auditors will not use the confidence heuristic but will instead use expressed confidence as a cue for deception (H2). Other auditing standards emphasizing the neutral view of professional skepticism require auditors to be more skeptical in response to risks and problems in their environment. Consequently, auditors may view clients' expressions of confidence as a deception technique only in riskier situations such as when the auditor observes cues indicating the entity has a weak control and business environment. Therefore, auditors will decrease their reliance on the client explanation and collect additional evidence when interacting with clients expressing confidence in a weak control and business environment (H3). In contrast, when the control and business environment is strong, auditors may revert to the confidence

heuristic and increase their reliance on the client explanation and not collect additional evidence when interacting with clients expressing confidence (H3). To also compare auditor behavior to the behavior of those from psychology experiments, I examine auditor decision making in a non-audit task to determine whether it is the auditing environment or trait skepticism that causes or prevents auditors from using the confidence heuristic (RQ1a and RQ1b).

CHAPTER III. RESEARCH DESIGN

I conduct an experiment to test my hypotheses. The experiment examines the effects of client expressions of confidence on auditors' judgments. My main experiment tests H1, H2, and H3 and the supplemental (non-audit) task that follows the main experiment tests the research questions. Through a joint effort from the CAQ and the Big 4 firms, experienced auditor participants completed a case study online which asked them to assume the role of a senior auditor conducting client inquiry regarding an inventory obsolescence issue. The case provided background and financial information about the client. The experimental materials were reviewed by executives at three of the Big 4 firms for content, realism, and relevance. The primary task was to assess the extent to which the auditor will rely on the client explanation for the inventory valuation and to assess the extent of testing the auditor would perform for the current client based on the client explanation relative to the extent of testing they anticipated based on the client's size and industry. The online survey program captured all assessment measures, demographic measures, and time spent on the task. The participants were instructed not to discuss the case with other participants.

Participants

Sixty eight senior auditors (with 2-5 years of audit experience) from Big 4 auditing firms participated in the study. Discussions with auditors indicated that auditors at this level would have adequate experience to complete the task. These auditors were provided through my Center for Audit Quality Academic Research in Auditing Grant. Demographic information is provided in Table 2.[5]

Design, Task, and Manipulations

I use a 2x2 between participants design to test the auditors' reactions to clients' expressions of confidence (see Figure 4, cells 1, 2, 3, and 4) in control and business environments of varying strength. This design results in four between-participants conditions: *strong environment-confidence present, strong environment-confidence absent, weak environment-confidence present, and weak environment-confidence absent.* Auditors completed the experiment by clicking on a link (that randomly assigned auditors to one of four conditions) to the online case found in an email sent to them by an executive from their firm.[6] Auditors were presented with client background and financial information for a technology company. I developed the company information using a modified version of materials used by Robertson (2010) and Fanning and Piercey (2010). After auditors reviewed information about

[5] Three of these auditors completed the case at a later date and were not randomly assigned to conditions. Instead, they were assigned to the *strong environment-confidence present* condition. This was because in the initial run of the experiment, a relatively low number of auditors passed the manipulation check in this condition. Completing the analyses without these three participants does not qualitatively change the results.

[6] Due to firm policy, one of the participating firms completed a paper instrument (n=18). The instrument was split into two envelopes to ensure auditors would not look back at information once they began to provide assessments. Auditors participating in the online version were able to navigate among the screens. However, once they began to provide assessments, they were no longer allowed to navigate backwards. The results for participants who completed the online instrument do not significantly differ from the results for participants who completed the paper instrument.

the technology company, they received a description of noteworthy aspects of the control and business environment assessment completed by other audit team members. The control and business environment is manipulated at two levels, *strong environment* and *weak environment.* Auditors in the *strong environment* condition were informed that other audit team members noted that the control and business environment included (1) distributing and discussing a code of conduct (i.e., stronger tone at the top), (2) an audit committee that conducted detailed reviews (i.e., more effective audit committee), (3) competent employees who have experience and knowledge in the industry (i.e., higher commitment to competence), and (4) no strong concern regarding analysts' forecasts (i.e., lower management reporting incentives). Auditors in the *weak environment* condition were informed that other audit team members noted that the control and business environment included: (1) distributing a code of conduct but not discussing it with employees (i.e., weaker tone at the top), (2) an audit committee that conducted high level reviews (i.e., less effective audit committee), (3) the presence of recent turnover in some management positions and a struggle to fill job openings with qualified people (i.e., lower commitment to competence), and a strong concern regarding analysts' forecasts (higher management reporting incentives).

Next, the auditors were provided with the controller response to the auditor's inquiry regarding the auditor's assessment of inventory value in the face of potential inventory obsolescence. This judgment requires complex estimates and a high level of judgment. Therefore, a wide range of possibilities are appropriate. The controller provides an explanation for the booked value of the inventory and does so either with

no expression of confidence (*confidence absent)* or an expression of confidence (*confidence present*) (i.e., "I suppose it's…." vs. "I'm absolutely certain it's …").[7] The controller's response indicates a competitor has developed a more advanced technological product, but that the company's product is available in more colors. Additionally, the controller's response also states that the company has an established reputation, the competitor's product is being sold at a lower price, and that the company has experience selling older products in developing countries at reduced prices. Information in the client's response is held constant and includes some statements that support the booked value and others that are less supportive. Again, this allows for a wide range of possible responses.

After reading the background information, information regarding the control and business environment, and the clients' inventory explanation, auditors responded to the following dependent variables for the audit task: (1) to what extent they will rely on the client explanation regarding the inventory valuation and (2) the extent of testing they would perform for the current client based on the client explanation relative to the extent of testing they anticipated based on the client's size and industry.[8] Responses were marked on an 11-point Likert scales numbered from

[7] Wesson and Pulford (2009) evaluate 30 expressions of confidence and find that "I'm positive it's.", I'm confident it's…", "I know it's…", "I know for a fact that it's", and "I'm absolutely certain it's…" are the five highest rated expressions of confidence, respectively. Additionally, they find "I'm not sure, it's kind of…", "Oh, I don't know, I suppose it's…", "I suppose it could be…" "I'm guessing, but I would say it's…", and "I think it's…. isn't it?" are the five lowest rated expressions of confidence, respectively. The authors find that "I think it's…", "I could be mistaken, but I'm sure it's…" ,"I suspect it's…", "I would say it's…" , and "I believe it's…" were ranked in the middle of the scale.

[8] Participants provided responses to additional questions. Participants selected additional procedures required for the inventory valuation (up to 8) (e.g., discuss possible obsolescence and overstock of inventory with operating personnel, verify that employees are tagging obsolete items, etc.). Participants also judged the likelihood the inventory will need to be written down. The scale ranged from 1 (not likely) to 11(very likely). For completeness, the results of these measures are provided in Appendix B.

1(will not rely at all) to 11 (completely rely) for the first question. For the second question auditors provided responses on an 11-point Likert scale numbered from -5 (decreased inventory testing) to +5 (increased inventory testing) (See Exhibit 1). In addition to responding to these dependent variables, auditors responded to questions designed to understand their interpretation of the expression of confidence (i.e., as reliability or deception). The questions are provided and discussed later. Auditors also provided an explanation of why they chose their specific level of reliance on the client explanation

All auditors completed a non-audit task (administered using a between subjects design) following the main experiment; this task was used to test RQ1a and RQ1b. This task involved a restaurant review and is a modified version of the task used in Karmarkar and Tormala (2010).[9] Auditors read a restaurant review from one of two online blogs (written by a non-expert blogger).[10] One blog provides the restaurant review with an expression of confidence (i.e., "I can confidently give Bianco a rating of 4 (out of 5) stars.") (labeled *confidence present*) and the other blog provides the restaurant review without an expression of confidence (i.e., "I don't have complete confidence in my opinion, but I suppose I would give Bianco a rating of 4 (out of 5) stars.") (labeled *confidence absent*). All other aspects of the two online blogs are identical. The task asked auditors to provide their interest in having

[9] I selected the restaurant review task for the non-audit task for several reasons. (1) This task allows for the comparison of auditor behavior to non-auditor behavior in the same task. (2) The restaurant reviewer, like the controller in the audit task, has a persuasion motive. (3) Like the audit task, the restaurant review task provides background information regarding the restaurant reviewer which has implications for the credibility of the restaurant reviewer.(4) Neither task had an objective answer (i.e., both judgments are subjective in nature).

[10] A non-expert in this context is a person who writes a blog in their spare time (rather than professionally) and primarily dines at fast food restaurants (the restaurant reviewed is a more upscale restaurant).

a meal at the reviewed restaurant (*interest*), the dependent variable. Auditors provided the response on a Likert scale numbered from 1 (not at all interested) to 9 (extremely interested) for *interest*.[11] In addition to responding to these dependent variables, auditors responded to questions designed to understand their perception of the restaurant reviewer. The questions are listed below.

After completing both tasks, auditors completed manipulation check questions. Specifically, auditors respond to questions of whether the restaurant reviewer and controller expressed confidence, the strength of the tone at the top and audit committee, and whether the company had incentives to meet analysts' forecasts.

Additionally, auditors completed the Hurtt scale to measure their individual levels of trait skepticism. Auditors also responded to questions that indicate their perception of the controller (restaurant reviewer) providing the expression of confidence. The first six measures together capture the perception of the controller (restaurant reviewer), and the seventh measure captures the potential for persuasion. These latter questions are listed below. Responses for questions 1-6 were provided on an 11-point Likert scale with the endpoints of 1 ("not at all [insert characteristic]") to 11 (extremely [insert characteristic]." Responses for question 7 were provided as a "yes" or "no" response.

1. How competent did you perceive the controller/restaurant reviewer to be?

[11] To determine why auditors chose that level of interest, auditors responded to the following: (1) how surprising they found the restaurant review (*surprising*), and (2) how unexpected they found the restaurant review (*unexpected*) (Karmarkar and Tormala 2010). For *surprising* and *unexpected*, auditors provided the responses on a Likert scale with the following endpoints: 1 (not at all surprising/not at all unexpected) and 9 (extremely surprising/extremely unexpected).

2. How accurate did you perceive the controller/restaurant reviewer to be?
3. How trustworthy did you perceive the controller/restaurant reviewer to be?
4. How honest did you perceive the controller/restaurant reviewer to be?
5. How reliable did you perceive the controller/restaurant reviewer to be?
6. How deceptive did you perceive the controller/restaurant reviewer to be?
7. Do you think the controller/restaurant reviewer had a strong desire for you to rely on the explanation/review?

Preliminary Pilot Test of the Manipulations

My experiment requires the participants to examine various cues from the control and business environment. One concern is that the cues provided for the control environment may lead to a ceiling effect (i.e., the auditors would select the maximum level of testing regardless of the expression of confidence). I designed a pilot test to compare how participants respond to various combinations of control environment cues. I examined three conditions: one in which the participant was provided cues regarding the tone at the top, audit committee strength, and commitment to competence; the second condition provided the participant cues regarding the tone at the top and competence; and the third condition provided the participant cues regarding the commitment to competence. All cue combinations were meant to suggest the control environment was weak, and I tested whether participants interpreted the cues as an indication of a weak control environment. A group of 10 former/current internal and external auditors participated in the pilot study via an online survey instrument. The auditors provided their overall assessment of the control environment using an 11-point Likert scale ranging from 1 “weak” to 11 “strong.”

I conducted a t-test to obtain means for each of the three conditions and determine that the means were different from the endpoints of the scale (1 and 11). The means were: 4.66, 4.25, and 5.33, respectively.[12] This indicates that none of the weak control environment descriptions would likely lead to a ceiling effect. Thus, participants should have room to respond to the client expression of confidence within the weak control and business environment experimental condition, regardless of the number of cues. The next section describes a second pilot test designed to capture current external auditors' judgments of control environment strength and to evaluate current external auditors' interpretations of expressions of confidence.

CAQ Pilot Test of the Manipulations

My experiment requires the participants to examine various cues from the control and business environment. One concern is that the cues provided for the control and business environment may lead to a floor and ceiling effect. I designed the pilot test to compare how participants respond to (1) the strong control and business environment and (2) the weak control and business environment. Auditors were selected and contacted directly by a senior member of a Big 4 firm. Eighteen auditors from all Big 4 firms completed the study. Their experience ranged from 2-5 years. Auditors were randomly assigned to one of the two conditions. Auditors completed the pilot via an online survey instrument. Auditors provided their overall assessment of the control and business environment using an 11-point Likert scale ranging from 1 "weak" to 11 "strong."

[12] There was a significant difference between the mean of each condition and the endpoint of 1($t=5.5$, 5.17, 2.91, all $p< 0.015$). There was a significant difference between the mean of each condition and the endpoint of 11 ($t=-9.5$, -10.73, -8.5, all $p< 0.005$).

I conducted a t-test to obtain means for each of the two conditions and determined that the means were different from the endpoints of the scale (1 and 11). The mean for the strong control and business environment condition was 7.88 and the mean for the weak control and business environment condition was 3.1.[13] This indicates that none of the control and business environment descriptions was likely to have a floor or ceiling effect and that both (strong and weak) portrayed the appropriate level of strength. Thus, participants should have room to respond to the client expression of confidence within the weak and strong control and business environment experimental conditions.

In addition to evaluating the control and business environment, auditors evaluated their interpretations of eleven phrases that indicated either the presence of confidence or the absence of confidence. The phrases are shown in Table 1. I performed this pilot test because auditors interpretations of the phrases may be dependent on the context (i.e., the audit context may impact the auditors' interpretations of the phrases). Therefore, the results of Wesson and Pulford (2009) regarding the interpretation of confidence expressions may not apply to my experiment. The auditors were asked to evaluate the potential for inventory obsolescence for their client based on a client response to the auditor's inquiry regarding the inventory valuation. The client explanation reads "[Insert confidence expression from Table 1] we can sell the inventory in developing countries." That is,

[13] There was a significant difference between the mean of each condition and the endpoint of 1 (for the strong control and business environment $t=12.22$ and for the weak control and business environment $t= 6.82$, all $p< 0.00006$). There was a significant difference between the mean of each condition and the endpoint of 11 (for the strong control and business environment $t=-5.51$ and for the weak control and business environment $t= -25.50$, all $p< 0.0002$).

the client explanation is prefaced with the expressions of confidence listed in Table 1. The auditors provide their assessment of how confident the client is that the inventory can be sold using an 11-point Likert scale ranging from 1 "not confident" to 11 "extremely confident." I computed means and standard deviations for all of the phrases which are provided in Table 1. Based on these results, I use "I'm absolutely certain…" for the *confidence present* condition because it conveys a higher level of confidence (mean=9.08), and I use "I suppose…" for the *confidence absent* condition because it conveys a lower level of confidence (mean=3.66).

CHAPTER IV. RESULTS

Audit Task

Manipulation Checks

To determine if auditors perceived the control environment to be strong or weak, I examine auditors' responses to the following questions, (1) "Please evaluate the strength of the tone at the top" and (2) "Please evaluate the strength of the audit committee." Responses to these questions were provided on a scale ranging from 1(weak) to 11(strong). In the *strong control environment* condition, the auditors' combined mean assessment of the strength of the audit committee and the strength of the tone at the top was 6.88. In the *weak control environment* condition, the auditors' combined mean assessment of the strength of the audit committee and the strength of the tone at the top was 3.67. Overall, auditors' average ratings of the strength of the audit committee and tone at the top are higher in the *strong control and business environment* condition than the *weak control and business environment* condition ($t = 10.95$, $p < 0.0001$). Thus, the control and business environment

manipulations were effective.[14]

To determine if auditors noticed that the controller expressed or did not express confidence, I examine auditors' responses to the following question, "Did the controller express confidence in his/her explanation regarding the inventory account?" Auditors answered with a yes or no response. If auditors responded consistently with the manipulation, then they were counted as passing the confidence manipulation check. The rate of correct responses is 84% (n= 57). In the *confidence present* condition, 90% (n=30) of participants correctly indicated that the expression of confidence indicated the presence of confidence, and 77% (n=27) of participants in the *confidence absent* condition correctly indicated that the expression of confidence indicated the absence of confidence. Given the importance of expressed confidence to the study, I use this final sample of 57 auditors for the analysis.[15]

Auditors also assessed the realism of the case on a scale ranging from 1 (not at all realistic) to 11 (extremely realistic). The auditors judged it to have an average amount of realism (mean of 6.38). This assessment is not affected by the independent variables or their interaction.

Main Analysis – Test of H1, H2, and H3

My analysis of the effect of the client's expressed confidence on auditors' judgments is divided into an analysis of the following dependent variables: the

[14] To determine if auditors perceived management to have reporting incentives, auditors responded to the following question, "Did the company have incentives to meet analysts' forecasts?" Auditors provided a yes or no response. As a result of the company being described as a public company, many auditors assumed the company had incentives to meet analysts' forecasts. Therefore, only 64% of the participants (n=44) answered this question as intended. However, since the questions regarding the tone at the top and the audit committee indicate that participants understood the differences in the control environment manipulations, this question was not used in the manipulation check analysis.
[15] I will report any differences in results between the full sample and the reduced sample in the footnotes.

reliance on client explanation (labeled *rely*) and the extent of testing they would perform for the current client based on the client explanation relative to the extent of testing they anticipated based on the client's size and industry (labeled *extent).*[16] First, I examine *rely*. As shown in Table 3 Panel A, the main effect of *confidence* in the ANOVA (analysis of variance) model is not statistically significant ($F = 0.12$, $p < 0.73$). Furthermore, as shown in Table 3 Panel A, the main effect of *control and business environment* in the ANOVA model is not statistically significant ($F = 2.77$, $p < 0.10$). For further insight, I examine participants' reasons for their responses provided for *rely*. Specifically, the participants were asked to explain why they chose their indicated level of reliance. Most participants suggested they could not purely rely on the client explanation due to the requirements of the auditing standards. This suggests that *rely* is an insensitive measure and is not an appropriate measure for this study. In contrast, *extent* is not subject to the same limitations since this question asked auditors to make a specific judgment related to the client explanation. Therefore, *extent* will be used as the main dependent variable for the remaining analyses.

As shown in Table 4 Panel A, the mean *extent* judgments are 2.00 and 2.25 for the *confidence present* and *confidence absent* conditions, respectively. The main effect of *confidence* in the ANOVA model is not statistically significant ($F = 0.49$, $p < 0.49$), as shown in Table 4 Panel B. This suggests H1 and H2 are not supported. That is, auditors do not consistently use expressed confidence as a cue for either

[16] Participants provided responses on an 11- point Likert scale numbered from 1 (low) to 11 (high) for *rely*, and participants provided responses on an 11 - point Likert scale numbered from -5 (decreased inventory testing) to +5 (increased inventory testing) for *extent.*

reliability (H1) or deception (H2). However, the ANOVA model indicates the interaction of *confidence* and *control and business environment* ($F=5.20$, $p < 0.03$) is statistically significant (see Table 4 Panel B).[17] This may provide support for the neutral view of professional skepticism (H3) depending on the specific form of the interaction. Simple main effects are used to investigate the interaction further. As shown in Table 4 Panel C, I find that auditors used the confidence heuristic in the *weak environment* condition ($F=4.52$, $p < 0.04$) but did not use the confidence heuristic in the *strong environment* condition ($F=1.23$, $p < 0.27$). Within the *weak environment* condition, the mean *extent* judgment is greater in the *confidence absent* condition (mean of 2.93) than that in the *confidence present* condition (mean of 1.93). Therefore, the pattern of means is not consistent with H3.

Analysis of Auditors' Views of Skepticism

A potential reason for the lack of support for H2 (i.e., auditors using expressions of confidence as a cue for deception) is that it is dependent on auditors adopting a presumptive doubt view of skepticism. Auditors responded to two questions to investigate whether they adopt a presumptive doubt view or neutral view of skepticism, *skepticism* and *truth bias*. The first question (labeled *skepticism*) asked auditors to describe how they apply the skeptical mindset. The scale ranged from 1 ("I interpret the auditing standards to require me to evaluate evidence objectively, with no presumptions") to 11 ("I interpret the auditing standards to

[17] When I include all of the 68 auditors, the interaction of *confidence* and the *control environment* on the *extent* dependent variable remains statistically significant ($F=4.22$, $p < 0.04$). Furthermore, the main effect of *control environment* on the *extent* dependent variable remains statistically significant ($F=5.91$, $p < 0.02$), while the main effect of *confidence* on the *extent* dependent variable remains statistically not significant ($F=0.19$, $p < 0.67$). Including the demographic variables (listed in Table 2) in the ANOVA model does not qualitatively change the results

require me to evaluate evidence with a presumption that an error or misstatement exists"). The mean response to this question is 4.77, indicating that auditors largely do not assume a presumptive doubt mindset when applying a skeptical mindset.[18] Instead, auditors assume a more neutral mindset. I also examine the frequency distribution of the responses to this question. Thirty nine auditors selected responses below the midpoint of the scale, and 18 auditors selected responses above the midpoint of the scale, also indicating that auditors are more likely to adopt a neutral mindset when applying a skeptical mindset.[19] Additionally, auditors responded to a question that measured whether they had a truth bias during an audit (labeled *truth bias*). Prior literature suggests people are unable to detect deception because most people have a truth bias, i.e., they take statements at face value. The measure read, "While engaged in an audit, I have a tendency to judge explanations from clients:" The scale ranged from 1("mostly as falsehoods") to 11 ("mostly as truths"). The midpoint of the scale is 6 ("neutral"). The mean response to this question is 6.78, indicating auditors do not have a truth bias when conducting an audit. Instead, they maintain a neutral mindset when applying skepticism.[20, 21] I also examine the

[18] There was a statistically significant difference between the mean of 4.77 and the endpoint of 1 ($t=12.64$, $p< 0.0001$). There was a statistically significant difference between the mean of 4.77 and the midpoint of 6 ($t=-4.12$, $p< 0.0001$).

[19] I used an ANCOVA model to determine if the auditors' *extent* judgments were dependent on the auditors' *skepticism* score. In the ANCOVA, *extent* was the dependent variable, *confidence* and *control and business environment* were the independent variables, and the *skepticism* score was the covariate. The ANCOVA reveals that the covariate *skepticism* score was not statistically significant ($F=0.10$, $p < 0.75$) and that the interaction of the independent variables (*confidence* and *control and business environment*) remains statistically significant ($F=5.10$, $p < 0.03$). Additionally, the ANCOVA model indicates the interaction of *confidence* and *skepticism* and the interaction of *control environment* and *skepticism* are not statistically significant ($F=0.01$, $p < 0.93$ and $F=0.03$, $p < 0.87$, respectively).

[20] There was a statistically significant difference between the mean of 6.78 and the endpoint of 1 ($t=30.71$, $p< 0.0001$). There was a statistically significant difference between the mean of 6.78 and the

frequency distribution of the responses to this question. Fifteen auditors selected responses below the midpoint of the scale and 42 auditors selected responses above the midpoint of the scale, suggesting a tendency towards accepting statements as truths. However, the mean of 6.78 indicated a weak rather than a strong tendency.[22] These results provide additional motivation for positing H3; the neutral view of skepticism suggests an interactive effect of *confidence* and *control and business environment* on auditors' judgments of *extent*.[23, 24]

Analysis of the Effects of Inconsistencies on Auditors' Judgments

I examine two additional judgments based on the Karmarkar and Tormala (2010) study to determine the reason for the auditors' response to confidence. Karmarkar and Tormala (2010) found that participants used the confidence heuristic when an inconsistency between expertise and the expression of confidence was present. The reason for these findings is that participants experienced a high level of

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endpoint of 11 ($t = -22.33$, $p < 0.0001$). There was a statistically significant difference between the mean of 6.78 and the midpoint of 6 ($t = 4.19$, $p < 0.0001$).

[21] The responses to both the *truth bias* question and the *skepticism* question are not significantly different across cells or affected by the treatments.

[22] I used an ANCOVA model to determine if the auditors' *extent* judgments were dependent on the auditors' *truth bias* score. In the ANCOVA, *extent* was the dependent variable, *confidence* and *control and business environment* were the independent variables, and the *truth bias* score was the covariate. The ANCOVA reveals that the covariate *truth bias* score was not statistically significant ($F=1.06$, $p < 0.30$) and that the interaction of the independent variables (*confidence* and *control and business environment*) remains statistically significant ($F=5.76$, $p < 0.02$). Additionally, the ANCOVA model indicates the interaction of *confidence* and *truth bias* and the interaction of *control environment* and *truth bias* are not statistically significant ($F=0.51$, $p < 0.43$ and F 0.52, $p < 0.47$, respectively).

[23] To further explore the impact of the neutral mindset, I examine whether *skepticism* and/or *truth bias* mediate the relation between the dependent variable, *extent*, and the independent variable, *confidence*. However, I do not find evidence that *skepticism* and *truth bias* are mediators.

[24] I used an ANCOVA to determine if the auditors' *extent* judgments were dependent on the auditors' trait skepticism. In the ANCOVA, *extent* was the dependent variable, *confidence* and *control and business environment* were the independent variables, and the Hurtt scale score (labeled as *Hurtt*) was the covariate. The ANCOVA reveals that the covariate *Hurtt* was not statistically significant ($F=0.67$, $p < 0.42$) and that the interaction of the independent variables (*confidence* and *control and business environment*) remains statistically significant ($F=4.52$, $p < 0.04$). Additionally, the ANCOVA indicates the interaction of *confidence* and *Hurtt* and the interaction of *control environment* and *Hurtt* are not statistically significant ($F=0.72$, $p < 0.40$ and $F=1.50$, $p < 0.22$, respectively). The analysis of RQ1b includes a detailed discussion of the Hurtt scale score.

unexpectedness and surprise during the task which resulted in increased processing by the participants, leading to greater persuasion. Participants in my experiment judged (1) how unexpected they found the client explanation (*unexpected*) and (2) how surprising they found the client explanation (*surprising*).[25] For the analysis, each participant's judgments of *surprise* and *unexpected* are averaged together to form one measure, consistent with Karmarkar and Tormala (2010). The mean assessment of the average of *unexpected* and *surprising* is then analyzed via an ANOVA model with *confidence* and *control and business environment* as independent factors. The ANOVA indicates the interaction of *confidence* and the *control environment* is not statistically significant ($F= 1.16$, $p < 0.29$).[26] These results are inconsistent with the Karmarkar and Tormala (2010) study and suggest participants did not find the inconsistency between the strong (weak) control and business environment and the absence (presence) of an expression of confidence unexpected and surprising.

Discussion of Results

Overall, these results indicate that auditors' reactions to expressed confidence were dependent on the decision making environment. When the control and business environment was strong, auditors relied on information from the environment and did not use the expressed confidence in their decision making. In contrast, when the control and business environment was weak, auditors relied (positively) on the expression of confidence. While unexpected, these results suggest a couple of

[25] The scale for *unexpected* ranged from 1 (not at all unexpected) to 9 (extremely unexpected). The scale for *suprising* ranged from 1 (not at all surprising) to 9 (extremely surprising).
[26] See Appendix B (Table B3) for tabulated results.

potential explanations. One potential reason for this effect may be that auditors found the weak control environment to be associated with information uncertainty (Beneish et al. 2008). As a result, auditors were motivated to reduce uncertainty by relying on the controller expressing confidence (Loewenstein 1994). Secondly, auditors may have experienced high cognitive load under the weak control environment condition. When people experience high cognitive load, they are more likely to use heuristics. Auditors may have experienced high cognitive load in the weak control and business environment setting because the information cues that suggested risk required increased processing. Both of these explanations provide opportunities for further research in this area.

Supplemental Analysis

As a supplementary analysis, I examine participants perceptions of the controller based on the expression of confidence or no confidence and the control environment strength. I create a composite score of the perception of the controller by using the mean of participants' responses to questions measuring the construct. I refer to this composite score as 'perception of the controller'. The perception of the controller judgment is measured as the average of perceived reliability, perceived trustworthiness, perceived honesty, perceived accuracy, perceived competence, and perceived deceptiveness of the controller.[27] Participants' responses to the perception of the controller questions indicated that all 6 questions captured the same

[27] The perception of the controller score is composed of participants' responses to the following questions "How competent did you perceive the controller to be?," "How accurate did you perceive the controller to be?," "How trustworthy did you perceive the controller to be?," "How honest did you perceive the controller to be?," "How reliable did you perceive the controller to be?" and "How deceptive did you perceive the controller to be?" All responses were provided on 11-point Likert scales with the endpoints of 1 (not at all [insert characteristic]) to 11 (extremely [insert characteristic]). The responses to the deception question were reverse coded.

underlying construct, with Cronbach's alpha of 0.88. The mean assessment of the perception of the controller score is then analyzed via an ANOVA model with *confidence* and *control and business environment* as independent factors. The main effect of *confidence* in the ANOVA model is not statistically significant ($F=0.00$, $p < 0.95$).[28] The mean perception of the controller judgments are 5.46 and 5.43 for the *confidence present* and *confidence absent* conditions, respectively. The main effect of *control and business environment* in the ANOVA model is marginally statistically significant ($F=3.07$, $p < 0.09$). The mean perception of the controller judgments are 5.79 and 5.12 for the *strong environment* and *weak environment* conditions, respectively. The effect of the interaction of *confidence* and the *control and business environment* in the ANOVA model is not statistically significant ($F=1.44$, $p < 0.39$).[29] Together, these results imply that participants perceived the controller in a somewhat more (less) positive manner in the *strong environment* (*weak environment*) condition.[30]

To further gain an understanding regarding the auditors' perception of the controller, auditors also responded to a question regarding whether the controller was attempting to be persuasive. The question read "Do you think the controller had a strong desire for you to rely on the explanation?," and participants responded with a yes or no response. In the *confidence present* (*confidence absent*) conditions, 70.18 (29.82) percent of auditors believed the controller was attempting to be persuasive

[28] This result is untabulated.
[29] To further explore the impact of the perception of the controller judgments, I examine whether the perception of the controller mediates the relation between the dependent variable, *extent*, and the independent variable, *confidence*. However, I do not find evidence that the perception of the controller is a mediator.
[30] These results are untabulated.

(Fisher's exact test, $p < 0.0001$). This suggests auditors viewed the expression of confidence as a persuasion mechanism.

Non-audit task

Manipulation check

To determine if auditors noticed if the restaurant reviewer expressed or did not express confidence, I examine auditors' responses to the following question, "Did the restaurant reviewer express confidence in the restaurant review?" The rate of correct responses is 74%, leaving a sample of 50 auditors for the analysis.[31]

Analysis of RQ1a

Recall that I use the same task as Karmarkar and Tormala (2010) in order to determine if auditors use the confidence heuristic in a non-audit task. Using this task allows for the comparison of auditor behavior to non-auditor behavior in the same task. I test RQ1a, regarding the auditor's use of the confidence heuristic in a non-audit task, using a t-test. The auditor's interest in eating at the reviewed restaurant (labeled *interest*) is used as the dependent variable. As shown in Table 5, there was no statistically significant difference in the mean *interest* judgments for the *confidence present* and *confidence absent* conditions ($t=0.34$, $p < 0.74$, *confidence present* mean=6.09 versus *confidence absent* mean=5.94). This suggests auditors did not use the confidence heuristic and is inconsistent with the results of Karmarkar and Tormala (2010) who found evidence of the confidence heuristic. I also examine two additional judgments based on the Karmarkar and Tormala (2010) study to determine

[31] Incorrect responses were clustered in the *confidence absent* condition. Of the 50 participants responding correctly, 32 participants were in the *confidence present* condition and 18 participants were in *confidence absent* condition. Therefore, the rate of correct responses is 94% in the *confidence present* condition and 53% in the *confidence absent* condition.

why the auditors did not use the confidence heuristic. Auditors judged (1) how unexpected the auditors found the restaurant review (labeled as *unexpected*) and (2) how surprising the auditors found the restaurant review (labeled as *surprising*).[32] I analyze the average of these variables, consistent with Karmarkar and Tormala (2010). Karmarkar and Tormala found that participants used the confidence heuristic when an inconsistency between expertise and the expression of confidence was present. The reason for these findings is that participants experienced a high level of unexpectedness and surprise from the restaurant review which resulted in increased processing of the review by the participants, leading to greater persuasion. The average of *unexpected* and *surprising* is used as the dependent variable for the t-test. As shown in Table 5, there was no statistically significant difference in the average of the *unexpected* and *surprising* judgments for the *confidence present* and *confidence absent* conditions (t=-0.26, p < 0.79, *confidence present* mean=3.91 versus *confidence absent* mean=4.08). These results are inconsistent with the Karmarkar and Tormala study and suggest that my study participants (auditors) judged the restaurant review differently than the undergraduate participants in the Karmarkar and Tormala (2010) study. Interestingly, auditors behaved consistently across the audit and non-audit task. When auditors made judgments in a less risky environment and an environment associated with less information uncertainty (i.e., the non-audit task and the audit task with the strong control and business environment), auditors did not use expressed confidence in their decision making. In contrast, when auditors were in a riskier environment and an environment associated

[32] Both *unexpected* and *surprising* were evaluated on a scale from 1 (not at all surprising/unexpected) to 9 (extremely unexpected/surprising)

with more information uncertainty (i.e., the audit task with the weak control and business environment), auditors used expressed confidence in their decision making.

Supplemental Analysis of RQ1a

As a supplementary analysis, I examine auditors' perception of the restaurant reviewer in the non-audit task. I create a composite score of the perception of the restaurant reviewer by using the mean of participants' responses to questions measuring the construct. I refer to this composite score as 'perception of the restaurant reviewer.' The perception of the restaurant reviewer score is composed of an average of perceived reliability, perceived trustworthiness, perceived honesty, perceived accuracy, perceived competence, and perceived deceptiveness of the restaurant reviewer.[33] Participants' responses to the perception of the restaurant reviewer questions indicated that all 6 questions captured the same underlying construct, with Cronbach's alpha of 0.74. The mean assessment of the perception of the restaurant reviewer score is then analyzed via an ANOVA model with *confidence* as the independent factor. The main effect of *confidence* in the ANOVA model is not statistically significant ($F=0.54$, $p < 0.47$). The mean perception of the restaurant reviewer judgments are 6.51 and 6.22 for the *confidence present* and *confidence*

[33] The perception of the restaurant reviewer score is composed of participants' responses to the following questions "How competent did you perceive the restaurant reviewer to be?," "How accurate did you perceive the restaurant reviewer to be?," "How trustworthy did you perceive the restaurant reviewer to be?," "How honest did you perceive the restaurant reviewer to be?," "How reliable did you perceive the restaurant reviewer to be?," and "How deceptive did you perceive the restaurant reviewer to be?"All responses were provided on 11-point Likert scales with the endpoints of 1 (not at all [insert characteristic]) to 11 (extremely [insert characteristic]). The responses to the question regarding deceptiveness were reverse coded.

absent conditions, respectively. Together, these results imply the participants did not perceive the restaurant reviewer differently regardless of the condition.[34]

To further gain an understanding regarding the auditors' perception of the restaurant reviewer, auditors also responded to a question regarding whether the restaurant reviewer was attempting to be persuasive. The question read "Do you think the restaurant reviewer had a strong desire for you to rely on the review?," and participants provided a yes or no response. In the *confidence present* (*confidence absent*) conditions, 95.83 (42.31) percent of auditors believed the restaurant reviewer was attempting to be persuasive (Fisher's exact test, $p < 0.0001$). This suggests auditors viewed the expression of confidence as a persuasion mechanism.

Analysis of RQ1b

I examine RQ1b, suggesting the auditor's use of the confidence heuristic is dependent on the auditor's own trait level of skepticism, by using an ANCOVA model with the Hurtt scale (labeled as *Hurtt*) measure as the covariate.[35] I compare the auditors' responses to the dependent variable *interest* and examine *Hurtt* as a covariate and *confidence* as the independent variable. I find that the effect of *Hurtt* is marginally significant ($F=1.89$, $p < 0.09$). Furthermore, the main effect of *confidence* ($F=0.00$, $p < 0.94$) along with the effect of the interaction of *confidence* and *Hurtt* ($F=1.24$, $p < 0.33$) are both not statistically significant. Overall, this indicates the use

[34] These results are untablulated.

[35] The mean response to *Hurtt* is 75.72 and the median response is 74.50.The Hurtt scale mean and median for my study are consistent with prior studies examining the Hurtt Scale (e.g., Hurtt (2010)). The Hurtt scale scores for my study ranged from 54 to 93. Hurtt (2010) finds that student scores on the Hurtt scale generally range from 50 to 100. Hurtt (2010) finds that the mean Hurtt scale score for auditors is 75 for one sample of auditors and 77 for another sample of auditors.

of the confidence heuristic is not dependent on trait skepticism.[36]

CHAPTER V. CONCLUSION

I examine the effects of client expressions of confidence on auditor judgments. I develop competing hypotheses using the confidence heuristic from the psychology literature and the construct of skepticism from the auditing standards. Results from my study indicate that auditors use the confidence heuristic in risky situations (i.e., when the client control and business environment is weak). In contrast, auditors do not use expressed confidence in their decision making when the situation is less risky (i.e., when the control and business environment is strong or in a non-audit task). Specifically, when the client had a strong control and business environment setting, auditors relied on the environment rather than the expressed confidence for their decision making. In contrast, when the client had a weak control and business environment, auditors could not rely on the environment and consequently used the confidence heuristic.

These results suggest several potential explanations. One potential reason for this effect may be that auditors found the weak control environment to be associated with information uncertainty (Beneish et al. 2008). As a result, auditors were motivated to reduce uncertainty by relying on the controller expressing confidence (Loewenstein 1994). Secondly, auditors may have experienced high cognitive load under the weak control environment condition. When people experience high cognitive load, they are more likely to use heuristics. Auditors may have experienced high cognitive load in the weak control and business environment setting because the

[36] These results are untabulated.

information cues that suggested risk required increased processing. Thirdly, auditors may have exercised high effort to process the cues in the weak control and business environment. The high effort may have been the result of the presence of risk in that environment. When people are faced with a high effort task, people use heuristics to reduce the cognitive effort associated with the task by examining "fewer cues" and "integrating less information" (Shah and Oppenheimer 2008). This suggests auditors focused on the expression of confidence cue and did not integrate this cue with the control and business environment cue. Finally, the control and business environment may have shifted the way in which auditors weighed cues in the task. In the weak control and business environment, participants could not use the central cues (i.e., the control and business environment components) because they were not reliable, so participants may have processed the peripheral cue (expression or no expression of confidence) instead (Petty and Cacioppo 1986). All of these explanations provide opportunities for further research in this area.

Results of my study will make auditors aware of characteristics, such as expressions of confidence, which may cause them to exercise a lower level of skepticism; therefore, auditors can consider such characteristics when interacting with the client. Additionally, this study helps explain why, in some instances, auditors may rely on management explanation when it is more appropriate to collect additional substantive evidence.

My study contributes to two areas of literature. First, my study expands the accounting literature regarding professional skepticism by examining whether auditors' skepticism could be compromised by auditors relying on clients'

characteristics such as expressed confidence. Additionally, my study examines whether auditors adopt a presumptive doubt view of skepticism or a neutral view of skepticism. Furthermore, my study improves people's understanding of why auditors may over-rely on management explanations and is the first to examine expressed confidence in an auditing context. Moreover, my study expands the growing financial accounting literature regarding manager confidence (Hribar et al. 2011; Hirshleifer et al. 2010; Hilary et al. 2011; Libby et al. 2010) by examining the effects of manager confidence in the auditing context. Secondly, this study contributes to the psychology literature. Prior psychology literature has not examined expressed confidence in a setting in which the two parties do not necessarily have a completely cooperative relationship.

My study is subject to several limitations. First, the level of skepticism the auditor exercises in an experimental setting may be lower than that which is displayed in a real world auditing task. Typically, audit firms provide firm policies and procedures that ensure the auditor exercises skepticism. However, this concern is mitigated to the extent that auditors will internalize this required level of skepticism and bring it to the experimental task. Second, my experiment does not take into consideration the past relationship between the client and the auditor. Future research could examine to what extent these relationships affect the use of client characteristics by the auditor.

This research has significant implications for future research in auditing and the practice of auditing. The results of this research can be incorporated in the interviewing courses auditors take to improve their client interviewing skills (BIA

Advisors 2010). Future research can examine expressed confidence in other areas of the audit. For example, research can examine how auditors use expressed confidence from trusted advisors within their own firm. Additionally, future research can examine the effect of clients' expressions of confidence during the auditor-client negotiation. Furthermore, future research can extend fraud studies such as Hammersley et al. (2010) by determining how auditors respond to expressions of confidence after priming auditors to be aware of the possibility of deception.

REFERENCES

American Institute of Certified Public Accountants.1980. Evidential Matter. Statement on Auditing Standards No. 31. New York: AICPA.

American Institute of Certified Public Accountants. 1988. Auditing Accounting Estimates. Statement of Auditing Standards No. 57. New York, NY: AICPA.

American Institute of Certified Public Accountants.1992. Confirmations. AU Section 330. New York, NY: AICPA.

American Institute of Certified Public Accountants. 2001. Generally Accepted Auditing Standards. AU Section 150. New York, NY: AICPA.

American Institute of Certified Public Accountants. 2002. Consideration of Fraud in a Financial Statement Audit. Statement of Auditing Standards No. 99. New York, NY: AICPA.

American Institute of Certified Public Accountants. 2006. Audit Evidence. Statement on Auditing Standards No. 106. New York, NY: AICPA.

American Institute of Certified Public Accountants. 2006. Understanding the Entity and Its Environment and Assessing the Risks of Material Misstatement. Statement of Auditing Standards No. 109. New York, NY: AICPA.

Anderson, U., L. Koonce, and G. Marchant. 1994. The Effects of Source-Competence Information and Its Timing on Auditors' Performance of Analytical Procedures. *Auditing*: *A Journal of Practice & Theory*. 13: 137–148.

Anderson, U., K. Kadous, and L. Koonce. 2004. The Role of Incentives to Manage Earnings and Quantification in Auditors' Evaluations of Management Provided Information. *Auditing: A Journal of Practice and Theory*. 23: 11-27.

Bamber, E. M. 1983. Expert Judgment in the Audit Team. *Journal of Accounting Research.* Fall: 396-412.

Bell, T. B., M. E. Peecher, and I. Solomon. 2005. *The 21st Century Public Company Audit: Conceptual Elements of KPMG's Global Audit Methodology*. New York, NY: KPMG International.

Beneish, D., M. B. Billings, and Hodder, L. D. 2008. Internal Control Weaknesses and Information Uncertainty. *The Accounting Review*. 83: 665-703.

Bond, C. F., Jr., and DePaulo, B. M. 2006. Accuracy of Deception Judgments. *Personality and Social Psychology Review*. 10: 214-234.

Buller, D. B., and Burgoon, J. K. 1996. Interpersonal Deception Theory. *Communication Theory.* 6: 203-242.

Business Intelligence Advisors. 2010. Discover What Others Are Missing. Available at http://www.biadvisors.com/.

Camerer, C.F., G. Loewenstein, and M. Weber. 1989. The Curse of Knowledge in Economic Meetings: An Experimental Analysis. *Journal of Political Economy.* 97:1232–54.

Center for Audit Quality. 2010. Deterring and Detecting Financial Statement Fraud - A Platform for Action. Available at: http://www.thecaq.org/AntiFraudInitiative/CAQAnti-FraudReport.pdf.

Cohen, J.R., and D.M. Hanno. 2000. Auditors' Consideration of Corporate Governance and Management Control Philosophy in Preplanning and Planning Judgments. *Auditing: A Journal of Practice & Theory.* 19 (2): 133-146.

COSO. 1992. Internal Control - Integrated Framework. Committee of the Sponsoring Organizations of the Treadway Commission. New York, NY: American Institute of Certified Public Accountants.

Fanning, K. and Piercey, M. D., Internal Auditors' Use of Accounting Information, Arguments and Interpersonal Skills in a Corporate Governance Setting (August 9, 2010). Available at SSRN: http://ssrn.com/abstract=1476399.

Hammersley, J. S., E. M. Bamber, and T. CARPENTER. 2010. "The Influence of Documentation Specificity and Priming on Auditors' Fraud Risk Assessments and Evidence Evaluation Decisions." The Accounting Review 85: 547-571.

Haynes, C. 1999. Auditors' Evaluation of Evidence Obtained Through Management Inquiry: A Cascaded-Inference Approach. *Auditing: A Journal of Practice* & *Theory.* 18 (Fall): 87-104.

Hilary, G. and Hsu, C., Endogenous Overconfidence in Managerial Forecasts (January 26, 2011). Journal of Accounting & Economics (JAE), Forthcoming. Available at SSRN: http://ssrn.com/abstract=1748423.

Hirshleifer, D. A., Teoh, S.H. and Low, A., Are Overconfident CEOs Better Innovators? (April 29, 2010). Available at SSRN: http://ssrn.com/abstract=159802.

Hirst, D. E. 1994. Auditors' Sensitivity to Source Reliability. *Journal of Accounting Research.* 32 (Spring): 113-126.

Hribar, Paul and Yang, Holly, CEO Overconfidence and Management Forecasting (April 13, 2011). Available at SSRN: http://ssrn.com/abstract=929731.

Hurtt, K. 2010. Development of a Scale to Measure Professional Skepticism. *Auditing: A Journal of Practice and Theory***.** 29(1): 149-171.

Hurtt, K., Eining, M. and Plumlee, D., An Experimental Examination of Professional Skepticism (May 2008). Available at SSRN: http://ssrn.com/abstract=1140267.

Kahneman, D., Tversky A., and Slovic P., eds. 1982. *Judgment under Uncertainty: Heuristics & Biases*. Cambridge, UK, Cambridge University Press.

Karmarkar, U. and Z. Tormala. 2010. Believe Me, I Have No Idea What I'm Talking About: The Effects of Source Certainty on Consumer Involvement and Persuasion. *Journal of Consumer Research*. 36:1033−1049.

Leippe, M.R., Manion, A.P., and Romanczyk, A. 1992. Eyewitness Persuasion: How and How well do Fact Finders Judge the Accuracy of Adults' and Children's Memory Reports? *Journal of Personality and Social Psychology*. 63: 181-197.

Libby, R. and Rennekamp, K.M. Self-Serving Attribution Bias, Overconfidence and the Issuance of Management Forecasts (December 3, 2010). The Journal of Accounting Research, Forthcoming. Available at SSRN: http://ssrn.com/abstract=1664672.

Loewenstein, G. 1994. The Psychology of Curiosity: A Review and Reinterpretation. *Psychological Bulletin*. 116: 75–98.

McMillan, J. J. and R. A. White. 1993. Auditors' Belief Revisions and Evidence Search: The Effect of Hypothesis Frame, Confirmation and Professional Skepticism. *The Accounting Review*. 68 (3): 443-465.

Messier, W.F., Kozloski, T. M. and Kochetova-Kozloski, N. 2010. An Analysis of SEC and PCAOB Enforcement Actions against Engagement Quality Reviewers. *Auditing: A Journal of Practice & Theory*. 29(2): 233-264.

Nelson, M.W. 2009. A Model and Literature Review of Professional Skepticism in Auditing. *Auditing: A Journal of Practice & Theory.* 28: 1-34.

Peecher, M. E. 1996. The Influence of Auditors' Justification Processes on their Decisions: A Cognitive Model and Experimental Evidence. *Journal of Accounting Research.* 34 (Spring):125-140.

Penrod, S. D., and Cutler, B. L. 1995. Witness Confidence and Witness Accuracy: Assessing their Forensic Relation. *Psychology, Public Policy, and Law*. 1: 817-845.

Peterson, D. and G. Pitz.1988.Confidence, Uncertainty, and the Use of Information. *Journal of Experimental Psychology: Learning, Memory, and Cognition*. 14(1): 85-92.

Petty, R. and J. Cacioppo.1986. *Communication and Persuasion: Central and Peripheral Routes to Persuasion*, New York: Springer.

Price, P. C., and Stone, E. R. 2004. Intuitive Evaluation of Likelihood Judgment Producers: Evidence for a Confidence Heuristic. *Journal of Behavioral Decision Making.* 17(1): 39-57.

Public Company Accounting Oversight Board (PCAOB)2006. Consideration of Fraud in a Financial Statement Audit. AU Section 316. http://www.pcaobus.org /standards/interim standards /auditing standards /index au.asp?series300& section316.

Public Company Accounting Oversight Board (PCAOB). 2008. *Report on the PCAOB's 2004, 2005, 2006, and 2007 Inspections of Domestic Annually Inspected Firms*. PCAOB Release No. 2008-008. Available at: http://pcaobus.org/Inspections/Documents/2008_12-05_Release_2008-008.pdf.

Quadackers, L., Groot, T. and Wright, A. Auditors' Skeptical Characteristics and Their Relationship to Skeptical Judgments and Decisions (September 24, 2009). Available at SSRN: http://ssrn.com/abstract=1478105.

Rebele, J., Heintz, J., and Briden, G. 1988. Independent Auditor Sensitivity to Evidence Reliability. *Auditing*: *A Journal of Practice & Theory*. (Fall): 3–52.

Rennie, M., L. Kopp, and W.M. Lemon. 2010. Exploring Trust and the Auditor-Client Relationship: Factors Influencing the Auditor's Trust of a Client Representative. *Auditing: A Journal of Practice &Theory.* 29(1): 279–293.

Robertson, J. 2010. The Effects of Ingratiation and Client Incentives on Auditor Judgment. *Behavioral Research in Accounting.* 22(2): 69–86.

Sarbanes-Oxley Act. 2002. Public Law No: 107-204. GPO: Washington, DC.

Shah, A. and D. Oppenheimer. 2008. Heuristics Made Easy: An Effort-Reduction Framework. *Psychological Bulletin*. 134(2): 207-222.

Shaub, M. and J. E. Lawrence. 1996. Ethics, Experience and Professional Skepticism: A Situational Analysis. *Behavioral Research in Accounting.* 8 (Supplement): 124-157.

Sniezek, J. A., and T. Buckley.1995. Cueing and Cognitive Conflict in Judge-Advisor Decision Making. *Organizational Behavior and Human Decision Processes.* 62(2): 159-174.

Sniezek, J. A., and L. M. Van Swol. 2001. Trust, Confidence, and Expertise in a Judge-Advisor System. *Organizational Behavior and Human Decision Processes.* 84(2): 288-307.

Thomas, J. P., and McFadyen, R. G. 1995. The Confidence Heuristic: A Game Theoretic Analysis. *Journal of Economic Psychology.* 16: 97-113.

Trompeter, G. and A. Wright. 2010. The World Has Changed—Have Analytical Procedure Practices? *Contemporary Accounting Research.* 27(2): 669 – 700.

Wegner, D.M. 1994. Ironic Processes of Mental Control. *Psychological Review* 101:34–52.

Wesson, C., and B. D Pulford. 2009. Verbal Expressions of Confidence and Doubt. *Psychological Reports.* 105: 151-160.

Wilson, T.D., and N. Brekke. 1994. Mental Contamination and Mental Correction: Unwanted Influences on Judgments and Evaluations. *Psychological Bulletin* 116:117–42.

Van Swol, L.M. 2009. The Effects of Confidence and Advisor Motives on Advice Utilization. *Communication Research.* 20:1-17.

Van Swol, L. M., and Sniezek, J. A. 2005. Factors affecting the Acceptance of Expert Advice. *British Journal of Social Psychology.* 44: 443-461.

Zarnoth, P., and Sniezek, J. A. 1997. The Social Influence of Confidence in Group Decision Making. *Journal of Experimental Social Psychology.* 33: 345-366.

APPENDIX A

Appendix A includes Tables 1 through 5. These tables provide the analyses for the pilot test, demographic information, and the analyses for the main dependent variables for the audit and non-audit tasks.

Table 1
Analysis of Expressions of Confidence or No Confidence

Expression	Mean	Standard Deviation
I'm not sure, but it may be…	2.75	1.72
I could be wrong, but…	3.00	1.91
I'm not certain, but it could be…	3.08	1.52
I suppose it's…	3.66	1.44
I suspect it's…	3.95	1.99
I would say it's…	4.50	1.89
I believe it's…	4.75	1.63
I'm positive it's…	8.33	2.18
I'm confident it's	8.50	2.24
I know for a fact it's…	8.75	2.22
I'm absolutely certain it's…	9.08	2.28

Note: The scale ranged from 1 (not confident) to 11 (extremely confident).
n=18

Table 2
Auditors' Demographic Information

Number of Auditors[a]	68
Audit Staff Level	
Seniors	92%
Managers	6%
Partners	2%
Experience in Public Accounting	
0 to 24 months	15%
33 to 48 months	70%
49 to 71 months	15%
Interview Techniques Training[b]	
Training not completed	42%
Training completed	58%
CPA	
Yes	82%
No	18%
Education	
Bachelor's	32%
Master's	68%

[a] Auditor demographics and assessments do not vary across treatments ($p > 0.10$). Demographic information is not provided by 18 auditors due to firm policy.
[b] The instrument asked auditors whether they had participated in interviewing techniques training because some auditors may learn to look for cues, such as expressed confidence, when interviewing clients.

Table 3
Audit Task Descriptive Statistics and Hypothesis Tests
Dependent Variable: *Rely*[a]

Panel A: Overall ANOVA

Variable	*df*	*F*	*p*[c]
Confidence[b]	1	0.12	0.73
Control Environment	1	2.77	0.10
Confidence × Control Environment	1	1.89	0.18

Panel B: Mean (Standard Deviation) [number of participants] for Extent of Reliance

Condition	**Strong Control Environment**	**Weak Control Environment**	**Total**
Confidence Present	4.07 (1.83) [15]	3.93 (1.58) [15]	4.00 (1.68) [30]
Confidence Absent	4.54 (1.98) [13]	3.14 (1.51) [14]	3.81 (1.86) [27]
Column Mean	4.28 (1.88) [28]	3.55 (1.57) [29]	

[a] Auditors judged to what extent they will rely on the client explanation regarding the inventory valuation. The scale ranged from 1 (will not rely at all) to 11 (completely rely).
[b] Auditors in the *confidence present* (*confidence absent*) condition viewed a client explanation with (without) and expression of confidence.
[c] p-values are two-tailed, consistent with my competing hypotheses.

Table 4
Audit Task Descriptive Statistics and Hypothesis Tests
Dependent Variable: *Extent*[a]

Panel A: Mean (Standard Deviation) [number of participants] for Extent of Testing

Condition[b]	**Strong Control Environment**	**Weak Control Environment**	**Total**
Confidence Present	2.07 (1.22) [15]	1.93 (1.03) [15]	2.00 (1.11) [30]
Confidence Absent	1.54 (1.20) [13]	2.93 (1.54) [14]	2.25 (1.53) [27]
Column Mean	1.82 (1.22) [28]	2.41 (1.37) [29]	

Panel B: Overall ANOVA

Variable	*df*	*F*	*p* [c]
Confidence	1	0.49	0.49
Control Environment	1	3.54	0.07
Confidence × *Control Environment*	1	5.20	0.03*

[a] Auditors judged the extent of testing they would perform based on the client explanation relative to the extent of testing they anticipated performing given the client's industry and size range. The scale ranged from -5 (decreased inventory testing) to +5 (increased inventory testing).
[b] Auditors in the confidence present (confidence absent) condition viewed a client explanation with (without) and expression of confidence.
[c] p-values are two-tailed, consistent with my competing hypotheses.

Table 4
Audit Task Descriptive Statistics and Hypothesis Tests
Dependent Variable: *Extent*[a]

Panel C: Means and ANOVA Results for Simple Main Effects of the Extent of Testing when Control Environment is Weak (Strong)

Variable	Confidence Present[b]	vs.	Confidence Absent	*F*	*p*[c]
Weak Control Environment	1.93 (1.03)		2.93 (1.54)	4.52	0.04*
Strong Control Environment	2.07 (1.22)		1.54 (1.20)	1.23	0.27

[a] Auditors judged the extent of testing they would perform based on the client explanation relative to the extent of testing they anticipated performing given the client's industry and size range. The scale ranged from -5 (decreased inventory testing) to +5 (increased inventory testing).
[b] Auditors in the *confidence present* (*confidence absent*) condition viewed a client explanation with (without) and expression of confidence.
[c] p-values are two-tailed, consistent with my competing hypotheses.

Table 5
Restaurant Review Task Descriptive Statistics and Hypothesis Tests

	Confidence Present[b]			Confidence Absent				
	n	Mean	Std. Devn.	n	Mean	Std. Devn.	t-statistic	Pr>|t|
Interest[a]	32	6.09	1.51	18	5.94	1.47	0.34	0.74
Average of Surprise and Unexpected	32	3.91	1.67	18	4.08	2.57	-0.26	0.79

[a] Auditors assessed three dependent variables: (1) their interest in eating at the restaurant (*interest*), (2) the extent to which they found the restaurant review surprising (*surprising),* and (3) the extent to which they found the restaurant review unexpected (*unexpected*). All scales ranged from 1 (not at all interested/surprising/unexpected) to 9 (extremely interested/surprising/unexpected) to be consistent with Karmarkar and Tormala (2010). Each participant's judgments of *surprise* and *unexpected* are averaged together to form one measure, consistent with Karmarkar and Tormala (2010).
[b] The expressed confidence of the restaurant reviewer is varied at two levels, *confidence present* and *confidence absent*.

APPENDIX B

Appendix B includes Tables B1 through B3. These tables serve as a supplement to the tables in Appendix A. These tables show the analyses for measures collected in addition to the main dependent variables during the experiment.

Table B1
Audit Task Descriptive Statistics and Analysis
Measure: *Additional*[a]

Panel A: Mean (Standard Deviation) [number of participants] for Additional Procedures

Condition[b]	**Strong Control Environment**	**Weak Control Environment**	**Total**[c]
Confidence Present	3.00	3.20	3.10
	(1.51)	(2.24)	(1.89)
	[15]	[15]	[30]
Confidence Absent	3.77	3.21	3.48
	(2.35)	(2.46)	(2.37
	[13]	[14]	[27]
Column Mean	3.36	3.21	
	(1.95)	(2.30)	
	[28]	[29]	

Panel B: Overall ANOVA

Variable	*df*	*F*	*p*[d]
Confidence	1	0.47	0.49
Control Environment	1	0.10	0.75
Confidence × *Control Environment*	1	0.43	0.51

[a] Auditors selected additional procedures they would perform for the audit. The number of procedures selected was used in the analysis. Auditors could select between 0 and 8 procedures. See Exhibit 2 for specific procedures.
[b] Auditors in the confidence present (confidence absent) condition viewed a client explanation with (without) and expression of confidence.
[c] Due to a glitch in the online instrument, twenty three participants were not able to select more than 1 procedure. In three of the four conditions, six participants were allowed to select only one procedure. In one of the conditions (*strong-confidence present*) five participants were allowed to select only one procedure. However, this biases against results.
[d] p-values are two-tailed, consistent with my competing hypotheses.

Table B2
Audit Task Descriptive Statistics and Analysis
Measure: *Writedown*[a]

Panel A: Mean (Standard Deviation) [number of participants] for *Writedown*

Condition[b]	**Strong Control Environment**	**Weak Control Environment**	**Total**
Confidence Present	7.33 (2.02) [15]	7.60 (1.80) [15]	7.47 (1.89) [30]
Confidence Absent	6.85 (1.72) [13]	8.07 (1.27) [14]	7.48 (1.60) [27]
Column Mean	7.11 (1.87) [28]	7.83 (1.56) [29]	

Panel B: Overall ANOVA

Variable	*df*	*F*	*p*[c]
Confidence	1	0.00	0.99
Control Environment	1	2.62	0.11
Confidence × *Control Environment*	1	1.08	0.30

[a] Auditors judged the likelihood the inventory will need to be written down. The scale ranged from 1 (not likely) to 11 (very likely).
[b] Auditors in the *confidence present* (*confidence absent*) condition viewed a client explanation with (without) and expression of confidence.
[c] p-values are two-tailed, consistent with my competing hypotheses.

Table B3
Audit Task Descriptive Statistics and Analysis
Measure: Average of *Surprising* and *Unexpected*[a]

Panel A: Mean (Standard Deviation) [number of participants] for Average of *Surprising* and *Unexpected*

Condition[b]	**Strong Control Environment**	**Weak Control Environment**	**Total**
Confidence Present	4.70 (1.96) [15]	4.73 (2.21) [15]	4.72 (2.06) [30]
Confidence Absent	4.88 (1.58) [13]	6.00 (1.69) [14]	5.46 (1.71) [27]
Column Mean	4.79 (1.77) [28]	5.34 (2.05) [29]	

Panel B: Overall ANOVA

Variable	*df*	*F*	*p*[c]
Confidence	1	2.08	0.16
Control Environment	1	1.30	0.26
Confidence × *Control Environment*	1	1.16	0.29

[a] Auditors assessed two dependent variables: (1) the extent to which they found the controller explanation surprising (*surprising)*, and (2) the extent to which they found the controller explanation unexpected (*unexpected*). All scales ranged from 1 (not at all surprising/unexpected) to 9 (extremely surprising/unexpected) to be consistent with Karmarkar and Tormala (2010). Each participant's judgments of *surprise* and *unexpected* are averaged together to form one measure, consistent with Karmarkar and Tormala (2010).
[b] The expressed confidence of the restaurant reviewer is varied at two levels, *confidence present* and *confidence absent*.
[c] p-values are two-tailed, consistent with my competing hypotheses.

APPENDIX C

Appendix C includes figures for Hypotheses 1-3, RQ1a, and the experimental design. Appendix C also includes an exhibit describing the variables and measures from the experiment. Additionally, this appendix includes an exhibit with the complete instrument.

Figure 1 – Hypothesis 1 and Hypothesis 2

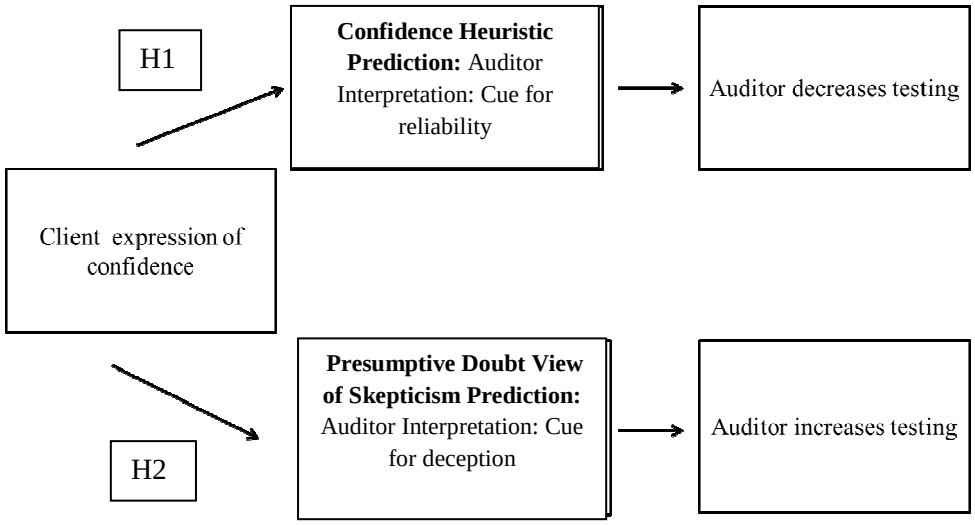
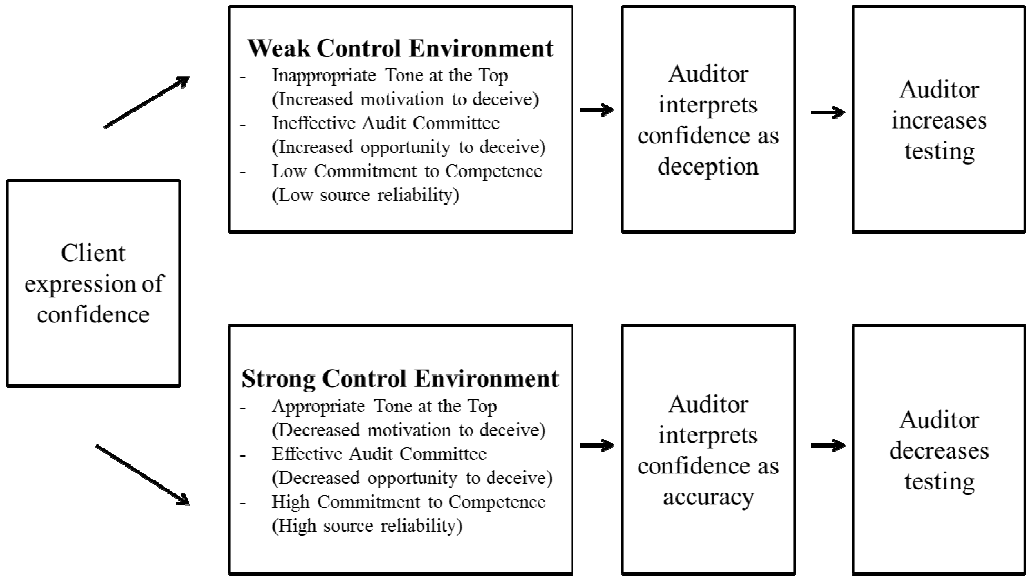


Figure 2 – Hypothesis 3



*The business environment cue magnifies the tone at the top cue. It provides a cue as to whether incentives to meet analyst consensus forecasts are present.

Figure 3 – Comparison of Judgments in the Audit Task to the Non-audit Task (RQ1a)

Use of the Confidence Heuristic		
Audit Task	**Non-Audit Task**	**Interpretation**
Yes	Yes	Auditors behave according to confidence heuristic predictions.
No	Yes	Auditors behave according to auditing standards only when performing audits.
No	No	Auditors behave according to their trait skepticism. • Trait skepticism can be learned from the auditing environment, and as a result, auditors apply it in all environments. • Trait skepticism may be a personality trait possessed by people who join auditing profession.

Figure 4 - Experimental Design

		Audit task		Non- audit task
		Control and business environment		
		Strong	Weak	
Expression of Confidence	Present	1	2	5
	Absent	3	4	6

Exhibit 1 – Variables and Measures

Main Dependent Variables	**Scale**
To what extent will you rely on the controller explanation for the inventory valuation?	1 (Will not rely at all) to 11 (Completely rely)
First, consider the amount of testing over inventory valuation that you would have anticipated performing based on S&A's industry and size range. Now, based on S&A's Controller's responses to your inquiries about the inventory value, would you expect to increase or decrease the testing of S&A Tech's inventory account? By how much?	-5 (Decreased inventory testing) to +5 (Increased inventory testing)
Additional questions related to Karmarkar and Tormala (2010)	**Scale**
How surprising did you find the client explanation?	1 (Not at all surprising) to 9 (Extremely surprising)
How unexpected did you find the client explanation?	1 (Not at all unexpected) to 9 (Extremely unexpected)
Additional question related to the truth bias	**Scale**
While engaged in an audit, I have a tendency to judge explanations from clients mostly as:	1(Mostly as falsehoods) to 11 (Mostly as truths)
Additional question related to auditor interpretation of skepticism	**Scale**
Auditing Standards require auditors to be skeptical while auditing. In your daily work, how do you apply this skeptical mindset?	1 (I interpret the auditing standards to require me to evaluate evidence objectively, with no presumptions) to 11 (I interpret the auditing standards to require me to evaluate evidence with a presumption that an error or misstatement exists.)
Additional question related to likelihood of inventory write down	**Scale**
What is the likelihood that the inventory will need to be written-down?	1 (Not likely) to 11(Very likely)
Additional question related to additional audit procedures required for inventory valuation	**Scale**
What additional procedure(s), if any, would you choose to perform with regard to the inventory valuation?	Selection of additional procedures from a given list. See Exhibit 2 for procedures.

Exhibit 2: Instrument – Audit task: Strong Control and Business Environment, Confidence Present Condition; Non-audit task (Restaurant Review): Confidence Absent Condition

Instructions

Thank you for participating.

I am interested in understanding how auditors engage in and respond to management inquiry.

In this study, you will be asked to act as the senior associate auditor on the S&A Tech Company engagement. Included is the background of the company and selected financial information of the company. Please read the information and then answer some questions regarding your thoughts on the case information.

All responses will remain anonymous and confidential. Please do not discuss your responses with other participants.

Please note that case materials are on the front and back of each page.

Case Materials

Background of S&A Tech Company

S&A Tech is a public company that sells electronic accessories for cell phones, computers, and other technologies. The company has been in operation for five years.

Assume that you are assigned to the audit of S&A Tech for the fiscal year ended December 31, 2010. S&A purchases its inventory from manufacturers and sells to businesses and individuals.

Over the past three years, S&A Tech's financial performance and share prices have improved steadily, and the company has been profitable. During this time, your firm has audited S&A Tech. Your firm has always issued unqualified opinions for the financial statement audit.

The following table presents selected account balances from S&A Tech's financial statements:

	12/31/2010 (Unaudited)	**12/31/2009**
Sales	$384,992,000	$371,878,000
COGS	$326,471,000	$320,800,000
Net Income	$29,200,000	$25,000,000
Merchandise Inventory	$60,115,000	$50,125,000
Total Assets	$242,130,000	$200,120,000

The inventory turnover ratio for 2010 is 5.4. The inventory turnover ratio for 2009 is 6.4.

Your firm has set tolerable error relating to the financial statement valuation assertion for inventory at $600,000.

In discussions regarding S&A Tech, your audit team identified noteworthy aspects of S&A Tech's control environment (outlined below) and made a preliminary determination that the control environment was strong.

- S&A Tech distributes a code of conduct and the company discusses the code of conduct with employees annually.
- The audit committee meets twice per quarter to monitor business risks and review company strategies and business plans. The nature and extent of this review is sufficient to identify material and significant matters that could impact financial results.
- S&A Tech is composed of competent employees who have experience and knowledge in the industry.

Additionally, your audit team noted the following about the business environment.

- S&A Tech management does not exhibit strong concerns regarding meeting analysts' consensus forecasts. Instead, they are focused on acting ethically.

You have been asked to evaluate the inventory valuation, specifically the potential for inventory obsolescence. The inventory in question is one of S&A Tech's electronic accessory product lines. The sales price for this product has been $30 per unit for each of the last two years.

S&A Tech has 60,000 units of the electronic accessory in stock at year end, which is equivalent to six months sales. S&A Tech's recorded cost for this inventory is $20 per unit, or a total of $1,200,000.

You inquire with S&A Tech's Controller, Pat Smyth, regarding the inventory valuation. Pat is responsible for determining whether to write off inventory as obsolete. For the current audit, Pat serves as your firm's contact person regarding questions about account balances.

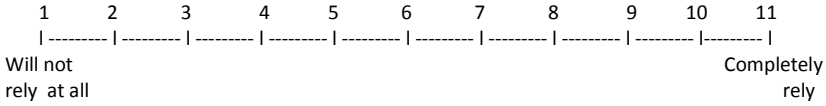
The following is Pat's response:

"**I'm absolutely certain** that we can move the product, so it is best to wait and see how this product sells in developing markets before we write the inventory off as obsolete. In similar situations in the past, sometimes we have been able to sell older products in developing countries at reduced prices and sometimes we have not.

I realize this product is of concern because one of our competitors has introduced a technologically superior product. Our competitor is selling their new product at $24, which is less than our price. However, I should note that our product comes in more colors, and we have an established reputation in the market, so I'm absolutely certain that we can move the product."

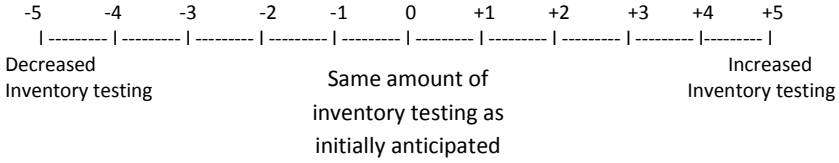
<u>Directions</u>: Below are questions about the case. You are free to look back at the information provided on the previous pages. Please circle the number on the scale that corresponds to your judgment.

1. To what extent will you rely on the controller explanation for the inventory valuation?



2. Please explain why you chose that level of reliance (i.e., the reason for your response in question 1).
   _____
   _____
   _____
   _____

3. First, consider the amount of testing over inventory valuation that you would have anticipated **performing based on S&A's industry and size range.** Now, based on S&A's Controller's responses to your inquiries about the inventory value, would you expect to increase or decrease the testing of S&A Tech's inventory account? By how much? Make a mark on the scale below to indicate your judgment.



4. What additional procedure(s), if any, would you choose to perform with regard to the inventory valuation? (Circle all that apply)

    a. Discuss possible obsolescence and overstock of inventory with operating personnel.
    b. Verify that employees are tagging obsolete items
    c. Trace for possible obsolete merchandise that is continually carried on the books.
    d. Examine current market data and other market conditions that would provide audit evidence regarding the market value of inventory.
    e. Review historical sales trends (quantities and prices) of the product during the year to determine if there are any deteriorating trends.
    f. Review sales of the product subsequent to year end to determine quantities sold and prices. Compare actual sales to forecasted sales.
    g. Inquire with the marketing team to verify that the product is marketed in an international market and to verify the prices at which the product is marketed.
    h. Obtain market research to verify there is an international market for S&A's device of sufficient size and at prices that will support profitable sales of the inventory.
    i. None
    j. Other (please specify)

    _____

    _____

5. What is the likelihood that the inventory will need to be written-down?

1 2 3 4 5 6 7 8 9 10 11

| --------- | --------- | --------- | --------- | --------- | --------- | --------- | --------- | --------- | --------- |

Not Likely — Very Likely

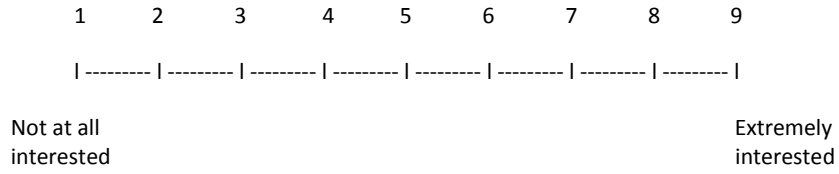
To complete my study, please provide your response to an unrelated task below. It will only take a few minutes, and it is completely contained on this page. Thanks in advance for your time.

Below is a restaurant review by Skylar Eatsy from an online blog. Skylar Eatsy is a networks administrator at a nearby community college who keeps a personal blog.

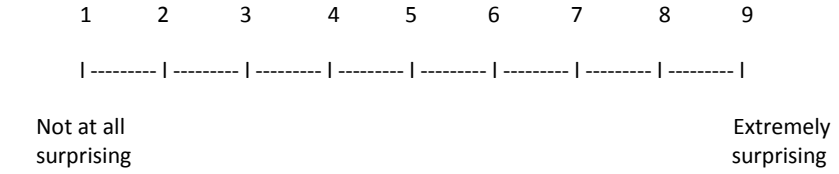
October 10, 2010
Bianco – a tentative 4 out of 5

I usually end up eating out at fast food places, but last night I was invited by a friend to go to Bianco, a mid-priced restaurant on the peninsula that just opened a few months ago. I really liked it. The dining room had a wonderful ambience – very attractive and welcoming. Their menu was great too. It featured homemade pastas, at least six meat-centered entrees, and several vegetarian options. The house salad was a refreshing start to the meal. I tried their vegetarian lasagna, and thought it was rich, tasty, and filling. My friend was very impressed with her pasta and roasted chicken. I believe that the chef has done all of the dishes on the menu as well as these. The service was excellent. Our waitress was charming and extremely helpful in answering our questions and suggesting options. At the end of the meal, the espresso was good and the desserts were terrific. We particularly enjoyed the gelato. Our final bill was roughly $25 per person and I was very satisfied. **Having eaten there only once, I don't have complete confidence in my opinion, but I suppose I would give Bianco a rating of 4 [out of 5] stars.**

1. How interested are you in having a meal at Bianco?



2. How surprising did you find the restaurant review?



3. How unexpected did you find the restaurant review?

1 2 3 4 5 6 7 8 9

| --- | --- | --- | --- | --- | --- | --- | --- | --- |

Not at all unexpected

Extremely unexpected

Directions: Please answer the following questions about the <u>S&A Tech audit task.</u> Please circle the number on the scale that corresponds to your judgment.

1. How **competent** did you perceive the controller to be?

1	2	3	4	5	6	7	8	9	10	11
Not at all Competent										Extremely Competent

2. How **accurate** did you perceive the controller to be?

1	2	3	4	5	6	7	8	9	10	11
Not at all Accurate										Extremely Accurate

3. How **trustworthy** did you perceive the controller to be?

1	2	3	4	5	6	7	8	9	10	11
Not at all Trustworthy										Extremely Trustworthy

4. How **honest** did you perceive the controller to be?

1	2	3	4	5	6	7	8	9	10	11
Not at all Honest										Extremely Honest

5. How **reliable** did you perceive the controller to be?

1	2	3	4	5	6	7	8	9	10	11
Not at all Reliable										Extremely Reliable

6. How **deceptive** did you perceive the controller to be?

1	2	3	4	5	6	7	8	9	10	11
Not at all Deceptive										Extremely Deceptive

7. Do you think the controller had a strong desire for you, as the auditor, to rely on the explanation for the inventory value asserted?

____Yes _____No

8. Please evaluate the strength of the tone at the top using the following scale.

1 2 3 4 5 6 7 8 9 10 11
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
Weak Average Strong

9. Please evaluate the strength of the audit committee using the following scale.

1 2 3 4 5 6 7 8 9 10 11
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
Weak Average Strong

10. Did the company have incentives to meet analysts' consensus forecasts?

_____Yes _____No

11. How surprising did you find the client explanation for the inventory valuation?

1 2 3 4 5 6 7 8 9 10 11
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
Not at all surprising Extremely surprising

12. How unexpected did you find the client explanation for the inventory valuation?

1 2 3 4 5 6 7 8 9 10 11
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
Not at all unexpected Extremely unexpected

13. How realistic did you find the information provided in the audit case?

1 2 3 4 5 6 7 8 9 10 11
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
Not at all Realistic Extremely Realistic

14. Did the controller express confidence in his/her explanation regarding the inventory account?

___Yes ___No

15. While engaged in an audit, I have a tendency to judge explanations from clients mostly as:

1	2	3	4	5	6	7	8	9	10	11
Mostly as Truths					Neutral					Mostly as Falsehoods

16. Auditing Standards require auditors to be skeptical while auditing. In your daily work, how do you apply this skeptical mindset?

1	2	3	4	5	6	7	8	9	10	11
I interpret the auditing standards to require me to evaluate evidence objectively, with no presumptions.										I interpret the auditing standards to require me to evaluate evidence with a presumption that an error or misstatement exists.

<u>Directions</u>: Please answer the following questions about the <u>restaurant review task.</u> Please circle the number on the scale that corresponds to your judgment.

1. How **competent** did you perceive the restaurant reviewer to be?

1	2	3	4	5	6	7	8	9	10	11
Not at all Competent										Extremely Competent

2. How **accurate** did you perceive the restaurant reviewer to be?

1	2	3	4	5	6	7	8	9	10	11
Not at all Accurate										Extremely Accurate

3. How **trustworthy** did you perceive the restaurant reviewer to be?

1	2	3	4	5	6	7	8	9	10	11
Not at all Trustworthy										Extremely Trustworthy

4. How **honest** did you perceive the restaurant reviewer to be?

1	2	3	4	5	6	7	8	9	10	11
Not at all Honest										Extremely Honest

5. How **reliable** did you perceive the restaurant reviewer to be?

1	2	3	4	5	6	7	8	9	10	11
Not at all Reliable										Extremely Reliable

6. How **deceptive** did you perceive the restaurant reviewer to be?

1	2	3	4	5	6	7	8	9	10	11
Not at all Deceptive										Extremely Deceptive

7. Do you think the restaurant reviewer had a strong desire for you to rely on the restaurant review?

____Yes _____No

8. Did the restaurant reviewer express confidence in the restaurant review?

___Yes ___No

<u>Directions:</u> Statements that people use to describe themselves are given below. Please circle the response that indicates how you generally feel. There are no right or wrong answers. Do not spend too much time on any one statement.

1. I often accept other peoples' explanations without further thought.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- |
Strongly Disagree — Strongly Agree

2. I feel good about myself.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- |
Strongly Disagree — Strongly Agree

3. I wait to decide on issues until I can get more information.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- |
Strongly Disagree — Strongly Agree

4. The prospect of learning excites me.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- |
Strongly Disagree — Strongly Agree

5. I am interested in what causes people to behave the way that they do.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- |
Strongly Disagree — Strongly Agree

6. I am confident of my abilities.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Disagree — Strongly Agree

7. I often reject statements unless I have proof that they are true.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Disagree — Strongly Agree

8. Discovering new information is fun.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Disagree — Strongly Agree

9. I take my time when making decisions.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Disagree — Strongly Agree

10. I tend to immediately accept what other people tell me.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Disagree — Strongly Agree

11. Other peoples' behavior doesn't interest me.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Disagree — Strongly Agree

12. I am self-assured.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Strongly
Disagree Agree

13. My friends tell me that I usually question things that I see or hear.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Strongly
Disagree Agree

14. I like to understand the reason for other peoples' behavior.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Strongly
Disagree Agree

15. I think that learning is exciting.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Strongly
Disagree Agree

16. I usually accept things I see, read or hear at face value.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Strongly
Disagree Agree

17. I don't feel sure of myself.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Strongly
Disagree Agree

18. I usually notice inconsistencies in explanations.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Disagree — Strongly Agree

19. Most often I agree with what the others in my group think.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Disagree — Strongly Agree

20. I dislike having to make decisions quickly.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Disagree — Strongly Agree

21. I have confidence in myself.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Disagree — Strongly Agree

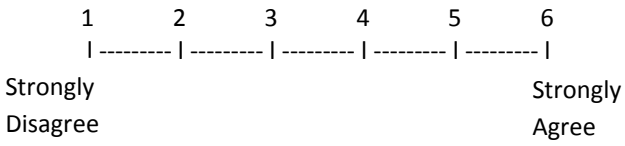
22. I don't like to decide until I've looked at all of the readily available information.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Disagree — Strongly Agree

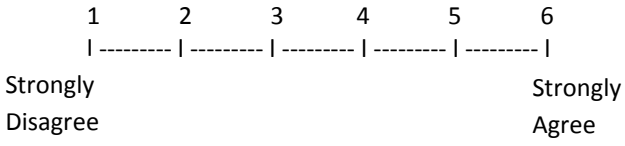
23. I like searching for knowledge.

1 2 3 4 5 6
| --------- | --------- | --------- | --------- | --------- | --------- |
Strongly Disagree — Strongly Agree

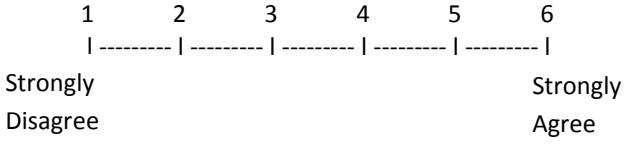
24. I frequently question things that I see or hear.



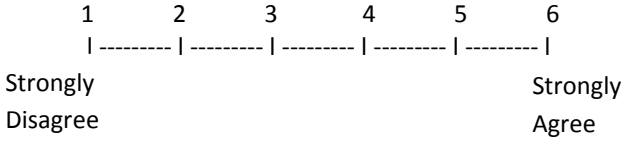
25. It is easy for other people to convince me.



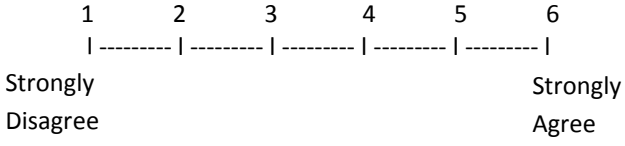
26. I seldom consider why people behave in a certain way.



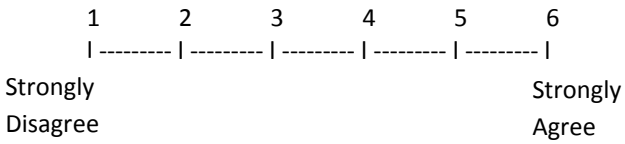
27. I like to ensure that I've considered most available information before making a decision.



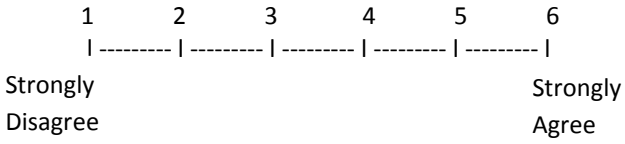
28. I enjoy trying to determine if what I read or hear is true.



29. I relish learning.



30. The actions people take and the reasons for those actions are fascinating.



Demographic Information

Please answer the following questions. This information will remain confidential.

1. Your gender (optional): _____ Female _____ Male

2. Your current position in your firm (optional):

_____	Staff	_____	Manager	_____	Other
_____	Senior	_____	Sr. Manager		(please specify):
_____	Supervisor	_____	Partner	_____	

4. How long have you been employed at your present firm?

   _____ years _____ months

5. How long have you been employed in public accounting in total?

   _____ years _____ months

6. Please indicate your highest degree and the year completed:

_____ (Degree)

7. What professional certifications do you hold (for example, CPA)?

   _____

8. Have you ever completed a course in interviewing techniques?

   ___Yes ____No

This completes the study. Please return remaining items to envelope 2. Thank you very much for your participation!