# Professional Skepticism: The Effects of a Partner's Influence and the Presence of Fraud on Auditors' Fraud Judgments and Actions

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## ABSTRACT

The Public Company Accounting Oversight Board (PCAOB), in its recent auditor inspections, cited a lack of professional skepticism and selection of appropriate audit procedures as serious problems for auditors and has suggested that the tone set by audit partners is critical for auditors' fraud investigations. Nelson (2009) presented a model of professional skepticism in auditing. This study investigates selected components of Nelson's model: the effects of the partner's emphasis on professional skepticism and the presence of fraud on auditors' identification of fraud risk factors, auditors' fraud risk assessments, and their selection of audit procedures. Thus, we extend Nelson's professional skepticism model by providing an initial test of predictions of the links established in his model and suggesting additional interactive links based on our results. Consistent with predictions of the model, results from our experiment suggest that auditors' fraud risk assessments are (1) higher when fraud is present than when it is not and (2) higher with a partner who emphasizes an attitude of professional skepticism than with a partner who places less emphasis on professional skepticism. Interestingly, we find that auditors' choice of appropriate fraud audit procedures is responsive to their fraud risk assessments when fraud is present, but only with a partner who emphasizes professional skepticism. This pattern of results is also observed in auditors' identification of fraud risk factors. These results should be informative to both standard setters and academic researchers because they highlight the costs and benefits of audit partners' tone at the top on auditors' evaluation of fraud.



**Keywords:** Professional skepticism; tone at the top; fraud risk assessments; audit procedures

# I. INTRODUCTION

In its auditor inspections, the PCAOB recently cited the lack of professional skepticism as a serious problem in auditors' fraud investigations and has suggested that audit testing in response to the risk of fraud has failed to satisfy audit standards (PCAOB 2007, 2008). High profile frauds have led to an estimated loss of nearly $900 billion in market capitalization between 1997 and 2004 (Glass Lewis & Co. 2005) and have resulted in a focus on fraud detection in the auditing profession (Elliott 2002; PCAOB 2003, 2004, 2007, 2008). Moreover, professionals have recently called for more academic research in this area (Mintz 2009). SAS No. 99, *Consideration of Fraud in a Financial Statement Audit*, has reemphasized the need for auditors to exercise professional skepticism when considering and responding to the risk of material misstatement due to fraud, and has provided guidance that suggests that auditors should respond to increased fraud risk assessments with increased professional skepticism and additional audit procedures (AICPA 2002). Professional skepticism is defined in the standards as an attitude that includes a questioning mind and a critical assessment of audit evidence. Standard setters suggest that partners must set the proper tone at the top on all engagements for the benefits of professional skepticism to be realized and to increase the likelihood that auditors will uncover fraud (AICPA 2003).

Nelson (2009) recently provided a model of professional skepticism in auditing that suggests that there are links between the *evidential input* that auditors receive and the *incentives* that they are faced with and their *skeptical judgments* and *actions*. In this study, we investigate professional skepticism by examining the effects of a partner's emphasis on professional skepticism (i.e., incentives) and the presence of fraud (i.e., evidential input) on auditors'

identification of fraud risk factors and auditors' fraud risk assessments (i.e., skeptical judgments), and their selection of audit procedures (i.e., skeptical actions).[1]

This investigation is important for several reasons. First, a former Chief Accountant of the *Securities and Exchange Commission* (SEC) enforcement division suggested that a lack of professional skepticism was among the primary causes of SEC actions against auditors (Diacont 1996), and empirical evidence supports this claim (Beasley et al. 1999). Further, the Public Oversight Board (POB) and the PCAOB have suggested that auditors seem to lack professional skepticism in practice that has resulted in significant deficiencies in important audit areas (POB 2000; PCAOB 2007, 2008). Thus, a better understanding of auditor professional skepticism is important to standard setters, auditors, and the functioning of our capital markets.

Second, SAS No. 99 requires auditors to evaluate the possibilities of fraud on all audits, suggesting that this evaluation will help auditors maintain professional skepticism (AICPA 2002). The standard suggests that for this evaluation to be effective, partners must set the proper tone at the top (AICPA 2003). Because auditors are accountable to the partner, the partner's instruction is likely to influence the way they conduct the audit. SAS No. 99 also requires auditors to identify fraud risk factors, assess fraud risk, and plan and perform audit procedures. There is mixed evidence in the literature on the important link between risk assessments and audit procedures (e.g., Zimbelman 1997; Glover et al. 2003; Asare and Wright 2004; Hoffman and Zimbelman 2009; Brazel et al. 2009). Standard setters suggest that, for fraud to be detected,

[1] We define professional skepticism, consistent with Nelson's (2009) literature review on professional skepticism and with recent regulatory definitions, as "indicated by auditor judgments and decisions that reflect a heightened assessment of the risk that an assertion is incorrect, conditional on the information available to the auditor." This definition is based on a model provided by Nelson (2009) that assumes a more "presumptive doubt" versus a "neutral" perspective. This definition is also consistent with the definition provided in SAS No. 99, that professional skepticism is an attitude that includes a questioning mind (AICPA 2002).

appropriate fraud procedures must be designed to investigate potentially fraudulent areas. Therefore, it is important to understand the context in which auditors are successful at identifying fraud risk factors, assessing the risk of fraud and following up their risk assessments with appropriate procedures. Our study provides a contribution to the accounting and auditing literature by providing an examination of the interactive effects of the partner's emphasis on professional skepticism and the presence of fraud on auditors' multi-faceted fraud judgments that include: auditors' identification of fraud risk factors, auditors' fraud risk assessments and auditors' choice of appropriate audit procedures.

Third, until recently, no model had been developed to investigate professional skepticism. Nelson (2009) presented a model that describes how *evidential input* (i.e., audit evidence) combines with auditor *incentives* to generate judgments that reflect professional skepticism. Nelson's (2009) model describes the effect of the partner's influence as an *incentive* that influences auditors' professional skepticism, and his model also suggests that differences in *evidential input* may influence professional skepticism. Nelson (2009) models auditors' fraud risk assessments as *skeptical judgments* and audit procedures as *skeptical actions*. He calls for research to investigate to what extent audit judgments would reflect more professional skepticism if the partner explicitly viewed exhibiting professional skepticism in a more positive light, and to what extent elements of the model interact in their effects on judgments and/or actions. Accordingly, our hypotheses examine the interactive effects of partner emphasis on professional skepticism (i.e., incentives) and the presence of fraud (i.e., evidential input) on auditors' identification of fraud risk factors and their related fraud risk assessments (i.e., skeptical judgments), and subsequent selection of fraud audit procedures (i.e., skeptical actions). Our study answers this call for research and contributes to the literature by providing an initial

test of the important links in this model, and by offering an extension of this model by examining the interactive effects of these components of professional skepticism in a fraud context.

In an experiment with 80 auditors from the Big 4 accounting firms at the manager level, we manipulate between-participants: (1) *partner emphasis* (high partner emphasis on professional skepticism or low partner emphasis on professional skepticism) and (2) the *presence of fraud* (fraud or no fraud). We measure auditors' identification of fraud risk factors, auditors' fraud risk assessments, and their choice of appropriate fraud procedures.

We find that the partner's degree of emphasis on professional skepticism and the presence or absence of fraud directly influence auditors' fraud risk assessments, consistent with Nelson's model that suggests independent and direct effects of *incentive* and *evidential input* on auditors' skeptical judgments. Specifically, we find that auditors in the high *partner emphasis* condition provide higher fraud risk assessments when fraud is present than do auditors in the low partner emphasis condition. However, when fraud is not present, those auditors in the high partner emphasis condition also provide higher fraud risk assessments than those in the low partner emphasis condition. While this result supports standard-setters' emphasis on the proper tone at the top for auditors' evaluation of fraud, it also highlights the potential costs when fraud is not present. Because we use an SEC enforcement action case where the fraud was identified by the SEC, we are able to measure the effectiveness of the fraud risk factors identified before the auditors made their fraud risk assessments and selected the audit procedures. Consistent with our interaction predictions, we find that auditors in the high emphasis condition select significantly more relevant fraud risk factors—risk factors that directly relate to the actual underlying frauds—than auditors in the low emphasis condition. We also find that auditors in the high emphasis condition select significantly more appropriate fraud audit procedures—

procedures that directly relate to the actual underlying frauds—than auditors in the low emphasis condition. Further, we find that high emphasis auditors' selection of appropriate fraud audit procedures is not simply the result of a higher number of procedures selected overall. Thus, their effectiveness is improved without sacrificing efficiency. These results are new findings and provide good news for auditors who have consistently been found to have difficulty modifying their audit procedures in response to fraud risk under previous fraud standards (Zimbelman 1997; Glover et al. 2003; Asare and Wright 2004), and are especially important because choosing appropriate fraud procedures is necessary for fraud detection (PCAOB 2007, 2008). However, we also find that auditors influenced by a low emphasis partner are *not effective* in selecting the appropriate fraud procedures (i.e., there are no significant differences between the fraud and no fraud condition). These important results highlight the costs for partners who emphasize efficiency relative to effectiveness. Moreover, these results support standard setters suggestions that the proper tone must be set by the partner in order for the benefits of professional skepticism to be realized and for auditors to effectively investigate fraud.

Overall, our results contribute to the accounting and auditing literature by providing initial evidence of some of the direct links proposed in Nelson's (2009) model on auditors' *skeptical judgments*, and provide an extension by suggesting the importance of the interactive effects of *incentives* and *evidential input* on auditors' *skeptical actions*. These results also contribute to research aimed at improving auditors' fraud judgments when fraud is present and when it is not (Nieschwietz et al. 2000). Further, our results inform standard setters and auditors in practice about the costs and benefits of partners' emphasis on professional skepticism when fraud is present and when it is not.

The remainder of this paper is organized as follows. First, we provide background information and develop our hypotheses. In the next section, we describe our experimental materials and procedures. We present our results in the following section and conclude the paper with the contributions and limitations of this research.

## II. HYPOTHESES DEVELOPMENT

### Model of Professional Skepticism in a Fraud Context

Based on his review of the accounting and auditing literature, Nelson (2009) provided a model of professional skepticism in auditing that describes how audit evidence combines with incentives to produce auditor judgments and actions that exhibit professional skepticism. Specifically, Nelson suggested that there are links between an auditors' *evidential input* and *incentives* and their *skeptical judgments* and *actions*. The model proposes a link for *incentives* that influence individual auditors' judgments and actions. He suggested that these incentives can be based on the tone at the top set by partners on the engagement who must balance tradeoffs of effectiveness and efficiency. Nelson (2009) suggested that a partner who emphasizes efficiency reduces professional skepticism, and a partner with a relative emphasis for effectiveness increases professional skepticism. Nelson (2009) also suggested that there are differences in *evidential input* (i.e., audit evidence) that auditors gather, and these differences have important consequences on their professional skepticism through their skeptical judgments and actions. Further, Nelson's (2009) model of professional skepticism refers to auditors' risk assessments as *skeptical judgments* and auditors' selected audit procedures as *skeptical actions* and suggests that *evidential input* and *incentives* influence these *judgments* and *actions* in a similar way.

### Incentives and Evidential Input

The most recent focus on professional skepticism in the profession was the result of SAS

No. 99, which stresses the importance of professional skepticism and provides examples of the application of increased professional skepticism in auditors' fraud risk factor identification, fraud risk assessments and their selected audit procedures. This standard defines professional skepticism as an attitude that includes a questioning mind. It requires auditors to evaluate the possibilities of fraud on all audits, suggesting that this will help auditors maintain professional skepticism (AICPA 2002). For this evaluation to be effective, standard setters emphasize that partners must set the proper tone at the top (AICPA 2003).

An important component of the proper tone at the top is a partner's degree of emphasis on professional skepticism. This attitude is often communicated by a partner placing relatively more emphasis on effectiveness versus efficiency. Efficiency and effectiveness tradeoffs arise from the profitability of the engagement and concerns about litigation. When evaluating the likelihood of fraud for a given client, the complexity of this tradeoff increases. Competitive pressures among the firms, as well as pressures on each engagement team to maintain a positive relationship with the client, create an incentive to maintain an efficient audit (Rich et al. 1997). Creating an opposing pressure is the fact that the capital markets rely on auditors to detect fraudulent financial reporting. If an audit fails to detect fraud when it exists, the audit firm could face significant litigation and reputation loss (Bonner et al. 1998).

The influence of these incentives can come from the partner in charge of the audit who often establishes the balance between audit efficiency and audit effectiveness (Bierstaker and Wright 2001). Psychology research suggested that when individuals know the views of their audience prior to forming an opinion, they adopt the position that they expect will gain favor with the person to whom they are accountable (see Lerner and Tetlock 1999 for a review).[2] In

[2] Hoffman and Patton (1997) evaluated the influence of accountability on auditors' fraud judgments; however, the

auditing, partner views have been shown to influence the decisions made by subordinate auditors in reliance on internal auditors (Gramling 1999), going concern judgments (Wilks 2002), and audit planning decisions (Bierstaker and Wright 2001). While this prior research has documented the partner's influence on auditors in a variety of tasks, the evidence on partners' emphasis on professional skepticism is mixed. Only Peecher (1996) and Turner (2001) examined the influence of a partner's emphasis on professional skepticism, and neither of these studies found evidence that the partner's emphasis on professional skepticism affects auditors' judgments. Further, these studies were conducted before the adoption of SAS No. 99 with its increased emphasis on professional skepticism and the influence of the partner's tone at the top (i.e., partner emphasis) on auditors' fraud judgments. Rich et al. (1997) called for research to investigate whether knowledge of a supervisor's views or preferences may negatively affect the effectiveness and efficiency of auditors' judgments and actions. Thus, it is an empirical question whether or not a partner's emphasis on professional skepticism (i.e., a relative emphasis on effectiveness versus efficiency) will affect auditors' fraud judgments.

Nelson (2009) suggested that differences in *evidential input* can also influence auditors' professional skepticism. Standard setters suggest that many auditors do not encounter material misstatement in the financial statements caused by fraud during the course of their career (AICPA 2003), but emphasize the importance of professional skepticism for improved fraud judgments (AICPA 2002, 2003). Therefore, even though SAS No. 99 is not specific as to the case when fraud is present or not, it is important to investigate the case where there is no fraud, as this is most common in practice (Nieschwietz et al. 2000). In the case where fraud is present, the company's financial statements likely contain several fraud risk factors that would not be

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influence of accountability used in their study was an "unknown preference." Our study is examining "known preferences" and we therefore focus on the literature using "known preferences."

present in the case where fraud was not present. In general, when fraud exists in a set of financial statements, auditors should be more likely to identify the fraud risk factors that are present and should produce higher fraud risk assessments, accordingly.

***Skeptical Judgments***

SAS No. 99 suggests that, when considering the possibilities of fraud, auditors should identify fraud risk factors, assess fraud risk, and develop audit procedures to test the influence of these risks on the financial statements (AICPA 2002). The auditing standard also addresses the issue of professional skepticism, specifically as it applies to the audit partner's attitude about the presence or absence of fraud. A partner who emphasizes professional skepticism, like that prescribed by standard setters, emphasizes effectiveness relative to efficiency and is concerned about the auditors not being sensitive enough to unusual balance fluctuations. As SAS No. 99 suggests, this is expected to increase an auditor's awareness of the possibility that fraud can exist, thus increasing the focus on fraud, making it more likely that the auditor will suspect fraud when it is present in the financial statements. Alternatively, a partner who does not emphasize professional skepticism, but focuses on efficiency, is concerned about auditors being too sensitive to unusual account balances. Therefore, even with the existence of fraud in the financial statements, the influence of this type of partner could prevent auditors from suspecting or identifying any fraud because they are focused on getting the work completed as quickly as possible.

Carpenter (2007) and Knapp and Knapp (2001) documented that audit managers were effective at assessing the risk of fraud (i.e., assessing fraud risk as higher when fraud is present than when it is not). Ideally, a partner's degree of emphasis on professional skepticism should not induce an auditor to suspect fraud where it does not exist, although firms have been

concerned that an increased emphasis on fraud could actually lead to inefficiencies in the audit.

To summarize, we expect the partner emphasis (i.e., a partner's degree of emphasis on professional skepticism) to affect auditors' identification of fraud risk factors and subsequent fraud risk assessments. When the partner emphasizes professional skepticism with a focus on effectiveness (high partner emphasis on professional skepticism), we predict that auditors will provide more relevant fraud risk factors and higher fraud risk assessments than when the partner places a lower emphasis on professional skepticism by putting a focus on efficiency (low partner emphasis on professional skepticism). Further, we expect the partner influence on auditors' identification of fraud risk factors and subsequent fraud risk assessments to be stronger when fraud is present in the financial statements than when it is not. The effect will be stronger because there are actual frauds in the statements, so the risk factors should be easier to identify than in the case where there is no fraud. No matter how much time and effort an auditor dedicates to the no fraud financial statements, the risk factors simply aren't as apparent when there is no fraud. That is, we expect an interaction between the level of partner emphasis on professional skepticism (i.e., high or low emphasis) and the presence or absence of fraud. Stated formally, we suggest the following hypotheses:

$H_1$: Auditors in the high *partner emphasis on professional skepticism* condition will identify a larger number of appropriate fraud risk factors than auditors in the low *partner emphasis on professional skepticism* condition, and the effect will be stronger when fraud is present in the financial statements than when fraud is not present.

$H_2$: Auditors in the high *partner emphasis on professional skepticism* condition will give higher fraud risk assessments than auditors in the low *partner emphasis on professional skepticism* condition, and the effect will be stronger when fraud is present in the financial statements than when fraud is not present.

***Skeptical Actions***

SAS No. 99 requires auditors to respond to fraud risk assessments by designing audit procedures to obtain more reliable evidence regarding management's assertions. However, even when auditors give higher fraud risk assessments when auditing financial statements that they suspect are fraudulent, they may select the same audit procedures to accompany their risk assessments as auditors who do not suspect fraud. The PCAOB, in its recent inspections, reported that even though auditors were generally able to effectively diagnose high fraud risk, they often failed to respond to these fraud risks with the appropriate audit procedures (PCAOB 2007). To make the higher risk assessments useful, auditors should follow up their risk assessments with better audit procedures intended to help uncover the suspected fraud.

Only a few prior studies have examined audit procedures selected by auditors to accompany high fraud risk assessments (Zimbelman 1997; Glover et al. 2003; Asare and Wright 2004; Hoffman and Zimbelman 2009). Zimbelman (1997) and Glover et al. (2003) found that auditors respond to high fraud risk by increasing the extent of their procedures but not the nature of these procedures. Asare and Wright (2004) found that auditors' use of a standard audit program makes them less likely to effectively change the nature of their audit procedures when responding to fraud risk. Wilks and Zimbelman (2004) suggested that auditors may have difficulty modifying the nature of their tests; however more recently Hoffman and Zimbelman (2009) have found that strategic reasoning and brainstorming can help auditors to positively adjust the nature of their audit procedures. While it is reassuring to find that auditors give higher fraud risk assessments when fraud is present than when it is not (Knapp and Knapp 2001; Carpenter 2007), it is even more important to find out if those higher risk assessments lead to the selection of better audit procedures. Contrary to prior experimental evidence, using pre-SAS No.

99 data, Mock and Turner (2005) found archival evidence that audit procedures were modified to be responsive to fraud risk assessments. They found that auditors modified the nature, timing and extent of procedures, and assigned more experienced personnel to the engagement as risk assessments increased. Brazel et al. (2009) in a field investigation examining real audits conducted under the current SAS No. 99 guidance found that auditors' procedures selected in response to fraud risk assessments were dependent on the quality of the related brainstorming sessions. As brainstorming quality increased, the positive relationship between fraud risk assessments and audit procedures became stronger. Further, they found that when brainstorming quality was low, there was little relationship between fraud risk assessments and related audit procedures. Collectively, this research provides mixed evidence, thus suggesting that the context in which the risk assessment is made and in which the related audit procedures are selected is important. Thus, whether or not partner emphasis on professional skepticism influences auditors' choice of audit procedures remains an empirical question.

If we find that the partner's degree of emphasis on professional skepticism significantly affects auditors' risk assessments, then we would also expect this tone at the top to influence the number of appropriate audit procedures the auditors select. Also, more audit procedures should be selected when fraud is present. Specifically, we predict that those auditors in the high *partner emphasis on professional skepticism* condition will choose a larger number of appropriate procedures than auditors in the low *partner emphasis on professional skepticism* condition when fraud is present. Further, we expect the influence of *partner emphasis* on the number of appropriate procedures to be stronger when fraud is present in the financial statements than when it is not. That is, we expect an interaction between the level of partner emphasis (i.e., high or low emphasis on professional skepticism) and the presence or absence of fraud. Stated formally:

$H_3$: Auditors in the high *partner emphasis on professional skepticism* condition will suggest a higher number of appropriate audit procedures than auditors in the low *partner emphasis on professional skepticism* condition, and the effect will be stronger when fraud is present in the financial statements than when fraud is not present.

## III. EXPERIMENT AND METHODOLOGY

### Participants

We examine the effects of partner preference and presence of fraud on auditors' skeptical judgments (i.e., identification of fraud risk factors and fraud risk assessments) and auditors' skeptical actions (i.e., fraud audit procedures). Audit managers are appropriate participants because they have experience in identifying fraud, assessing fraud risk and creating audit procedures that may detect it. Further, while audit seniors have been shown to be ineffective at identifying fraud (i.e., assessing fraud risk as higher when fraud is present than when it is not), managers have been shown to be effective (Carpenter 2007; Knapp and Knapp 2001). Correspondingly, audit seniors have been shown to struggle with the link between their fraud risk assessments and their choice of audit procedures (Asare and Wright 2004; Glover et al. 2003; Zimbelman 1997). Therefore, audit managers are appropriate and ideal participants for determining if improvements can be made in these complex fraud judgments. Eighty audit managers from each of the Big 4 firms with an average of 7.93 years of experience completed our experiment while attending several training sessions.[3]

### Research Design

The experiment employs a 2 x 2 design. In all parts of the experiment, we manipulate between-participants: (1) *partner emphasis* (high emphasis on professional skepticism or low emphasis on professional skepticism) and (2) the *presence of fraud* (fraud or no fraud). We

[3] Training session, firm and fraud experience were included as covariates in the analysis, but the results were not significantly different than those reported in the results section of this paper.

manipulate *partner emphasis* by informing participants that the engagement partner would like the auditors to do the following when considering the possibilities of fraud: 1) maintain an appropriate level of professional skepticism as suggested by SAS No. 99 and complete this phase of the audit as effectively as possible (high emphasis on professional skepticism), or 2) sufficiently comply with the standard, be aware of the costs, and complete this phase of the audit as efficiently as possible (low emphasis on professional skepticism).[4] This manipulation is provided in the Appendix. Even though SAS No. 99 emphasizes the case when fraud is present, it is important to investigate the case where there is no fraud, as this is most common in practice (Nieschwietz et al. 2000). We manipulate *presence of fraud* by providing either fraudulent financial statements issued by a public company or the reissued and restated (i.e., fairly stated) financials of the same company that was cited by the SEC in its enforcement actions.

As discussed previously, we provide initial tests of the links proposed in Nelson's (2009) model of professional skepticism. As such, we operationalize: 1) *evidential input* as the presence (or absence) of fraud in the case materials that auditors review containing financial statements and the results of analytical procedures; and 2) *incentives* as partner emphasis where high emphasis provides a partner influence with a relative emphasis on effectiveness over efficiency and low emphasis provides a partner influence with a relative emphasis on efficiency over effectiveness. We investigate these influences on auditors' *skeptical judgments* which we operationalize as auditors' identification of fraud risk factors and fraud risk assessments, and on auditors' *skeptical actions,* which we operationalize as auditors' choice of appropriate

[4] These partner preferences are adapted from several studies that have manipulated partner preferences (Peecher 1996; Brown et al. 1999; Gramling 1999; Bierstaker and Wright 2001; Turner 2001; Wilks 2002), and are also consistent with the effectiveness and efficiency tradeoffs modeled in Nelson (2009). They were reviewed by two audit partners from a Big 4 firm to ensure that these preferences were a reasonable representation of the tradeoffs that audit partners encounter on audits.

procedures. Further, we extend Nelson's (2009) model by investigating to what extent these model elements interact in their effects on judgments and/or actions. Our operationalized model adapted from Nelson (2009) is illustrated in Figure 1.

[Insert Figure 1 here]

Each session was observed by one of the authors to ensure that participants had the appropriate materials and followed all instructions.[5] Consistent with instructions provided in SAS No. 99, each individual auditor was provided with the case materials and was asked to examine a client's financial statements with instructions that they would be assessing the risk of fraud. The auditors were asked to assume that they were in the initial planning stages of the audit.[6] As part of these planning stage activities, the participants evaluated analytical procedures, identified fraud risk factors, assessed the risk of fraud, and determined the appropriate audit procedures to respond to the risk of fraud. They also completed a professional skepticism and demographic questionnaire.[7] They were not allowed to use reference materials or to confer with one another while completing the experiment. Participants in each session were randomly assigned to the experimental conditions. The tasks took approximately 45 minutes to complete.

Two versions of the case were constructed, one containing fraud in the financial statements as issued and detected by the SEC and cited in an *Accounting and Auditing*

[5] All participants were asked to put their names on all materials and were told that partners from their office would be reviewing a sample of the materials in the future to increase the accountability. Correspondingly, copies of samples of the completed materials were mailed to partners at the firm following the experiment.

[6] The case materials used in this study are adapted from Carpenter (2007). All case and experimental materials were reviewed by two audit partners from a Big 4 firm and were pilot tested resulting in minor wording changes.

[7] SAS No. 99 requires brainstorming sessions on all audits in the planning stage of the audit and suggests that individual auditors work on their own prior to brainstorming with the audit team (AICPA 2002, 2003). Consistent with this and with prior research (e.g., Lynch et al. 2009, Hunton and Gold 2010), our experimental materials refer to a brainstorming session where auditors will be meeting to discuss fraud and we ask them to work individually in preparation for this session. Therefore, the judgments and actions analyzed in this study are those of individual audit managers collected prior to the brainstorming session in order to provide a more isolated test of Nelson's (2009) model of professional skepticism which generally focuses on individual auditor judgments.

*Enforcement Release* (AAER), and the other containing the restated financial statements containing no fraud. A narrative description of the company which covered its management, competition, products, and markets preceded a set of financial statements with related notes that were provided for reference. The case also included several financial ratios calculated from the financial statement information.

The company disguised in this case was charged by the SEC with using a variety of techniques to overstate earnings and was required by the SEC to restate and reissue corrected financial statements. Further, the auditors were charged with lack of professional skepticism. The company paid more than $5 million in fines to the SEC for the alleged fraud. Correspondingly, litigation against the auditors and members of top management of the company is ongoing, and many of those involved have been barred from the accounting profession indefinitely. As such, the similarities of the lack of professional skepticism and fraud in the company used in this experiment to those documented in other companies charged by the SEC and PCAOB enhance the gerneralizability of the results. The originally issued financial statements were used in the fraud condition, and the restated financial statements were used in the no fraud condition. These conditions were not explicitly revealed to the participants in the case materials as auditors would be unaware of the presence or absence of fraud in their true environment.

***Dependent Measures***

We use three dependent measures to test the hypotheses in this study. We analyze auditors' identification of fraud risk factors to test $H_1$, auditors' fraud risk assessments to test $H_2$, and audit procedures to test $H_3$. To test $H_2$, participants were asked to indicate their assessment of the likelihood of fraud using an 11-point Likert scale with the endpoints labeled "Extremely Unlikely" and "Extremely Likely." To test $H_1$ and $H_3$, participants were asked to list the fraud

risk factors identified in the case and the audit procedures that they intended to perform in response to the risk of material misstatement due to fraud in the financial statements, respectively. An independent coder with prior public accounting experience, who was blind to the hypotheses and participant conditions, and one of the authors, analyzed the participants' responses. We classified a fraud risk factor and procedure as appropriate if it related to the fraudulent acts identified by the SEC that were documented in the AAER and SEC claim. In the case, there are seven different fraudulent acts that were described by the SEC. Five of these frauds (recognizing revenue that does not meet the proper criteria under GAAP, recognizing revenue in the improper period, manipulation of expenses and reserves, improper capitalization of costs, and unreasonable changes to the estimates of fair value) are described in the SAS No. 99 implementation guidance as "typical frauds." The other two frauds identified were improper deferment of tax credits and inappropriate sales of investment portfolios, which were rarely noted by auditors in this study. The restatement required by the SEC resulted in reporting new financial statements without the influence of these seven fraudulent acts. Therefore, the fraud and no fraud conditions differ only by the removal of fraud related to these seven areas. We classified a fraud risk factor as appropriate if it clearly identified a fraud specific to the case, and a procedure as an "appropriate fraud procedure" if it clearly tested for a fraud specific to the case. An example of an appropriate fraud procedure is "test for fraud by varying locations tested and varying audit procedures from historical procedures, such as testing cutoff earlier in period rather than just on the last days of the month." Whereas, a response of "test for improper revenue recognition" would not have been sufficient as this answer does not specifically provide details about the fraud in the case materials. Coders agreed 94% and 92% of the time, respectively, and all differences were mutually resolved.

## IV. RESULTS

### Manipulation check

Data from all auditors indicate that the manipulation of *emphasis on professional skepticism* was successful. All participants remembered the emphasis of the partner when asked in the debriefing questionnaire. Data from all auditors also indicates that the manipulation of presence of fraud was successful. We examined whether there were differences in participants across the fraud and no fraud conditions. Auditors' mean fraud risk assessments in the fraud and no fraud condition were 7.08 and 6.13, respectively. These risk assessments are significantly different ($p = 0.005$), and thus indicate a successful manipulation of *the presence of fraud*.

### Hypotheses Testing

To examine H1, 2 and 3, we compute a MANOVA using number of appropriate fraud risk factors, fraud risk assessments and appropriate fraud procedures as the dependent variables and using partner emphasis and presence of fraud as the independent variables. Tables 1, 2 and 3 contain the univariate results from the MANOVA for the appropriate fraud risk factors, fraud risk assessments, and appropriate fraud procedures dependent variables, respectively. H1, 2 and 3 predict an interaction between partner emphasis and presence of fraud on the appropriate fraud risk factors, fraud risk assessments and appropriate fraud procedures, respectively. The MANOVA model (untabulated) reveals a significant interaction ($p = 0.003$ based on Wilks' Lambda). The univariate ANOVA presented in Table 1, Panel B shows that the interaction is significant for our first dependent variable, appropriate fraud risk factors ($p = 0.032$), Table 2, Panel B shows that the interaction is not significant for our second dependent variable, fraud risk assessments ($p = 1.000$), and Table 3, Panel B shows the interaction is significant for our third dependent variable, appropriate fraud procedures ($p = 0.002$).

H1 predicts that auditors in the high *partner emphasis on professional skepticism* condition will provide a larger number of appropriate fraud risk factors than auditors in the low *partner emphasis on professional skepticism* condition, and that this effect will be stronger when fraud is present than when it is not present. As discussed previously, this suggests an interaction between *partner emphasis* and *presence of fraud*. Panel A of Table 1 presents the means for the identification of fraud risk factors. Panel B of Table 1 presents the related ANOVA with *partner emphasis* (high emphasis on professional skepticism or low emphasis on professional skepticism) and *presence of fraud* (fraud or no fraud) as the between-participants independent variables, and Figure 2 illustrates the related data.

[Insert Table 1 and Figure 2 here]

Table 1, Panel A shows that the mean number of appropriate fraud risk factors identified by auditors in the high *partner emphasis* (*on professional skepticism)* condition was 1.80 in the fraud condition, while those auditors in the high *partner emphasis* condition in the no-fraud condition generated a mean of 0.80 appropriate fraud risk factors. In the low *partner emphasis (on professional skepticism)* condition, auditors in the fraud condition generated 0.60 appropriate fraud risk factors and auditors in the no-fraud condition generated 0.55 appropriate fraud risk factors. There is a significant interaction ($p = 0.032$) between *presence of fraud* and *partner emphasis*. This supports $H_1$.

Additional analysis reveals that when fraud is present, auditors in the high *emphasis on professional skepticism* condition provide a significantly higher number of appropriate fraud risk factors than those provided by auditors in the low *partner emphasis* condition ($p = 0.001$). Further, when auditors experience a high emphasis on professional skepticism by the partner, their choice of appropriate fraud risk factors is more effective, i.e., there are a higher number of

appropriate fraud risk factors identified when fraud is present than when fraud is not present ($p = 0.018$). In contrast, when auditors experience a low emphasis on professional skepticism by the partner, there is no significant difference in their choice of appropriate fraud risk factors between the fraud and no fraud conditions ($p = 0.836$). These results provide additional support for $H_1$.

H2 predicts that auditors in the high *partner emphasis on professional skepticism* condition will give higher fraud risk assessments than auditors in the low *partner emphasis on professional skepticism* condition, and that this effect will be stronger when fraud is present than when it is not present. As discussed previously, this suggests an interaction between *partner emphasis* and *presence of fraud*. Panel A of Table 2 presents the means for the fraud risk assessments. Panel B of Table 2 presents the related ANOVA with *partner emphasis* (high or low) and *presence of fraud* (fraud or no fraud) as the between-participants independent variables, and Figure 3 illustrates the related data.

[Insert Table 2 and Figure 3 here]

Table 2, Panel A shows that the mean fraud risk assessed by auditors in the high *partner emphasis on professional skepticism* condition was 6.88, while auditors in the low *partner emphasis on professional skepticism* condition provided a mean fraud risk assessment of 6.33. The mean fraud risk assessed in the fraud condition was 7.08, while auditors in the no fraud condition provided a mean of 6.13. The ANOVA results in Panel B of Table 2 do not show a significant interaction ($p = 1.000$). However, the results show a main effect for the *presence of fraud* ($p = 0.005$) and for *partner emphasis* ($p = 0.064$). This provides partial support for $H_2$.

H3 predicts that auditors in the high *partner emphasis on professional skepticism* condition will suggest a higher number of appropriate audit procedures than auditors in the low partner emphasis on *professional skepticism* condition, and this effect will be stronger when

fraud is present than when fraud is not present. Thus, as discussed previously, an interaction between *presence of fraud* and *partner emphasis* is predicted. Panel A of Table 3 presents the means for the number of appropriate fraud procedures. Panel B of Table 3 presents the related ANOVA, and Figure 4 illustrates the related data.

[Insert Table 3 and Figure 4 here]

Table 3, Panel A shows that the mean number of appropriate fraud procedures generated by auditors in the high *partner emphasis* condition was 1.90 in the fraud condition, while those auditors in the high *partner emphasis* condition in the no-fraud condition generated a mean of 0.55 appropriate fraud audit procedures. In the low *partner emphasis* condition, auditors in the fraud condition generated 0.65 procedures and auditors in the no-fraud condition generated 0.70 procedures. There is a significant interaction ($p = 0.002$) between *presence of fraud* and *partner emphasis*. This supports $H_3$.

Additional analysis reveals that when fraud is present, auditors in the high *partner emphasis on professional skepticism* condition provide a significantly higher number of appropriate procedures than those provided by auditors in the low *partner emphasis* condition ($p = 0.001$). Further, when auditors experience a high partner emphasis on professional skepticism, their choice of appropriate procedures is more effective, i.e., they provide a higher number of appropriate procedures to detect fraud when fraud is present than when fraud is not present ($p = 0.005$). In contrast, when auditors experience a low partner emphasis on professional skepticism, there is no significant difference in their choice of appropriate procedures between the fraud and no fraud conditions ($p = 0.841$). These results provide additional support for $H_3$.

Additional analysis was performed with total audit procedures to evaluate if auditors in the high *partner emphasis* condition simply selected more procedures, and were thus somewhat

inefficient, or whether their effectiveness (i.e., higher number of appropriate procedures when fraud is present than when it is not) was improved without sacrificing efficiency. A 2 x 2 ANOVA was conducted with *partner emphasis* (high or low) and *presence of fraud* (fraud or no fraud) as the between-participants independent variables and total number of audit procedures as the dependent variable. There is no significant interaction ($p = 0.421$), and there are no significant main effects for *partner emphasis* ($p = 0.348$) or *presence of fraud* ($p = 0.893$). This suggests that the effectiveness in the selection of "appropriate fraud procedures" that auditors in the high partner emphasis condition exhibited was not simply the result of a higher number of procedures selected overall. Thus, their effectiveness was improved without sacrificing efficiency.

**Supplemental Analyses**

***Measuring Professional Skepticism***

While it is important to understand the effect of a partner's emphasis on professional skepticism on auditors' fraud judgments, it is also important to test the effect of this emphasis on an auditor's professional skepticism. Nelson (2009), in his review of the literature on professional skepticism, discussed the use of the Hurtt (2009) scale for measuring professional skepticism as a *trait* of individual auditors. Specifically, he suggested that this trait, among others suggested in his model, is fixed by the time an auditor commences audit training and practice. However, SAS No. 99 requires auditors to maintain professional skepticism when evaluating the likelihood of fraud, and suggests the need for auditors to be reminded of fraud and that management may not be honest. Further, standard setters suggest that the proper tone at the top must be set by partners for the benefits of professional skepticism to be realized (AICPA 2003). This implies that an auditor's professional skepticism can be influenced by the tone at the

top set by the partner, resulting in important implications for auditors' fraud judgments. It seems reasonable that when the partner emphasizes professional skepticism, auditors will have higher individual skepticism scores than when the partner does not emphasize professional skepticism. On the other hand, professional skepticism may be a *trait* that is fixed and not malleable. Thus, it is unclear whether or not it will be influenced by the partner emphasis. It is also unclear what influence the presence or absence of fraud will have on an auditor's professional skepticism.[8]

Therefore, we measure auditors' professional skepticism with a scale developed by Hurtt (2009), which uses a six characteristic scale to measure an individual's inherent skepticism. This 30-item psychology-based instrument was developed from writings on skepticism found in philosophy (e.g., Annas and Barnes 1985; Burnyeat 1983; Hookway 1990). The characteristics she used are also supported in SAS No. 99 (AICPA 2002) and are based on the audit theory formulated by Mautz and Sharaf (1961).[9] The Hurtt (2009) study validated this scale using auditors and students. The professional skepticism of the participants used in the Hurtt (2009) scale development was tested twice in order to provide test-retest reliability. This scale is comprised of 30 questions designed to capture six primary characteristics of an individual. These include: a questioning mind, suspension of judgment, need to search for knowledge, interpersonal understanding, self-confidence and self-determination. Each question had a scale from 0 to 6 and thus the maximum score that could be achieved was 180. Using the scoring technique Hurtt (2009) developed, we measure an individual's professional skepticism score.

[8] Because we measured an individual's skepticism following the partner emphasis and the presence of fraud manipulations, this individual skepticism can reflect the influence of both of these variables and allows us to test the influence of these manipulated independent variables on auditors' individual skepticism.

[9] One other study attempts to measure professional skepticism based on a model of trust and suspicion (Shaub and Lawrence 1996). However, Doucet and Doucet (1996) suggest that standards provide a more neutral definition for professional skepticism. Therefore, we use the Hurtt (2009) scale as our comprehensive measure.

Panel A of Table 4 presents the descriptive statistics for individual skepticism scores. Panel B presents the related ANOVA with *partner emphasis* (high emphasis on professional skepticism or low emphasis on professional skepticism) and *presence of fraud* (fraud or no fraud) as the between-participants independent variables.

[Insert Table 4 here]

Table 4, Panel A shows that the mean individual skepticism scores of auditors in the high *partner emphasis* condition was 139.00, while auditors in the low *partner emphasis* condition had a mean individual skepticism score of 142.97. The main effect for *partner emphasis* presented in Panel B is not significant, and the main effect for *presence of fraud* is not significant. Individual skepticism scores of auditors in the high *partner emphasis* condition are not significantly higher than the individual skepticism scores of auditors in the low *partner emphasis* condition ($p = 0.136$, $p = 0.672$, respectively). This is consistent with Hurtt's (2009) and Nelson's (2009) suggestion that professional skepticism, as measured by this scale, may be a *trait* that is fixed by the time an auditor commences audit training and practice and is thus not malleable as standard setters suggest (AICPA 2002, 2003). So while a partner's emphasis on professional skepticism positively influences auditors' fraud risk assessments (i.e., they are appropriately higher when fraud is present), and auditors' choice of appropriate fraud risk factors and fraud procedures, it does not influence professional skepticism as a *trait as* measured by the Hurtt (2009) scale.

We also conducted additional analysis with this measured professional skepticism variable to determine its explanatory power on auditors' skeptical judgments (i.e., appropriate fraud risk factors and fraud risk assessments) and auditors' skeptical actions (i.e., fraud audit procedures). We used a MANOVA with the number of appropriate fraud risk factors, fraud risk

assessments, and appropriate fraud procedures as the dependent variables and using measured professional skepticism (as measured by the Hurtt 2009 scale) as the independent variable. The MANOVA model (untabulated) reveals no significant effect ($p = 0.158$ based on Wilks' Lambda). The univariate ANOVAs (untabulated) also show no significant effect on appropriate fraud risk factors ($p = 0.465$), on fraud risk assessments ($p = 0.197$), or on appropriate fraud procedures ($p = 0.162$).[10]

## V. SUMMARY AND CONCLUSIONS

In this study, we provide the initial test of some of the components of Nelson's (2009) model of professional skepticism by examining the effects of partner emphasis (i.e., incentives) and the presence of fraud (i.e., evidential input) on auditors' identification of appropriate fraud risk factors and fraud risk assessments (i.e., skeptical judgments), and choice of appropriate fraud audit procedures (i.e., skeptical actions), and we answer his additional call for research to extend his model by examining the interactive effects of these model elements.

The results of this investigation provide several implications that are informative about auditors' fraud judgments and actions when fraud is present and when it is not. First, results from our experiment suggest that partner emphasis (i.e., a partner's emphasis on professional skepticism) significantly influences auditors' fraud risk assessments, consistent with Nelson's (2009) direct link between incentives and skeptical judgments. Specifically, those auditors who experience a high partner emphasis provide higher fraud risk assessments when fraud is present than do auditors who experience a low partner emphasis. However, when fraud is not present,

[10] Additionally, we compute a MANCOVA, using number of appropriate fraud risk factors, fraud risk assessments and appropriate fraud procedures as the dependent variables, using partner emphasis and presence of fraud as independent variables and measured professional skepticism as a covariate. There is no significant influence of this professional skepticism variable ($p = 0.120$) and the inferences of our results from our hypotheses testing are unchanged.

auditors who experience a high partner emphasis on professional skepticism still provide higher fraud risk assessments than auditors who experience a low partner emphasis on professional skepticism. While these results support standard-setters' emphasis that partners should set the proper tone at the top suggesting benefits for auditors' evaluation of fraud, they also highlight the potential costs that may exist in the case where fraud is not present, which is more common in practice.

Consistent with our interaction predictions, we find that partner emphasis (on professional skepticism) significantly influences auditors' choice of appropriate fraud risk factors (i.e., skeptical judgments) and fraud audit procedures (i.e., skeptical actions) when fraud is present. Specifically, we find that auditors in the high *partner emphasis* condition select significantly more appropriate fraud risk factors and audit procedures than auditors in the low *partner emphasis* condition. Further, we find that auditors in the high *partner emphasis* condition have greater effectiveness (i.e., a higher number of appropriate fraud risk factors and fraud procedures when fraud is present than when it is not) without sacrificing efficiency. These results are new findings and are important as they suggest that auditors do respond to the risk of fraud with appropriate fraud procedures, as benchmarked by frauds identified by the SEC, but only when they experience a high partner emphasis on professional skepticism. SAS No. 99 suggests that the proper tone at the top must be set by the partner for auditors' investigations of fraud, and prior research and the PCAOB has found that auditors' procedures are not always appropriately responsive to the risk of fraud (PCAOB 2007; Zimbelman 1997; Glover et al. 2003; Asare and Wright 2004). Therefore, these results provide evidence that the proper tone set by the partner can have a positive and important influence on auditors' fraud judgments. This is good news

because setting a high tone at the top is a relatively easy and low cost way to increase the effectiveness of auditors' fraud judgments.

Further, these results highlight the possible negative implications for partners who do not emphasize professional skepticism, but instead emphasize efficiency relative to effectiveness. The results suggest that auditors who experience a low partner emphasis on professional skepticism are *not effective* in choosing appropriate audit procedures that distinguish fraud and no fraud as there are no differences across the fraud and no fraud conditions. The influence of an emphasis on efficiency dampens the auditors' choice of procedures in the fraud condition, so that they are equivalent to those chosen in the no fraud condition. This has important implications to audit firms as they consider the tradeoffs between effectiveness and efficiency and the influence of partners' tone on auditors' fraud judgments.

These results also contribute to the accounting literature by documenting the direct links of Nelson's (2009) model between *incentives* and *skeptical judgments* and extending this model to document the interactive effects of *evidential input* and *incentives* on *skeptical actions*. Further, the results offer a contribution to fraud research where mixed results have been documented on the link between auditors' fraud risk assessments and their planned audit procedures (e.g., Zimbelman 1997; Glover et al. 2003; Asare and Wright 2004; Hoffman and Zimbelman 2009; Brazel et al. 2009) by showing that the proper tone at the top set by the partner can positively influence auditors and provides a context where auditors can appropriately respond to the risk of fraud with appropriate procedures. Since standard setters suggest that, for fraud to be detected, appropriate fraud procedures must be designed to investigate the potentially fraudulent areas, our results provide a contribution to the accounting and auditing literature as well as to auditors and standard setters as we find that auditors do respond to the risk of fraud

with appropriate testing, but only when they are influenced by a partner who emphasizes professional skepticism.

In conclusion, this study is one of few that have examined auditors' professional skepticism and auditors' choice of appropriate audit procedures and provides a contribution to the literature by examining the influence of partner emphasis on professional skepticism. The importance of this investigation has recently increased as a result of SAS No. 99 (AICPA 2002) and the PCAOB inspections (PCAOB 2007, 2008). Our results also offer a contribution to accounting research aimed at improving auditors' multi-faceted fraud judgments when fraud is present and when it is not (Nieschwietz et al. 2000) and answers the call for accounting research on professional skepticism (Nelson 2009) and for research that investigates contexts where auditors may appropriately respond to fraud risk (Asare and Wright 2004; Hoffman and Zimbelman 2009).

This study is subject to some limitations. First, the "appropriate" fraud risk factors and fraud audit procedures are only those risk factors and procedures directly related to the frauds identified by the SEC in the fraud case. This limits the amount of responses that were coded as appropriate. Other tests could have been appropriate audit tests in general, but were not coded as appropriate fraud procedures because they did not specifically test for the fraud in the case materials. Second, we examined two opposite ends of the spectrum of levels of partner emphasis on professional skepticism. While Big 4 partners reviewed these levels of partner emphasis and confirmed that they were consistent with the tradeoffs partners encounter in practice, future studies may want to investigate some of the intermediate levels of partner emphasis.

## TABLE 1
## Auditor Appropriate Fraud Risk Factors

*Panel A: Mean Auditor Fraud Risk Factors (Standard Deviation)*[a, b]

| *Presence of Fraud* | *Partner Emphasis* | | |
|---|---|---|---|
| | *High Partner Emphasis on Professional Skepticism* | *Low Partner Emphasis on Professional Skepticism* | *Overall Mean* |
| *Fraud* | 1.80 (1.52) | 0.60 (0.82) | 1.20 |
| *No Fraud* | 0.80 (1.52) | 0.55 (0.69) | 0.68 |
| *Overall Mean* | 1.30 | 0.58 | |

*Panel B: Results of an ANOVA of Partner Emphasis and Presence of Fraud on Auditor Fraud Risk Factors*

| *Source of Variation* | *Df* | *SS* | *MS* | *F-statistic* | *p-value* |
|---|---|---|---|---|---|
| *Partner Emphasis* | 1 | 10.51 | 10.51 | 11.07 | 0.001 |
| *Presence of Fraud* | 1 | 5.51 | 5.51 | 5.81 | 0.018 |
| *Partner Emphasis x Presence of Fraud* | 1 | 4.51 | 4.51 | 4.75 | 0.032 |
| *Error* | 76 | 72.15 | 0.95 | | |

[a] Descriptive statistics are for participants' fraud risk factors. The means represent the cell mean for *partner emphasis* (high emphasis on professional skepticism, low emphasis on professional skepticism) and *presence of fraud* (fraud, no fraud) treatment combinations. N=20 in each cell, with a total of 80 individual auditors.

[b] Participants were asked to list the fraud risk factors in the financial statements provided in the case materials. The appropriate fraud risk factors were those listed that related to the fraudulent acts identified by the SEC that were documented in the AAER and SEC claim.

## TABLE 2
## Auditor Fraud Risk Assessments

*Panel A: Mean Auditor Fraud Risk Assessments (Standard Deviation)*[a, b]

| *Presence of Fraud* | *Partner Emphasis* | | |
|---|---|---|---|
| | *High Partner Emphasis on Professional Skepticism* | *Low Partner Emphasis on Professional Skepticism* | *Overall Mean* |
| *Fraud* | 7.35 (1.50) | 6.80 (1.88) | 7.08 |
| *No Fraud* | 6.40 (1.31) | 5.85 (1.63) | 6.13 |
| *Overall Mean* | 6.88 | 6.33 | |

*Panel B: Results of an ANOVA of Partner Emphasis and Presence of Fraud on Auditor Fraud Risk Assessments*

| *Source of Variation* | *Df* | *SS* | *MS* | *F-statistic* | *p-value (one-tailed*)* |
|---|---|---|---|---|---|
| *Partner Emphasis* | 1 | 6.05 | 6.05 | 2.38 | *0.064 |
| *Presence of Fraud* | 1 | 18.05 | 18.05 | 7.10 | *0.005 |
| *Partner Emphasis x Presence of Fraud* | 1 | 0.00 | 0.00 | 0.00 | 1.000 |
| *Error* | 76 | 193.10 | 2.54 | | |

[a] Descriptive statistics are for participants' fraud risk assessments. The means represent the cell mean for *partner emphasis* (high emphasis on professional skepticism, low emphasis on professional skepticism) and *presence of fraud* (fraud, no fraud) treatment combinations. N=20 in each cell, with a total of 80 individual auditors.
[b] Participants were asked to provide a fraud risk assessment, the likelihood of financial statement fraud, on an 11-point Likert scale with endpoints labeled 0, extremely unlikely, and 10, extremely likely.

## TABLE 3
## Auditor Appropriate Fraud Audit Procedures

*Panel A: Mean Auditor Fraud Audit Procedures (Standard Deviation)*[a, b]

| *Presence of Fraud* | *Partner Emphasis* | | |
|---|---|---|---|
| | *High Partner Emphasis on Professional Skepticism* | *Low Partner Emphasis on Professional Skepticism* | *Overall Mean* |
| *Fraud* | 1.90 (1.45) | 0.65 (0.67) | 1.50 |
| *No Fraud* | 0.55 (0.66) | 0.70 (0.92) | 0.63 |
| *Overall Mean* | 1.23 | 0.68 | |

*Panel B: Results of an ANOVA of Partner Emphasis and Presence of Fraud on Auditor Appropriate Fraud Audit Procedures*

| *Source of Variation* | *Df* | *SS* | *MS* | *F-statistic* | *p-value* |
|---|---|---|---|---|---|
| *Partner Emphasis* | 1 | 6.05 | 6.05 | 6.09 | 0.016 |
| *Presence of Fraud* | 1 | 8.45 | 8.45 | 8.51 | 0.005 |
| *Partner Emphasis x Presence of Fraud* | 1 | 9.80 | 9.80 | 9.87 | 0.002 |
| *Error* | 76 | 75.50 | 0.99 | | |

[a] Descriptive statistics are for participants' fraud audit procedures. The means represent the cell mean for *partner emphasis* (high emphasis on professional skepticism, low emphasis on professional skepticism) and *presence of fraud* (fraud, no fraud) treatment combinations. N=20 in each cell, with a total of 80 individual auditors.

[b] Participants were asked to list the audit procedures that they intended to perform in response to the risk of material misstatement due to fraud in the financial statements. The appropriate fraud audit procedures were those listed that related to the fraudulent acts identified by the SEC that were documented in the AAER and the SEC claim.

## TABLE 4
## Auditor Measured Individual Skepticism

*Panel A: Mean Auditor Measured Individual Skepticism (Standard Deviation)*[a, b]

| *Presence of Fraud* | *Partner Emphasis* | | |
|---|---|---|---|
| | *High Partner Emphasis on Professional Skepticism* | *Low Partner Emphasis on Professional Skepticism* | *Overall Mean* |
| *Fraud* | 140.05 (10.05) | 140.80 (12.00) | 140.43 |
| *No Fraud* | 137.95 (11.99) | 145.15 (12.89) | 142.55 |
| *Overall Mean* | 139.00 | 142.97 | |

*Panel B: Results of an ANOVA of Partner Emphasis and Presence of Fraud on Measured Auditor Skepticism*

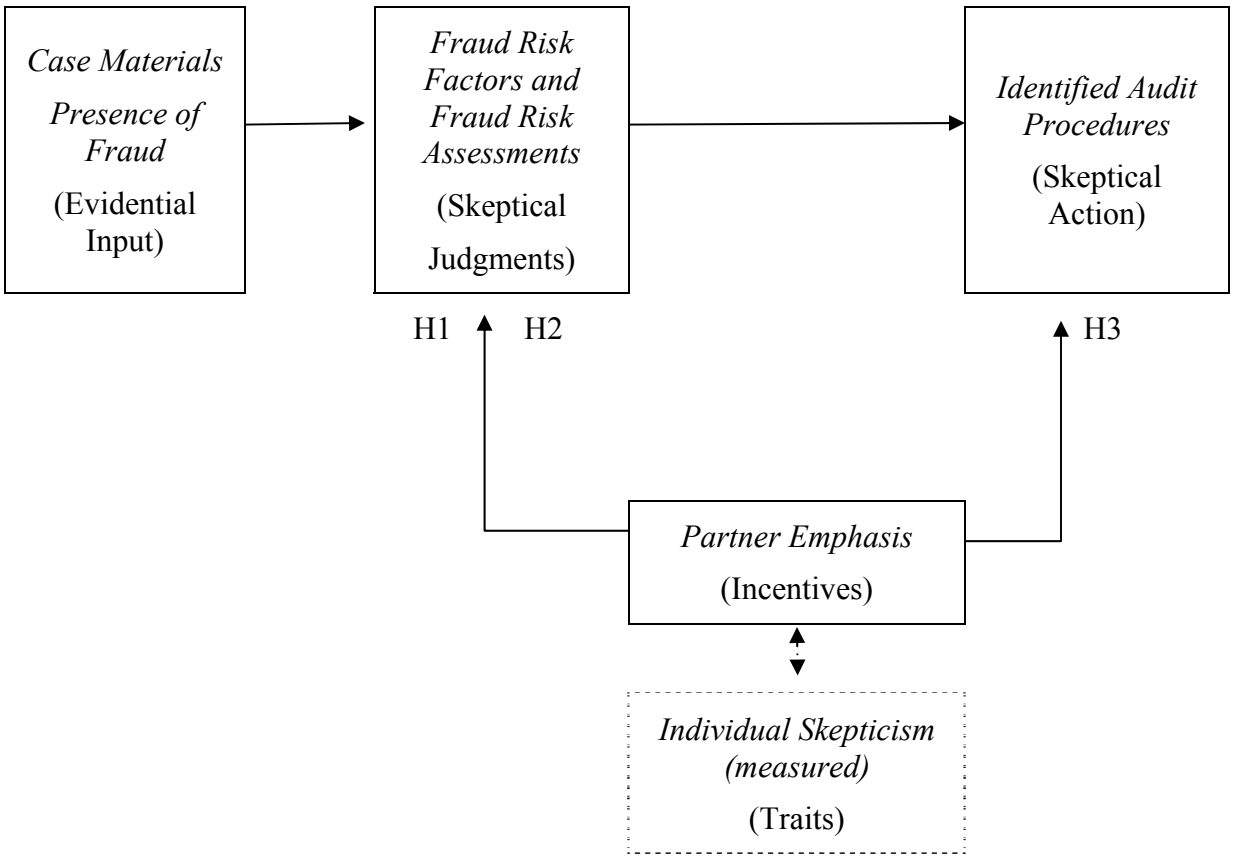
| *Source of Variation* | *Df* | *SS* | *MS* | *F-statistic* | *p-value* |
|---|---|---|---|---|---|
| *Partner Emphasis* | 1 | 316.01 | 316.01 | 2.28 | 0.136 |
| *Presence of Fraud* | 1 | 25.31 | 25.31 | 0.18 | 0.672 |
| *Partner Emphasis x Presence of Fraud* | 1 | 208.01 | 208.01 | 1.50 | 0.225 |
| *Error* | 76 | 10545.65 | 138.70 | | |

[a] Descriptive statistics are for participants' measured skepticism scores. The means represent the cell mean for *partner emphasis* (high emphasis on professional skepticism, low emphasis on professional skepticism) and *presence of fraud* (fraud, no fraud) treatment combinations. N=20 in each cell, with a total of 80 individual auditors.

[b] Participants were asked to complete a 30-item skepticism questionnaire that was scored according to Hurtt (2009). Each question had a scale from 0 to 6 and thus the maximum score that could be achieved was 180.

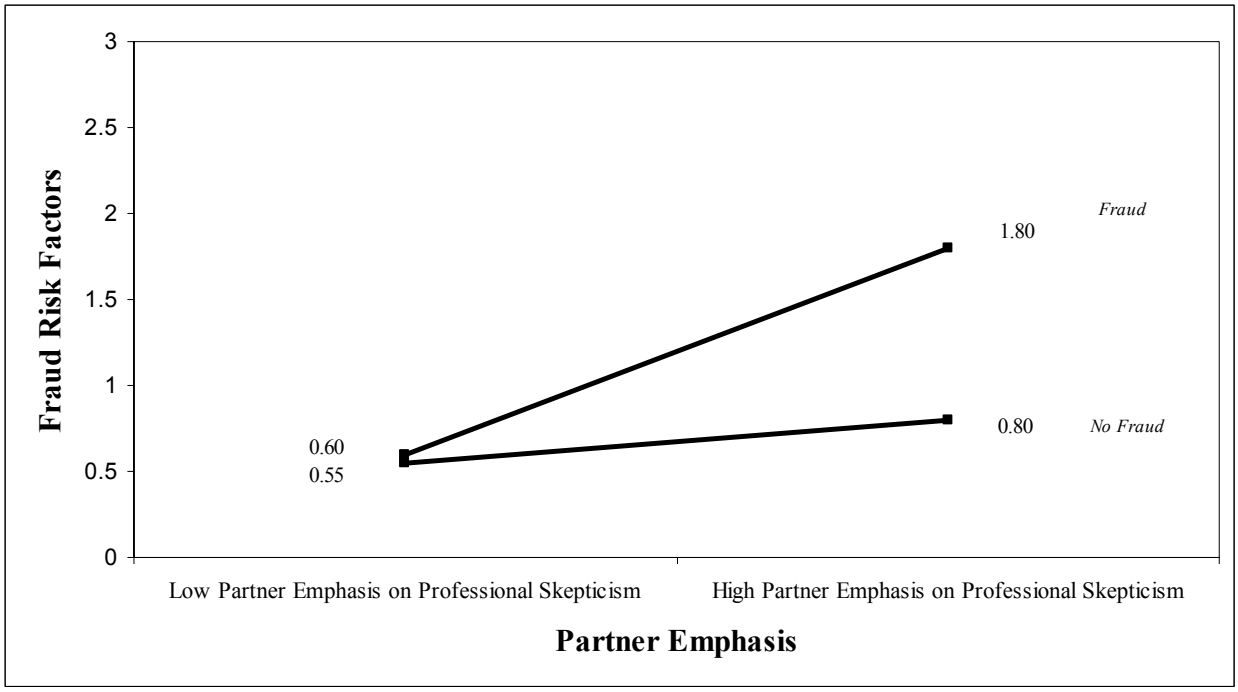
**FIGURE 1**

Model of Professional Skepticism




This model is adapted from Nelson (2009). The italics reflect our operationalization of the constructs that Nelson's model proposed which are illustrated in parentheses. We test this model using case materials as the evidential input that all participants receive. Our two independent variables include: *Presence of fraud* (fraud or no fraud) is manipulated in this initial stimulus, and *Partner emphasis* which induces incentives for auditors coming from a partner's influence with a relative emphasis toward effectiveness versus efficiency. We also measure *Individual Skepticism* using Hurtt's (2009) scale. Our dependent variables include fraud risk factors identified, and fraud risk assessments (i.e., skeptical judgments) and fraud audit procedures selected (i.e., skeptical actions).

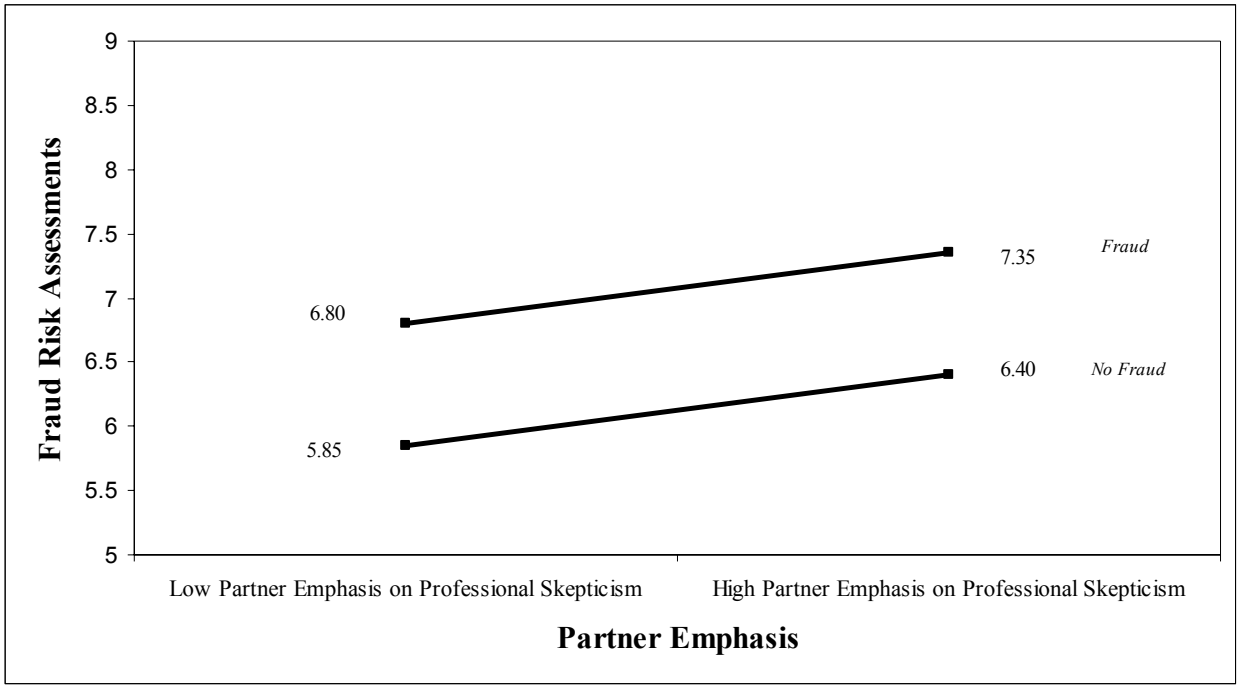
**FIGURE 2**
**Auditors' Appropriate Fraud Risk Factors**




This figure illustrates the mean overall number of appropriate fraud risk factors listed by auditors for the *partner emphasis* and *presence of fraud* (fraud, no fraud) treatment combinations. Participants were asked to list the risks of material misstatement of the financial statements due to fraud. The appropriate fraud risk factors were those listed that related to the fraudulent acts identified by the SEC that were documented in the AAER and SEC claim.

## FIGURE 3

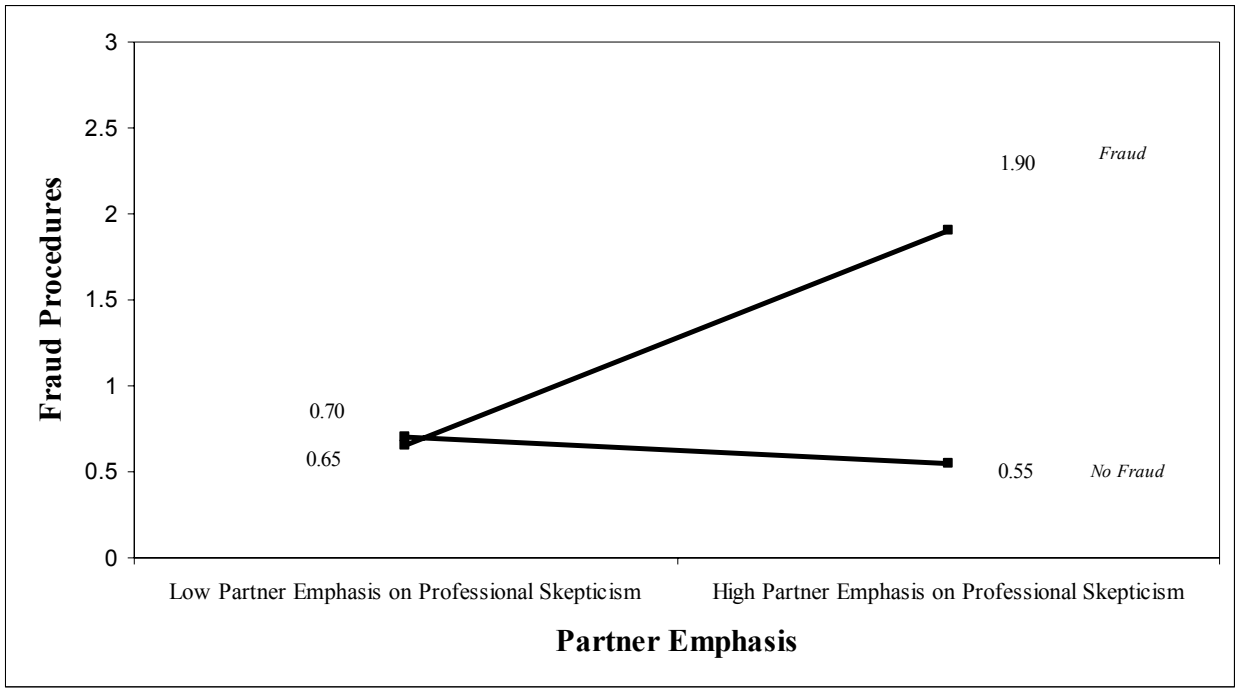
## Auditors' Fraud Risk Assessments




This figure illustrates the mean fraud risk assessments for *partner emphasis* and *presence of fraud* treatment combinations. Participants were asked to evaluate the likelihood of fraud on an 11-point Likert scale with endpoints labeled 0, extremely unlikely and 10, extremely likely.

## FIGURE 4

## Auditors' Appropriate Fraud Audit Procedures




This figure illustrates the mean overall number of appropriate fraud procedures listed by auditors for the *partner emphasis* and *presence of fraud* (fraud, no fraud) treatment combinations. Participants were asked to list the procedures they intended to perform in response to the risk of material misstatement of the financial statements due to fraud. The appropriate fraud procedures were those listed that related to the fraudulent acts identified by the SEC that were documented in the AAER and SEC claim.

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## APPENDIX

### *Partner Emphasis* Manipulations

*High Partner Emphasis on Professional Skepticism*- The engagement partner on this audit expressed numerous times his concern about implementing brainstorming on this engagement with a sufficient level of professional skepticism. Specifically, he is concerned about the audit team members not being sensitive enough to unusual account balance fluctuations noted in the initial analytical procedures, as this insensitivity may lead to costly litigation or losses to the reputation of the firm. He would like you to approach the assessment of fraud risk and the associated brainstorming with the appropriate level of professional skepticism as suggested by the standard and to complete this phase of the audit as effectively as possible.

*Low Partner Emphasis on Professional Skepticism*- The engagement partner on this audit expressed numerous times his concern about the associated costs of implementing brainstorming on this engagement. Specifically, he is concerned about the audit team members being overly sensitive to unusual account balance fluctuations noted in the initial analytical procedures, as this sensitivity may lead to costly increases in unjustified investigations and efficiency losses on the audit. He would like the assessment of fraud risk and the associated brainstorming to be sufficient to comply with the standard, but he hopes that you will be aware of the costs and complete this phase of the audit as efficiently as possible.