

The Effect of Audit Standards on Fraud Consultation and Auditor Judgment

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| Abstract | <p>We investigate how the strictness of a requirement to consult on potential client fraud affects auditor assessments of fraud risk and the propensity to consult with firm experts. We test two specific forms of guidance about fraud consultations: (1) relatively strict (i.e., mandatory and binding) and (2) relatively lenient (i.e., advisory and non-binding). We predict that a strict consultation requirement will lead to greater propensity to consult and higher fraud risk assessments. We further investigate potentially amplifying effects of a client attribute (underlying fraud risk) and an engagement attribute (deadline pressure). Results from two experiments with 208 Dutch audit managers and partners demonstrate that fraud risk and the consultation propensity are both assessed higher under a strict consultation requirement. For near-partners and partners, this effect is compounded when a client exhibits significant red flags; for managers, it is compounded when deadline pressure is tight. This study demonstrates that the formulation of a standard, such as the consultation requirement, may create adverse incentives that bias risk assessment, which should be considered by regulators and audit firms when developing, formulating and implementing such procedures.</p> |
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**THE EFFECT OF AUDIT STANDARDS ON
FRAUD CONSULTATION AND AUDITOR JUDGMENT**

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The Effect of Audit Standards on Fraud Consultation and Auditor Judgment

ABSTRACT: We investigate how the strictness of a requirement to consult on potential client fraud affects auditor assessments of fraud risk and the propensity to consult with firm experts. We test two specific forms of guidance about fraud consultations: (1) relatively strict (i.e., mandatory and binding) and (2) relatively lenient (i.e., advisory and non-binding). We predict that a strict consultation requirement will lead to greater propensity to consult and higher fraud risk assessments. We further investigate potentially amplifying effects of a client attribute (underlying fraud risk) and an engagement attribute (deadline pressure). Results from two experiments with 208 Dutch audit managers and partners demonstrate that fraud risk and the consultation propensity are both assessed higher under a strict consultation requirement. For near-partners and partners, this effect is compounded when a client exhibits significant red flags; for managers, it is compounded when deadline pressure is tight. This study demonstrates that the formulation of a standard, such as the consultation requirement, may create adverse incentives that bias risk assessment, which should be considered by regulators and audit firms when developing, formulating and implementing such procedures.

Keywords: audit standards, consultation requirement; fraud risk assessment; consultation propensity; deadline pressure; red flags; motivated reasoning.

The Effect of Audit Standards on Fraud Consultation and Auditor Judgment

I. INTRODUCTION

All major audit firms have established technical departments to consult with field auditors about issues in the audit, which reflect heightened risk or are technically complex (Gibbins and Emby 1985; Gibbins and Mason 1988; Salterio 1994). Such consultations may be desirable when a client has undertaken material and complex transactions (e.g., mergers or financial derivatives), there are significant valuation issues (e.g., impairment of goodwill), questions arise as to the ability of the client to continue as a going concern (Salterio and Denham 1997), or there are indications of potential financial statement fraud. While consultation is usually encouraged as a matter of firm policy, the *extent* of consultation is often left to the discretion of individual auditors (Salterio and Denham 1997). Recent accounting scandals, however, have led to more formal rules about audit team consultations regarding the possibility of fraud (AICPA 2004; IFAC 2004).

In the Netherlands, ISA 240 (IFAC 2004) has been expanded to include a requirement that an auditor consult with technical experts when a client exhibits indications of potential fraud (NIVRA 2007). The purpose of the new requirement is to increase the likelihood of identifying fraudulent behavior and to improve the adequacy of subsequent actions, such as planning of additional audit procedures to further investigate indications of potential fraud. However, the Dutch standard on fraud consultation does not specify the manner in which the consultation procedures should be implemented and firms are allowed flexibility in structuring their procedures. At one extreme, the consultation requirement could be relatively strict, mandating the field auditor to consult and act on the advice of the expert consulted (i.e., mandatory and binding). At the other extreme, the consultation requirement could be relatively lenient, allowing

the field auditor to decide whether or not to consult or act on the advice of the expert (i.e., advisory and non-binding).

At the time of this study, Dutch audit firms were in the process of transitioning their fraud consultation procedures to comply with the new standard. From interviews with partners at all participating firms and open-ended questions in the experimental survey, we learned that there was a noticeable variance in perceptions of how strictly the consultation requirement would be enforced. Further, some auditors had received rudimentary training concerning the *general* requirement but with limited firm-specific details, especially whether advice from a consultant should be considered binding. Thus, we conclude that the topic was salient to our participants but implementation of the new standard was not yet fully developed, resulting in a diversity in practice that would be expected to narrow as firm policies became more settled. These conditions provided a unique window of opportunity to study different interpretations of the new standard.

In this study, we investigate whether the strictness of the consultation requirement will affect an auditor's willingness to consult with a technical expert and the assessment of fraud risk. It is desirable that a strict standard on fraud consultation would increase the likelihood of such consultations taking place. However, it is also possible that the mere strictness of the standard might cause auditors to strategically or subconsciously alter their assessment of fraud risk at a client. The latter effect would not be desirable since it suggests a biased interpretation of audit evidence, which can lead to over-auditing. While detecting fraud is a highly desired objective of the audit, the efficiency of audits is also important.¹ If the strictness of standards causes an auditor to systematically overstate the riskiness of a client, it is likely that a sizable loss of efficiency can occur across a portfolio of clients. In addition, we examine the potentially

¹ The PCAOB recently announced that they would consider audit efficiency as part of their audit inspection process: "In 2006, the Board will focus its inspections of ICFR on whether firms efficiently achieved the objectives of an ICFR audit" (PCAOB 2006).

moderating or amplifying effects of a client-related variable (i.e., underlying fraud risk) and an engagement-related variable (i.e., deadline pressure). We predict that the effect of requirement strictness on consultation propensity and fraud risk assessment will be strongest when underlying fraud risk is high and deadline pressure is severe. Finally, we explore whether the predicted relationships vary across ranks (i.e., partners and senior managers versus managers).

We conducted two experiments with 208 experienced Dutch auditors from three Big-Four firms and one medium-sized audit firm. Participants assumed the role of audit partner and read a description of a potentially fraudulent client issue that has been detected in the final stages of the audit. In both experiments, the consultation requirement was manipulated as being either strict (i.e., mandatory and binding) or lenient (i.e., advisory and non-binding). In Experiment 1, underlying fraud risk was manipulated (high or low); in Experiment 2, deadline pressure was manipulated (high or low).

In general, auditors' consultation propensity was positively affected by the strictness of the consultation requirement, demonstrating the effectiveness of a stricter formulation of the standard. Fraud risk assessment was also positively affected by the strictness manipulation, and results of mediation analysis suggest that the effect of the strictness of the consultation requirement on fraud risk assessment is mediated by participants' consultation propensity. This implies that participants increase their fraud risk assessment in order to justify an increased propensity to consult—a potentially undesired consequence of the new standard. The effect of the strictness of the consultation requirement was conditional on both the underlying fraud risk of a client and deadline pressure, however, these effects varied across different auditor ranks: (1) partners and senior managers (near-partners) increased their fraud risk assessment and propensity to consult in response to an increased strictness of the consultation requirement only when

extensive red flags were present while managers increased their propensity to consult in response to a stricter requirement regardless of the level of underlying fraud risk, (2) managers *increased* their fraud risk assessments in response to deadline pressure but partners and near-partners *reduced* their fraud risk assessments, and (3) the positive effect of consultation requirement strictness on the propensity to consult was strengthened by deadline pressure (as predicted) for managers only.²

The next section provides background, theory and hypotheses development. Section 3 describes the experiment and methodology used to test hypotheses. Section 4 offers the results, and Section 5 presents a summary of the research, conclusions and limitations.

II. BACKGROUND AND HYPOTHESES

Consultation with colleagues about difficult issues during the course of an engagement is considered to be an integral component of the audit process (Gibbins and Emby 1985, Gibbins and Mason 1988, Salterio and Denham 1997). Gibbins and Emby (1985) report that over 90% of the auditors participating in their study said they consulted with others during or after the audit process, however, they use the term ‘consultation’ very broadly to include informal talks with colleagues. Danos et al. (1989) found that audit partners rarely refer questions to a formal consultation unit, but when they do, they consider the resulting advice to be very important. Salterio and Denham (1997) studied consultation units at large Canadian audit firms and observed several differences in the units’ ability to act as a source of organizational memory for their firms. In particular, audit firms varied considerably with respect to (1) the extent of resources allocated to a consultation unit, (2) the organizational structure of such a unit, (3)

² Deadline pressure did not exacerbate the strictness effect on fraud risk assessment because all auditors increased their fraud risk assessment in response to a stricter requirement.

integration of the unit into the firms' culture, and (4) the extent to which consultation with the unit is mandatory. The latter finding is particularly relevant for the current study.

Experimental studies have shown that auditors make better decisions when they anticipate consultation will require them to justify their decisions (e.g., Ashton 1990; Johnson and Kaplan 1991; Kennedy 1993). However, the same line of research also reveals that consultation may cause auditors to try to accommodate others' preferences (e.g., Peecher 1996). Other (non-audit) studies have examined what decision-makers do after consulting with colleagues and found they often ignore nonbinding advice with which they disagree, i.e., they tend to stick to their own previously held positions (Beck et al. 1996; Snizek and Buckley 1995). Kennedy et al. (1997) found that auditors' decisions are judged to be more justifiable when advice has been sought, and perceived justifiability is greatest when the auditor and consultant are in agreement. Asare and Wright (2004) is the only study we are aware of that examines the propensity to consult with technical experts. They viewed consultation propensity as a measure of the effectiveness of fraud detection responses and found that inherent risk and auditors' fraud risk assessments are positively associated with the desire to consult.

Prior research on auditors' consultation practices does not provide much insight into auditors' preferences toward consultation with specialists. There are reasons to believe that some auditors generally wish to retain decision control and avoid consultation if possible. One such reason could be that auditors generally view consultation as an abdication of decision power to others, which may not be compatible with their view of their own professional status or expertise. Also, during an engagement, auditors (especially at higher ranks) are constantly confronted with efficiency demands, causing them to avoid unnecessary cost and time overruns. Faced with such demands, they may perceive that consultation could lead to additional work that

they may feel is unnecessary. Thus, efficiency constraints may be a reason for auditors to retain decision control and avoid consultation. Asare and Wright (2004) point out that an auditor may reduce his/her assessment of fraud risk in order to avoid incurring the costs of consultation or missing important engagement deadlines.

Alternatively, there are also reasons to believe that an auditor may be generally motivated to share decision responsibility with others. For example, prior research suggests that auditors may be motivated to consult to justify their decisions and/or to increase confidence of others in their decisions (Heath and Gonzalez 1995). In a highly sensitive fraud context, auditors may also consult for fear of being held accountable for potentially erroneous decisions. Involving a technical expert may, in the auditors' perception, insulate them from some negative repercussions if a given situation is misjudged or handled poorly. Kennedy et al. (1997) suggest that auditors may consult in order to shift responsibility for sensitive decisions to others. These explanations suggest that auditors can be motivated to share decision responsibility with fraud specialists. Regardless of auditors' predisposition to consultation (which may vary across auditors), we suggest that the manner in which a consultation requirement is formulated will affect auditors' judgments.

In general, the audit profession sees auditors' consultation practices as desirable. For example, ISA 220 requires auditors to "consult on difficult or contentious matters" (IFAC 2005: 265). In the Netherlands, a corresponding standard has recently been developed to deal with indicators of fraud (NIVRA 2007). It requires auditors to consult with technical experts upon detection of fraud indicators, which could lead to material misstatements. If such indicators exist, the auditor should discuss the observed issue with a technical expert within the firm, who then

offers guidance concerning the necessary measures to be taken (such as modifying the extent, nature and timing of substantive testing) and helps to determine the likelihood of fraud.

Strictness of the Consultation Requirement

The exact implementation of the consultation requirement under the Dutch auditing standard was left to the discretion of firms. At the time of this study, Dutch audit firms were in a transition period regarding the extent to which they had adjusted and communicated their fraud consultation procedures. Given the potential flexibility in implementing the consultation standard, we investigate whether auditor judgments and decisions are affected by alternative formulations of the requirement. On one hand, the standard can be strictly implemented, requiring the auditor to accept and act on the advice of the expert consulted (i.e., consultation is mandatory and binding). This form of consultation would essentially result in mandatory sharing of responsibility for subsequent actions with the expert. Another possibility is that consultation can be leniently implemented, allowing the auditor to decide him/herself whether or not to consult in the first place and subsequently act on the advice of the expert (i.e., consultation is advisory and non-binding). This form of consultation would allow the field auditor to retain responsibility for subsequent decisions and actions.³

In this study, we assume a situation in which the auditor comes across a potential misstatement during the audit, which could be caused by either error or fraud. Given the Dutch fraud consultation standard, consultation with a specialist would be warranted if the irregularity were due to a fraudulent act—i.e., a fraud indicator. In our first hypothesis, we examine whether

³ We recognize that the mandatory/lenient consultation requirement can be viewed as a different conceptual construct from the binding/nonbinding nature of advice. In this study, we combine the two theoretically independent constructs into a single manipulation. We have deliberately chosen to consider the extreme cases of the combined construct (i.e., mandatory and binding versus advisory and non-binding) because, based on discussions with Dutch practitioners, it would be illogical to implement the other combinations. First, an originally advisory consultation is unlikely to become binding at a later stage. Second, once a consultation is mandatory it is unrealistic to assume that it will be viewed as non-binding. We review the limitations of this choice in the discussion section.

auditors' willingness to consult with an expert is affected by the strictness of the standard given an ambiguous situation. Based on the potential future sanctions that non-compliance would entail when consultation is mandatory and binding (i.e., strict), we suggest that auditors will indicate a higher propensity to consult under a strict standard as compared to a lenient formulation. Furthermore, we also predict that a stricter standard formulation will simultaneously increase auditors' fraud risk assessment—an unjustified effect, since the cause of the potential misstatement remains equally ambiguous, regardless of the way the standard is implemented.

We suggest that auditors' heightened consultation propensity in light of a strict standard creates a motivation to increase the assessment of fraud risk. On one hand, this motivation could be a type of bias, such that auditors unknowingly evaluate the description of the irregularity differently, because they have a preexisting preference to consult due to the strictness of the standard. The psychology literature refers to such a bias as motivated reasoning (Kunda 1990; Pyszczynski and Greenberg 1987) or predecisional distortion of evidence (Russo et al. 1996, 1998, 2000; Wilks 2002).⁴ For instance, auditors might unconsciously perceive the issue as more salient because the strictness of the standard emphasizes the importance of taking fraud seriously, and therefore assess the risk of fraud higher. On the other hand, the motivation to increase fraud risk assessment due to a stricter standard could be a strategic choice by the auditor to justify transferring responsibility for the issue to a consulting expert. As demonstrated extensively in prior accounting research (e.g., Agoglia et al. 2003; Gibbins and Newton 1994; Peecher 1996; Waller and Felix 1984), auditors indeed incorporate justification goals when they

⁴ Several studies confirm that the theories of predecisional distortion and motivated reasoning apply to auditor judgment. For instance, in a study by Peecher (1996), auditors assigned higher likelihoods to a client's non-error explanations of income-increasing account balance fluctuations when they were instructed to utilize clients' insights to increase audit efficiency. Similarly, senior auditors were found to interpret ambiguous standards in ways that supported client-preferred accounting methods (Hackenbrack and Nelson 1996). Wilks (2002) observed that subordinate auditors distort audit evidence to be consistent with the known opinions of a supervisor who was to evaluate the subordinate. Beeler and Hunton (2002) demonstrated that auditors' initial desire to maintain an audit client biased their evaluation of subsequent audit evidence in evaluating a client as a going concern.

perceive that their decisions will require support in the future, sometimes to the extent that judgment will be biased. For example, most audits are now subject to ex-post quality review, either by external regulators or internal peers. An internal review will examine issues of audit efficiency as well as effectiveness (IFAC 2006; PCAOB 2006; 2009), so an auditor that wishes to call in a technical expert may feel the need to increase their assessment of fraud risk in order to justify such a consultation at a later date. That is, a quality reviewer may find it hard to question the field auditor's assessment of fraud risk when the consultation appears justified, especially compared to a situation where fraud risk is assessed as low and a consultant is called in anyway. This perspective leads to our first hypothesis:

H1: *Ceteris paribus*, auditors will rate consultation propensity and fraud risk higher when the consultation requirement is strict than when it is lenient.

The reasoning leading to Hypothesis 1 raises a related question, namely, whether the increase in fraud risk assessment is a direct or mediated effect. That is, the strictness of the standard could cause the auditor to increase his or her propensity to consult, which leads to a proportional increase in the fraud risk assessment to justify a greater willingness to consult. In this case, the effect of the standard on the fraud risk assessment would be mediated by the change in propensity to consult. Alternatively, an increase in an auditor's propensity to consult may not be proportional to any effects on the fraud risk assessment. In this case, the effects on the standard on fraud risk and consultation are separate. To examine if the effect in Hypothesis 1 is mediated by propensity to consult we examine the following research question:

RQ1: Does the positive effect of the strictness of the consultation requirement on propensity to consult mediate the effect of the standard on the fraud risk assessment?

Underlying Fraud Risk

In addition to the hypothesized main effects of the strictness of the consultation requirement on consultation propensity and fraud risk assessment, we also examine whether the predicted effect in H1 relates to the attributes of a client. We specifically consider whether the extent of “red flags” (i.e., underlying fraud risk) alters the impact of the strictness of the standard on the judgments of auditors. As part of the planning stage of an audit, auditors are required to make an initial fraud risk assessment based on risk factors (red flags) found in the so-called fraud triangle (SAS No. 99 (AICPA 2004) and ISA 240 (IFAC 2004)): management’s attitudes (e.g., risk seeking), opportunities (e.g., presence or absence of internal controls), and incentives (e.g., meet or beat expectations). The assessment of fraud is a highly sensitive area and subject to much professional attention in the wake of the accounting and auditing scandals of the past decade. Thus, the underlying fraud risk of a client might influence how an auditor responds to the consultation requirement since a client that has strong indications of fraud may be perceived differently than a client with only weak indications.

We suggest that the underlying fraud risk amplifies the previously described effect of the strictness of the consultation requirement on consultation propensity and fraud risk assessment. For a client that has a large number of red flags that are fairly obvious, non-compliance with a strict standard might result in serious repercussions for an auditor if the engagement is examined ex post. In this situation, the strictness effect on consultation propensity and assessed fraud risk could be greater.⁵ On the other hand, when the client displays fewer red flags, the strictness of the consultation requirement is expected to have a weaker effect, since the issue would be evaluated as less serious ex post. In other words, under low underlying fraud risk, the auditor

⁵ Also, when underlying fraud risk is high, the fraud explanation for the observed irregularity may appear more salient and probable to the auditor, which may cause a main effect of underlying fraud risk on fraud risk assessment (not predicted).

would not perceive the need to consult (and hence, to justify this decision) as strongly, even when the requirement to consult is strict. Thus, the combination of a strict consultation requirement and high underlying fraud risk will result in the greatest propensity to consult and the highest fraud risk assessments, leading to our second hypothesis:

H2: *Ceteris paribus*, the positive effect of the strictness of the consultation requirement on consultation propensity and fraud risk assessment will be greater when underlying fraud risk is high.

Deadline Pressure

Finally, we consider whether the effect in H1 is influenced by an engagement attribute, namely the extent of deadline pressure imposed at the time the consultation decision is being made. Deadline pressure arises when a decision maker must act within an imposed timeline. Deadlines in auditing are quite common, often dictating when specific actions and decisions must be completed (DeZoort and Lord 1997). Researchers generally agree that auditors are often faced with a difficult compromise between the conflicting goals of audit quality and engagement management (e.g., Cohen and Trompeter 1998; McNair 1991), and prior audit research confirms that time pressure may lead to impaired audit decisions (see DeZoort and Lord 1997 for a review). For example, time pressure related to both deadlines and budgets can result in premature signoffs of audit program steps without the auditors actually having performed the work (Alderman and Deitrick 1982; Otley and Pierce 1996; Pierce and Sweeney 2004).⁶ McDaniel (1990) observed that the effectiveness of auditors' performance during an error detection task was reduced under high levels of time pressure. Aside from such audit quality threatening behaviors, time budget pressure has also been found to cause under-reporting of time (e.g., Kelley and Margheim 1990). Houston (1999) found that auditors reduce risk assessments and

⁶ While we acknowledge that there is a difference between deadline pressure and time budget pressure (see DeZoort and Lord 1997), we argue that their presence likely leads to similar dysfunctional decisions, as both are related to pressures of complying with time targets.

planned sample sizes in the planning phase of the audit in response to time pressure. Finally, Glover (1997) found that time pressure focuses auditors' attention more on diagnostic, and less on nondiagnostic, cues—a reduction of a phenomenon known in the literature as the 'dilution effect'.

We argue that deadline pressure will amplify the effect of the strictness of the consultation requirement on auditors' willingness to consult because a tight deadline may provide the auditor an additional incentive to consult, particularly when the requirement to consult is strict. More specifically, under high deadline pressure and a strict consultation requirement, bringing in a consultant may justify potential delays that would be harder to explain if the auditor chose not to consult. Given that the auditor is formally required to consult, these activities may be a professionally acceptable reason for missing deadlines and the cost of extra audit effort may be recoverable from the client. When the requirement is lenient, the incentive to respond to tighter deadline pressure is weaker, because a delay due to consultation will be more difficult to justify ex-post, given that consultation was not mandatory in the first place.⁷ Finally, under low deadline pressure, we expect the effect of the strictness of the consultation requirement to be relatively weaker because the additional incentive to consult is absent. Again, following from the above reasoning (H1), fraud risk assessment should similarly be more strongly affected by the strictness of the consultation requirement when deadline pressure is high.⁸ Thus, we expect that the effect of the strictness of the consultation requirement will be greatest when deadlines are imminent, leading to our third hypothesis:

⁷ In addition, it is possible that under a lenient consultation requirement, deadline pressure will have a slightly negative effect on auditors' propensity to consult, because under such circumstances, tight deadline pressure may provide an incentive to finalize the audit as soon as possible and hence, not engage in consultation activities.

⁸ With respect to fraud risk assessment, one may also consider an alternative prediction. Assuming that the strictness to consult is a nondiagnostic cue during the assessment of fraud risk, high deadline pressure should reduce auditors' focus on this standard-related aspect (Glover 1997).

H3: *Ceteris paribus*, the positive effect of the strictness of the consultation requirement on consultation propensity and fraud risk assessment will be greater when deadline pressure is high.

Rank effects

An encounter with fraud at a client is both a rare event (Montgomery et al. 2002; Pany and Whittington 2001) and one that has a potentially significant impact on the conduct and outcome of an audit. Because of their relative differences in experience and their role in the audit firm, it is possible that managers and partners will not respond in the same way to fraud indicators. Partners, having more experience to judge the significance of fraud indicators, as well as being the owners of the firm who share in profits and exposure to potential losses from litigation if a client turns out to be fraudulent, may look at the new standard on consultation differently than managers. On their part, managers have less experience with which to judge the significance of a fraud indicator. Further, most managers have the ambition to become partners, do not share in the litigation exposure of the firm, and may feel that their performance will be judged primarily on their ability to complete an engagement on time and under budget. These differences suggest that partners and managers may not react to the strictness of the standard in the same way when fraud indicators exist in an engagement. This leads to our second research question regarding differential reactions by managers and partners to variations in the strictness of the standard, underlying client fraud risk and deadline pressure:

RQ2: Do managers and partners differ with regard to how they respond to the strictness of the consultation requirement, underlying fraud risk and deadline pressure?

III. RESEARCH METHOD

Design

We conducted two experiments both of which were a between-subjects 2x2 factorial design with 4 treatment groups. In Experiment 1, we manipulated the strictness of the consultation requirement (mandatory and binding, advised and non-binding) and underlying client fraud risk (high, low). In Experiment 2, we manipulated consultation requirement strictness and deadline pressure (high, low). Participants were randomly assigned to one of the eight treatment conditions. Materials were provided to the participants and sealed in envelopes when completed (see further details below).

Participants

Participants were managers, senior managers (near-partners), and partners of three Big-Four public accounting firms and one medium-sized firm in the Netherlands. Managers, senior managers, and partners were chosen to participate because the ultimate decision to consult with technical experts commonly lies with them.⁹ The experiment was administered during the firms' annual training sessions in 2007. Participants were attending their respective firm's training sessions and voluntarily participated in this study in exchange for one CPE credit and the donation of €2.50 to a charity fund of their choice.

Procedure and Treatments

Participants assumed the role of the partner on the audit of a medium-sized client in the office furniture industry. The case used in the experiment described a specific, but ambiguous, set of conditions in the company that might be fraudulent. The facts of this condition were the

⁹ Descriptive statistics demonstrate that all experiment participants have relatively high levels of public accounting and consultation experience.

same for all versions of the experiment (see below). The consultation requirement and the manipulation of strictness were presented prior to the case description. Participants in the ‘strict requirement’ condition were told that consultation with a technical expert when fraud indicators are detected is mandatory, that any advice received would be binding, and that additional testing must be reviewed by the expert. Participants in the ‘lenient requirement’ condition were told that they would decide themselves whether to seek advice from a technical expert or not, that any advice received would not be binding, and further review by the expert would not be required. This manipulation was the same for Experiment 1 and 2.

In Experiment 1, the description of the client background and history included indications of the underlying fraud risk (i.e., extent of red flags), which was manipulated by varying opportunity, attitude and pressure factors for the client company (see Apostolou et al. 2001; Asare and Wright 2004; Hackenbrack 1993; Ng et al. 2001; Wilks and Zimbelman 2004). For example, in the high (low) underlying fraud risk condition, management’s focus on internal controls was described as strong (limited), the client has some (no) history of aggressive accounting, and many (few) audit adjustment have been proposed in prior year audits. The impact of deadline pressure was tested in Experiment 2 by manipulating the time available to report the results of the audit to a bank as being either eight days¹⁰ or three months.

¹⁰ We deliberately chose to test the moderating effects of underlying fraud risk and deadline pressure separately, rather than running a full-factorial 2x2x2 design. The reason for this choice is that we are primarily interested in how client and engagement attributes moderate the effect of the standard formulation. We did not intend to provide an exhaustive test of such conditions but, rather, to simply demonstrate that such conditions might influence how an auditor responds to a new standard. Our current approach does not allow us to test the three-way interaction among the strictness of the standard, deadline pressure, and underlying fraud risk. Our purpose was to show the moderating effect of such conditions, not to test their absolute effect. Further, we were concerned that the three-way interaction would result in a ceiling effect given that we expect amplifying effects for the moderating variables. In order for our test of underlying fraud risk (red flags) to be meaningful, we needed to create a case where fraud was possible even in the “low” condition. As a result, we had to make a design choice between not finding our main effects of interest because fraud risk was too low (and not salient) and being able to test for a three-way interaction, which would suffer from a ceiling effect.

Participants in both experiments then received key financial figures for the client and information about the potentially fraudulent conditions in the company (i.e., a fraud indicator). The conditions related to a discrepancy in the client's inventory. Specifically, participants were told that there is a heightened risk that products had been shipped to customers without being invoiced due to problems with the automation of the inventory system. This problem could potentially lead to overstated inventory and understated sales. Further, the participants were told that different personnel in the company had offered two competing explanations for the inventory discrepancies: (1) the warehouse manager insinuates that discrepancies might be the result of intentional manipulation¹¹ and (2) the CFO claims that problems are due to implementation of a new ERP system.¹²

Dependent Variables

Participants were asked to rate the likelihood of fraud and to indicate the likelihood they would consult with an expert. Fraud risk was assessed in response to the following question: "In your opinion, what is the probability that the described 2006 audit issue is an indicator of material fraud?" (0% = very low, 100% = very high). Consultation propensity was measured by asking participants the following question: "What is the probability that you would consult with an expert of your firm's technical department on the described audit issue?" (0% = very low, 100% = very high). Participants then placed the first part of the materials in an envelope and sealed the envelope. A second envelope contained a debriefing questionnaire including

¹¹ Such conditions are often associated with kickbacks or other illegal payments.

¹² Five accounting faculty and four audit partners reviewed the instrument for realism, reasonableness, and length. Thirty-five Big-Four auditors pilot-tested the instrument for the clarity of the task and related questions, manipulation effectiveness, and completeness of information. We made some revisions to the case materials based on comments received and pilot results.

manipulation checks, covariate measurement, and demographic questions. At the end of the session, the experiment administrator collected both envelopes.

IV. RESULTS

Sample

During 13 sessions, a total of 102 Dutch auditors participated in Experiment 1, and 106 participated in Experiment 2. The average participant was 40 years old and had 17 years of public accounting experience (ranging from 5 to 44 years). Of the total sample of 208 auditors, 182 (87.5%) were male. There were 65 partners, 51 senior managers (also referred to in this paper as “near-partners”), and 92 managers, of which 163 worked at one of the three Big-Four firms, while the medium-sized firm employed 45. Further, 121 auditors (58.2%) had experienced management fraud (i.e., fraudulent financial reporting) and 168 participants (80.8%) had experienced employee fraud (i.e., misappropriation of assets) during an audit at least once during their career.¹³ Only 20.9% of the total sample had used their firms’ technical office for consultation on fraud-related matters, while the majority of participants (84.7%) had inquired for advice on other audit-related issues at least once.¹⁴

Testing of our hypotheses requires that all participating auditors are knowledgeable about consultation and have sufficiently high levels of experience. Table 1 offers detailed descriptive statistics on various experience-related dimensions across auditor ranks (Panels A and B) and

¹³ Research in the US has generally suggested that few auditors encounter conditions of fraudulent financial reporting during their careers (Montgomery et al. 2002; Pany and Whittington 2001). Our demographic results reveal that a majority of the participants in this study have previously encountered either management or employee fraud. According to prior research on Dutch auditors’ fraud experiences and perceptions (Hassink et al. 2003, 2005), there is a clear distinction between material and immaterial fraud regarding the steps to be taken in response to fraud detection. Auditors’ exposure to immaterial cases of fraud may be relatively frequent, but since little action is taken in most such cases, they will likely not be made known to the public.

¹⁴ We compared the samples for Experiment 1 and Experiment 2 on all demographic variables. The only variable on which the two samples differ marginally ($p < 0.10$) is years of public accounting experience (18.01 years on average in Experiment 1 versus 16.06 years in Experiment 2). None of the other demographic factors differ significantly across the two experiment samples. Given the relatively high level of experience of our participants, we do not consider the difference between 18 years and 16 years experience to be of practical significance.

firm types (Panels C and D) and largely confirms this assumption. First, public accounting experience differs across the three ranks as would be expected. However, we observe that even ‘junior’ managers have extensive public accounting experience (12.54 years). Partners have significantly more experience with management fraud and fraud consultation than ‘junior’ managers and senior managers, but there is no difference between the two manager ranks. There is no significant difference across ranks when it comes to consultation experience about general audit issues. With regard to firm size, Big-Four auditors are somewhat younger and have somewhat less experience in public accounting and audit consultation than medium-sized auditors; however, these differences are minor and both groups hold extensive experience in both auditing and consultation. Hence, we conclude that the sample meets our study criteria of high levels of experience and consultation knowledge.

<<< Insert Table 1 about here >>>

None of the demographic factors vary significantly across treatment conditions in Experiment 2 (smallest $p=0.18$). However, we observe that some experience-related demographic factors are not randomly distributed across experimental conditions in Experiment 1. More specifically, Bonferroni contrast tests reveal that participants in the treatment condition of low consultation requirement strictness and low underlying fraud risk hold significantly greater management fraud experience¹⁵ and public accounting experience¹⁶ than participants in some of the other three conditions ($p<0.10$). We control for this non-random distribution in our

¹⁵ Means [standard deviations] for management fraud experience are as follows (different letters indicate significantly different means at $p<0.10$): CRS-High, UFR-High = 1.04 [1.40]^a; CRS-Low, UFR-High = 1.08 [1.02]^a; CRS-High, UFR-Low = 0.75 [1.29]^a; CRS-Low, UFR-Low = 2.13 [1.75]^b. Hence, participants that were exposed to a lenient consultation requirement and low underlying fraud risk hold higher management fraud experience as compared to participants in the other three treatment conditions.

¹⁶ Means [standard deviations] for public accounting experience are as follows (different letters indicate significantly different means at $p<0.10$): CRS-High, UFR-High = 16.71 [9.43]^{a,b}; CRS-Low, UFR-High = 19.65 [6.88]^{a,b}; CRS-High, UFR-Low = 14.42 [7.52]^a; CRS-Low, UFR-Low = 21.33 [11.09]^b. Hence, participants that were exposed to a lenient consultation requirement and low underlying fraud risk hold higher public accounting experience as compared to participants that read about a strict consultation requirement and low underlying fraud risk.

analyses of Experiment 1 by including public accounting experience as a covariate.¹⁷ None of the other demographic factors vary significantly across the treatment conditions in Experiment 1 ($p>0.4$).

Covariates

To reduce overall experimental error, we include a number of covariates in the data analyses of both experiments. To determine which covariates to include, we examined the correlation matrix, revealing which measured variables are significantly associated with at least one of the two dependent variables.¹⁸ In Experiment 1, size is significantly associated with fraud risk assessment so we included it as a covariate in the analyses (i.e., Big-Four auditors generally assess fraud risk higher than medium-sized firm auditors). Furthermore, even though public accounting experience is not correlated with any of the dependent variables in Experiment 1, we include it as a covariate to control for possible confounding effects caused by its non-random distribution, as explained earlier. In Experiment 2, no demographic variables are significantly associated with the dependent variables.

Manipulation Checks

Consultation Requirement Strictness

To verify the effectiveness of the consultation strictness manipulation in both experiments, participants answered two questions. First, they were asked if they agreed with the statement that the case required consultation with a technical expert if a client exhibited material fraud indicators (1=strongly disagree, 7=strongly agree). The Experiment 1 (2) mean response

¹⁷ Management fraud experience correlates with public accounting experience ($p<0.001$), hence was not included as a covariate.

¹⁸ The following variables were investigated during preliminary testing: Age, gender, auditor rank (managers versus [near] partners, years of public accounting experience, firm size, management fraud experience, employee fraud experience, fraud consultation experience, and audit consultation experience. See Table 1 for descriptive statistics.

was 6.56 (6.79) for the 'strict requirement' treatment and 2.10 (2.09) for the 'lenient requirement' treatment. The means are significantly different in both experiments ($p < 0.01$). Second, participants were asked if they agreed with the statement that the guidance provided by the expert in the case is binding and must be applied to the audit (1=strongly disagree, 7=strongly agree). The Experiment 1 (2) mean response was 6.67 (6.71) for the 'strict requirement' treatment and 1.30 (1.59) for the 'lenient requirement' treatment ($p < 0.01$). Thus, we conclude that we successfully manipulated the strictness of the consultation requirement.

Underlying Fraud Risk

In Experiment 1, we asked participants if they agreed that the described scenario suggested that underlying client fraud risk in the case was high while abstracting from the current audit issue (1=strongly disagree, 7=strongly agree). The mean response was 6.20 for the high-risk treatment and 4.13 for the low-risk treatment. The two means are significantly different ($p < 0.01$), suggesting a successful manipulation of underlying client fraud risk.¹⁹

Deadline Pressure

In Experiment 2, participants were asked to indicate the extent to which the case suggested that the pressure to complete the audit report was high (1=strongly disagree, 7=strongly agree). The mean was 6.12 for the high deadline pressure condition and 1.24 for the low deadline pressure condition ($p < 0.01$), suggesting an effective manipulation of deadline pressure.

¹⁹ Note, this difference occurs even though all participants received the same description of the ambiguous, potentially fraudulent, conditions within the company. Thus, the difference between the two groups can be attributed to the presence/absence of red flags as manipulated in the experiment. While the "low" risk condition has a score of 4.13, which might suggest more of a "moderate" risk, our pilot testing revealed that for the manipulation of the strictness condition to be salient to participants, the underlying risk of fraud had to be non-trivial. That is, in a truly low risk environment, the experiment becomes irrelevant.

Hypothesis Testing

Two two-factor MANCOVAs and four individual ANCOVAs were used to test our hypotheses concerning consultation propensity and fraud risk assessment. Tables 2 and 3 report the results of Experiments 1 and 2, respectively, including descriptive statistics for the dependent variables per treatment condition (Panel A and B), the MANCOVA analyses (Panel C), and individual ANCOVA results for each of the two dependent variables (Panel D).

<<< Insert Tables 2 and 3 about here >>>

Hypothesis 1

H1 predicts that consultation propensity and fraud risk assessment will be higher when the consultation requirement is strict. In both experiments, we find an overall significant main effect for the strictness of the consultation requirement on both dependent variables (Experiment 1: $p=0.09$; Experiment 2: $p=0.00$; see MANCOVA results in Panel C of Tables 2 and 3).

With respect to propensity to consult, descriptive statistics in Panels B of Tables 2 and 3 reveal that the mean in the ‘strict requirement’ condition is higher than the mean of the ‘lenient requirement’ condition in both experiments (adjusted means in Experiment 1: 72.82 vs. 60.50; raw means in Experiment 2: 82.12 vs. 57.74). As seen in the ANCOVA results shown in Panel D of Table 2 and 3, this difference is significant in Experiment 1 ($p=0.05$) and Experiment 2 ($p=0.00$), providing support for H1 with regard to consultation propensity. However, given the significant interaction between consultation requirement strictness and deadline pressure in Experiment 2 (Table 3, Panel D, $p=0.08$), the significant main effect needs to be interpreted with caution. We return to this issue when testing Hypothesis 3.

Turning now to the fraud risk assessment, Panel A in Tables 2 and 3 show that the mean in the mandatory and binding condition is higher than the mean of the advisory and non-binding

condition in both experiments (adjusted means in Experiment 1: 65.57 vs. 58.09; raw means in Experiment 2: 69.04 vs. 59.81). Consistent with H1, auditors' fraud risk assessment in the stricter condition is significantly higher than in the lenient condition in Experiment 1 ($p=0.06$) and Experiment 2 ($p=0.03$) (see ANCOVA results in Panel D of Tables 2 and 3). Thus, H1 is supported for the fraud risk assessment.

Since we find evidence that generally supports H1, we now examine whether rank affects how the auditors respond to the strictness of the consultation requirement.²⁰ Since our sample size and cell distribution does not allow for inclusion of rank as a factor in the current analysis, we run a separate MANCOVA (not tabulated) and separate ANCOVAs for the two subsamples (managers versus partners plus senior managers). Statistical results from our ANCOVA are presented in aggregate form in Table 4, Panel A.²¹

<<< Insert Table 4 about here >>>

The effect of consultation requirement strictness on consultation propensity is positive and significant for managers (Experiment 1: 57.43 vs. 74.39, $p=0.07$; Experiment 2: 52.19 vs. 78.95, $p=0.00$). For partners and senior managers, the main effect is positive and significant in

²⁰ The limited sample size of medium-sized firm auditors does not allow us to also split the sample by firm size. However, we conducted supplemental analyses with Big-Four auditors only (including significant covariates following the same procedure of preliminary covariate testing as reported previously). Results (not tabulated) show that the main effects of the strictness of the consultation requirement on consultation propensity (Experiment 1: $p=0.07$; Experiment 2: $p=0.00$) and fraud risk assessment (Experiment 1: $p=0.06$; Experiment 2: $p=0.01$) hold in both experiments.

²¹ Before conducting rank-specific analyses for Experiment 1 and 2 data, we followed the same procedure of preliminary covariate testing as reported previously. First, given the previously reported non-random distribution of public accounting experience across treatment conditions in Experiment 1, we include this covariate in all separate analyses of Experiment 1 data. In addition, for (*near-*) *partners*, we found that firm size has a significant association with fraud risk assessment ($p=0.02$), which we therefore include in the respective MANCOVA and ANCOVA analyses in Experiment 1. For *managers*, we include employee fraud experience as a covariate in Experiment 1, since it is associated with fraud risk assessment ($p=0.03$). In Experiment 2, for (*near-*) *partners*, fraud consultation experience is associated with fraud risk assessment ($p=0.02$). For *managers*, management fraud experience is associated with fraud risk assessment ($p=0.09$).

Experiment 2 (62.05 vs. 84.45, $p=0.01$), whereas in Experiment 1, it is not significant ($p=0.26$).²² With respect to fraud risk assessment, it appears that the main effect of consultation requirement strictness observed for the complete sample holds only for partners and near-partners in Experiment 2 (57.86 vs. 71.46, $p=0.02$). The main effect is not significant in Experiment 1 ($p=0.10$).²³ Managers' fraud risk assessment is not affected by the strictness of the consultation requirement in either experiment, either as a main or interaction effect (all p 's > 0.30). That is, while managers respond in the desired manner to the heightened standard strictness by itself, partners/near-partners exhibit a potentially undesirable behavior by simultaneously increasing their fraud risk assessment, possibly to further motivate their increased need for consultation.

Mediation Analysis

In the theory development, we suggest that in response to a strict requirement, auditors are motivated to adjust their assessment of fraud risk upwards, possibly to justify an increased consultation propensity (a strategic choice) or because the stricter formulation heightens their attention toward the risk of fraud (a bias). This raises the possibility that the positive effect of consultation requirement strictness on fraud risk assessment is mediated by consultation propensity (see RQ1). Employing the complete sample, we run a mediation analysis to test this possibility as shown in Table 5.

<<< Insert Table 5 about here >>>

If auditors' inherent preference to share responsibility with a technical expert is the primary driver of their increased fraud risk assessment, the effect of strictness on fraud risk assessment should be mediated by consultation propensity, i.e., the effect of strictness on the

²² As will be discussed in more detail as part of the Hypothesis 2 results, the strictness of the consultation requirement interacts with underlying fraud risk on (near) partners' consultation propensity.

²³ Again, as will be discussed in more detail later, the strictness of the consultation requirement interacts with underlying fraud risk on (near) partners' fraud risk assessment.

assessment of fraud would be less significant in an analysis that also controls for the auditor's propensity to consult (see Baron and Kenny (1986) for a detailed explanation of mediation analysis). We find that the effect of consultation requirement strictness on fraud risk assessment is fully mediated by consultation propensity since the coefficient of consultation requirement strictness declines substantially (Experiment 1: from $\beta=-0.19$ to $\beta=-0.09$; Experiment 2: from $\beta=-0.22$ to -0.03). The originally significant effect shown in step 1 (Experiment 1: $p=0.05$; Experiment 2: $p=0.02$) becomes statistically insignificant (Experiment 1: $p=0.29$; Experiment 2: $p=0.79$), when controlling for consultation propensity, as shown in steps 3 and 4 (see Table 5). Sobel, Aroian and Goodman tests are all significant (see step 5 of Panels A and B), meaning that the indirect effect of consultation requirement strictness on fraud risk assessment via consultation propensity is significantly different from zero. These results suggest that in the presence of a strict versus lenient consultation requirement, auditors increase their fraud risk assessment as a result of their heightened willingness to consult while, rationally, neither the strictness of the consultation requirement nor an auditor's consultation propensity should affect his/her fraud risk assessment.

Hypothesis 2

H2 predicts that the positive effect of consultation requirement strictness on fraud risk assessment and consultation propensity will be stronger when underlying client fraud risk is high. MANCOVA and ANCOVA results from Experiment 1 (Table 2, Panels C and D) reveal that neither the predicted interaction nor main effects of underlying client fraud risk are significant for the two dependent variables. Thus, the basic results of the experiment provide no support for H2.

In response to our second research question (RQ2), we next consider if there is a differential effect for managers and partners/near-partners (i.e., senior managers) by analyzing each rank-group separately.²⁴ We find that partners/near-partners exhibit a significant interaction between consultation requirement strictness and the underlying fraud risk for fraud risk assessment ($p=0.07$) and consultation propensity ($p=0.09$, Table 4, Panel A). Bonferroni pairwise mean comparison tests of the responses by partners/near-partners (Table 4, Panel B) and the interaction plot (Figure 1, Panel A) reveal that the positive effect of the strictness of the consultation requirement on auditors' fraud risk assessment is significant when client fraud risk is high ($p<0.10$) but not significant when client fraud risk is low ($p=1.00$). For consultation propensity, Bonferroni mean comparisons are not significant (Table 4, Panel C), but the interaction pattern is similar as for fraud risk assessment (Figure 1, Panel B). For managers, the interaction effect is not significant for either the fraud risk assessment ($p=0.81$) or propensity to consult ($p=0.74$, Table 4, Panel A). Instead, as previously discussed, managers increase their consultation propensity (but not fraud risk assessment) in response to a stricter consultation requirement regardless of the underlying fraud risk, as discussed earlier.

<<< Insert Figure 1 about here >>>

While our primary tests do not support H2 directly, additional analysis of the results for Experiment 1 reveals that H2 is supported for high-ranking auditors (i.e., partners and senior managers) but not managers. Possible explanations for this result will be reviewed in the discussion section.

²⁴ We also conduct supplementary analyses for Big-Four auditors only (not tabulated). The interaction effect of consultation requirement strictness and underlying fraud risk on both dependent variables is not significant (as is the case for the complete sample), but underlying fraud risk is positively associated with auditors' fraud risk assessment—a desired effect we did not observe for the complete sample.

Hypothesis 3

In Experiment 2, we test whether deadline pressure moderates the effect of consultation requirement strictness on fraud risk assessment and consultation propensity. H3 predicts that an increase in deadline pressure will strengthen the positive effect of consultation requirement strictness on the two dependent variables. MANCOVA and ANCOVA results reveal that deadline pressure by itself does not have a significant effect on either fraud risk assessments or consultation propensity (Table 3, Panels C and D). However, individual ANCOVAs (Table 3, Panel D) indicate that consultation requirement strictness and deadline pressure interact in their effect on consultation propensity ($p=0.08$) but not fraud risk assessment ($p=0.94$). Bonferroni pairwise mean comparisons (Table 3, Panel E) and the interaction plot (Figure 2, Panel A) show that the consultation requirement strictness effect on consultation propensity is significant when deadline pressure is high ($p<0.001$) but not significant when deadline pressure is low ($p>0.30$). This finding partially supports H3, as the positive effect of consultation requirement strictness on consultation propensity is significant only in the presence of high deadline pressure, while its effect on fraud risk assessment is positive, regardless of deadline pressure.

<<< Insert Figure 2 about here >>>

We again consider differential responses across ranks by examining whether managers respond differently to deadline pressure than partners and senior managers by analyzing each group separately (Table 4, Panel A).²⁵ First, we find that the previously discussed interaction effect of consultation requirement strictness and deadline pressure on consultation propensity holds for managers ($p<0.10$, Table 4, Panel D for pairwise mean comparisons and Figure 2,

²⁵ Supplementary analyses (not tabulated) reveal that the interaction effect of consultation requirement strictness and deadline pressure does not hold for the Big-Four auditors only subsample. Big-Four auditors increase their consultation propensity and fraud risk assessment in response to a stricter requirement regardless of deadline pressure.

Panel B for the interaction plot) but not for partners/near-partners ($p > 0.30$). Partners/near-partners increase their consultation propensity in response to a strict consultation requirement ($p < 0.05$) regardless of deadline pressure. Second, we find that fraud risk assessments of managers are overall *positively* affected by deadline pressure ($p < 0.10$), whereas partners/near-partners adjust their fraud risk assessment *downward* under high deadline pressure ($p < 0.10$).

V. DISCUSSION AND CONCLUSIONS

The aim of this study was to examine auditors' judgments in response to a requirement to consult with technical experts on a difficult audit matter. We use the context of potential fraud at a client because of recent standards adopted in the Netherlands. We specifically examine the question of whether the strictness of the consultation requirement affects auditors' judgments about fraud risk and the likelihood that they will raise the issue with a technical expert within the firm. We predicted that the strictness of the requirement would increase auditors' propensity to consult but also the assessment of fraud risk, whether due to bias or strategic reasons. We further argued that this effect would be greatest when a client exhibits underlying indications of fraud and when deadline pressure is tight.

Our findings suggest that the strictness of the consultation requirement positively affects both fraud risk assessment and consultation propensity. Taken together, these results provide support that auditors generally respond positively to a strict consultation requirement. When they are told that consultation is required and binding, rather than advisory and non-binding, they are more likely to adhere to the requirement, particularly under conditions of high client fraud risk and tight deadline pressure. More important and potentially worrisome is the finding that auditors increase their fraud risk assessment when confronted with a stricter requirement, possibly in order to justify their desire to call in assistance and/or share responsibility.

Further, we observed that managers and partners/near-partners respond differently to variations in underlying fraud risk and deadline pressure. First, while audit managers increase their willingness to consult and fraud risk assessment in response to a stricter consultation requirement, the willingness of partners and senior managers to consult is not affected by the strictness of the requirement, *unless client risk is high*. This result may suggest that partners, whose equity investment in the firm is most at risk in the event of litigation, will only increase their fraud risk assessment and consultation propensity when dealing with a client that has obvious and observable warning signs of fraud. Meanwhile, managers respond positively to the strictness of the consultation requirement, regardless of the underlying fraud risk.²⁶

Second, managers increase their fraud risk assessment in response to tighter deadline pressure, while near-partners and partners reduce their fraud risk assessment. We suggest that managers' and partners' differential responses toward deadline pressure can be explained by rank-dependent motivations. Managers may view an increase in deadline pressure as a reason to bring in a technical expert and, to justify this desire, they increase their fraud risk assessment. Subsequently, in the presence of deadline pressure, a strict consultation requirement is even more effective for managers' consultation propensity. On the other hand, partners respond *negatively* to deadline pressure in their fraud risk assessment. Since they are responsible for avoiding cost and time overruns, an increase in deadline pressure may activate motivated processing of the available information and, as a result, they underestimate the current risk of fraud in order to meet their initial goal. We recommend future research to further investigate how differential pressures across rank may influence auditor judgment.

²⁶ An alternative explanation for rank-dependent results may be differential levels of task knowledge, although this explanation is less likely, given the generally high level of experience among all study participants.

Third, managers appear to be more sensitive to time pressure than partners/near-partners when making judgments that could involve potentially time-consuming consultation. Unless deadline pressure is high, they are unaffected by the strictness of the consultation standard. An explanation may be that they wish to complete the engagement on time and within budget but when confronted by time pressure they prefer to consult an expert to justify potential delays in completing the audit. We do not observe the predicted spillover effect on fraud risk assessment. Partners/near partners respond consistently positively to the strictness of the standard in their willingness to consult and their fraud risk assessment.

Some limitations to this study beyond those inherent with any experimental research should be mentioned. First, the consultation requirement used in the Netherlands was implemented in public accounting firms in 2007. At the time of data collection, some auditors may have anticipated the specific implementation of the requirement with their firms, which may have led to confusion among participants when being confronted with a consultation requirement strictness manipulation not in line with their own expectations. However, discussions with the participating firms revealed that there was still a high level of ambiguity with regard to the exact implementation of the standard at the time of study. More importantly, a successful manipulation check provides assurance that participants internalized the respective treatment.

Second, as mentioned in a previous footnote, we chose to consider the extreme cases of a combined construct (i.e., mandatory and binding vs. advisory and non-binding) because the Dutch audit practitioners we discussed the case design with felt it was illogical to implement the two other combinations (i.e., mandatory and non-binding; advisory and binding). While the mixed cases could exist in theory, the auditors with whom we discussed the issue did not feel that they would arise naturally in the profession, so the two theoretical constructs are essentially

aligned by default. A limitation of this choice is that it does not allow us to deduce whether observed effects are driven by the fact that consultation is required or the fact that the specialist's advice is binding. Third, in the experiment, we did not mention the issue of consultation costs, so we are unaware of the extent to which auditors' judgments would have been influenced by a variation in costs and cost allocation (e.g., treating the costs of the consultation department as overhead within the firm or as a cost to be charged to specific clients). As previously noted by Asare and Wright (2004), cost considerations may further influence auditors' willingness to consult and, hence, their fraud risk assessment.

The consultation requirement was developed in order to increase consultation willingness, so on one hand, this study demonstrates the standard's effectiveness when formulated in a strict manner. However, an important question is whether the audit profession always wants auditors to share responsibility. While the decision to seek advice should be driven by the seriousness of the issue at hand, our study results show that it is also affected by the extent to which consultation is mandatory and binding. Researchers and regulators should pay attention to auditors' increased willingness to 'pass the buck'. Another important concern raised by the results of this study is that a strict consultation requirement appears to offer auditors an incentive to increase their fraud risk assessment for the wrong reasons, which could potentially lead to serious judgment bias and inefficient audits in the long run. This study demonstrates that the formulation of a standard may create adverse incentives so regulators and audit firms should exercise caution when developing, formulating and implementing such procedures.

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TABLE 1
Descriptive Statistics

Panel A: Means and Standard Deviations across Ranks

| <u>Variable</u> | <u>Group</u> | <u>n</u> | <u>Mean</u> | <u>SD</u> | <u>Min</u> | <u>Max</u> |
|--|----------------|----------|---------------------|-----------|------------|------------|
| Age | Overall Sample | 207 | 40.04 | 8.32 | 28 | 63 |
| | Partner | 65 | 46.06 ^a | 7.22 | 35 | 61 |
| | Senior Manager | 51 | 40.37 ^b | 7.84 | 31 | 63 |
| | Manager | 91 | 35.56 ^c | 6.17 | 28 | 61 |
| Public Accounting Experience ¹ | Overall Sample | 208 | 17.01 | 8.48 | 5 | 44 |
| | Partner | 65 | 22.98 ^a | 6.98 | 11 | 39 |
| | Senior Manager | 51 | 17.47 ^b | 8.08 | 7 | 41 |
| | Manager | 92 | 12.54 ^c | 6.89 | 5 | 44 |
| Management Fraud Experience ² | Overall Sample | 207 | 1.17 | 1.36 | 0 | 5 |
| | Partner | 65 | 1.71 ^a | 1.63 | 0 | 5 |
| | Senior Manager | 50 | 1.00 ^b | 1.16 | 0 | 5 |
| | Manager | 92 | 0.88 ^b | 1.15 | 0 | 5 |
| Employee Fraud Experience ³ | Overall Sample | 207 | 1.90 | 1.66 | 0 | 5 |
| | Partner | 65 | 2.51 ^a | 1.78 | 0 | 5 |
| | Senior Manager | 50 | 2.04 ^a | 1.63 | 0 | 5 |
| | Manager | 92 | 1.39 ^b | 1.43 | 0 | 5 |
| Fraud Consultation Experience ⁴ | Overall Sample | 206 | 0.27 | 0.59 | 0 | 3 |
| | Partner | 64 | 0.41 ^a | 0.66 | 0 | 3 |
| | Senior Manager | 50 | 0.18 ^{a,b} | 0.56 | 0 | 3 |
| | Manager | 92 | 0.22 ^b | 0.53 | 0 | 3 |
| Audit Consultation Experience ⁵ | Overall Sample | 204 | 2.34 | .936 | 0 | 5 |
| | Partner | 64 | 1.59 ^a | 0.87 | 0 | 3 |
| | Senior Manager | 49 | 1.22 ^a | 0.85 | 0 | 3 |
| | Manager | 91 | 1.23 ^a | 1.00 | 0 | 5 |

^{a,b,c} Items with the same letter are not significantly different. Items with different letters are significantly different at $p < 0.10$ (using Bonferroni multiple pairwise comparison tests).

¹ We measured public accounting experience by assessing the number of years participants had worked as public accountants.

² "During your audit career, how often have you dealt with fraudulent financial reporting committed by management of your clients?" 0=Never, 1=Once, 2=Twice, 3=Three times, 4=Four times, 5=Five times or more.

³ "During your audit career, how often have you dealt with misappropriation of assets committed by employees of your clients?" 0=Never, 1=Once, 2=Twice, 3=Three times, 4=Four times, 5=Five times or more.

⁴ "During the past year, how often have you used your firm's technical office for advice on fraud-related issues?" 0=Never, 1=Once, 2=Twice, 3=Three times, 4=Four times, 5=Five times or more.

⁵ "During the past five years, how often have you used your firm's technical office for advice on various audit issues?" 0=Never, 1=1-5 times, 2=6-10 times, 3=11-20 times, 4=21-30 times, 5=more than 30.

Panel B: Frequencies and Percentages across Ranks

| Variable | Response | Overall Sample | | Partner | | Senior Manager ⁵ | | Manager | |
|--|--------------|----------------|------|---------|------|-----------------------------|------|---------|------|
| | | n | % | n | % | n | % | n | % |
| Firm size (0=NoBig4, 1=Big4) | Big4 | 163 | 78.4 | 48 | 73.8 | 45 | 88.2 | 70 | 76.1 |
| | NonBig4 | 45 | 21.6 | 17 | 26.2 | 6 | 11.8 | 22 | 23.9 |
| Gender (0=Male, 1=Female) | Male | 182 | 87.5 | 62 | 95.4 | 46 | 90.2 | 74 | 80.4 |
| | Female | 26 | 12.5 | 3 | 4.6 | 5 | 9.8 | 18 | 19.6 |
| Management Fraud Experience ¹ | Never | 86 | 41.3 | 19 | 29.2 | 22 | 43.1 | 45 | 48.9 |
| | Once | 55 | 26.4 | 16 | 24.6 | 14 | 27.5 | 25 | 27.2 |
| | Twice | 37 | 17.8 | 13 | 20.0 | 8 | 15.7 | 16 | 17.4 |
| | Three times | 13 | 6.3 | 5 | 7.7 | 5 | 9.8 | 3 | 3.3 |
| | Four times | 6 | 2.9 | 6 | 9.2 | 0 | 0 | 0 | 0 |
| | Five or more | 10 | 4.8 | 6 | 9.2 | 1 | 2.0 | 3 | 3.3 |
| | Missing | 1 | 0.5 | 0 | 0 | 1 | 2.0 | 0 | 0 |
| Employee Fraud Experience ² | Never | 40 | 19.2 | 9 | 13.8 | 7 | 13.7 | 24 | 26.1 |
| | Once | 73 | 35.1 | 15 | 23.1 | 18 | 35.3 | 40 | 43.5 |
| | Twice | 32 | 15.4 | 10 | 15.4 | 8 | 15.7 | 14 | 15.2 |
| | Three times | 24 | 11.5 | 12 | 18.5 | 8 | 15.7 | 4 | 4.3 |
| | Four times | 6 | 2.9 | 3 | 4.6 | 1 | 2.0 | 2 | 2.2 |
| | Five or more | 32 | 15.4 | 16 | 24.6 | 8 | 15.7 | 8 | 8.7 |
| Missing | 1 | 0.5 | 0 | 0 | 1 | 2.0 | 0 | 0 | |
| Fraud Consultation Experience ³ | Never | 163 | 78.4 | 43 | 66.2 | 44 | 86.3 | 76 | 82.6 |
| | Once | 34 | 16.3 | 17 | 26.2 | 4 | 7.8 | 13 | 14.1 |
| | Twice | 6 | 2.9 | 3 | 4.6 | 1 | 2.0 | 2 | 2.2 |
| | Three times | 3 | 1.4 | 1 | 1.5 | 1 | 2.0 | 1 | 1.1 |
| | Missing | 2 | 1.0 | 1 | 1.5 | 1 | 2.0 | 0 | 0 |
| Audit Consultation Experience ⁴ | Never | 28 | 13.5 | 4 | 6.2 | 8 | 15.7 | 16 | 17.4 |
| | 1-5 times | 110 | 52.9 | 30 | 46.2 | 27 | 52.9 | 53 | 57.6 |
| | 6-10 times | 39 | 18.8 | 18 | 27.7 | 9 | 17.6 | 12 | 13.0 |
| | 11-20 times | 23 | 11.1 | 12 | 18.5 | 5 | 9.8 | 6 | 6.5 |
| | 21-30 times | 3 | 1.4 | 64 | 98.5 | 0 | 0 | 3 | 3.3 |
| | More than 30 | 1 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1.1 |
| Missing | 4 | 1.9 | 1 | 1.5 | 2 | 3.9 | 1 | 1.1 | |

¹⁻⁴ All terms defined in Panel A.

⁵ At times in the paper we refer to (near)partners. This refers to partners and senior managers.

Panel C: Means and Standard Deviations across Firm Types

| Variable | Group | n | Mean | SD | Min | Max |
|--|-------------------|-----|---------|------|-----|-----|
| Age | Overall Sample | 207 | 40.04 | 8.32 | 28 | 63 |
| | Big-Four | 162 | 39.41** | 7.81 | 28 | 63 |
| | Medium-Sized Firm | 45 | 42.31** | 9.70 | 31 | 61 |
| Public Accounting Experience ¹ | Overall Sample | 208 | 17.01 | 8.48 | 5 | 44 |
| | Big-Four | 163 | 16.44* | 8.16 | 5 | 41 |
| | Medium-Sized Firm | 45 | 19.09* | 9.35 | 8 | 44 |
| Management Fraud Experience ² | Overall Sample | 207 | 1.17 | 1.36 | 0 | 5 |
| | Big-Four | 163 | 1.15 | 1.39 | 0 | 5 |
| | Medium-Sized Firm | 44 | 1.23 | 1.29 | 0 | 5 |
| Employee Fraud Experience ³ | Overall Sample | 207 | 1.90 | 1.66 | 0 | 5 |
| | Big-Four | 163 | 1.98 | 1.73 | 0 | 5 |
| | Medium-Sized Firm | 44 | 1.61 | 1.33 | 0 | 5 |
| Fraud Consultation Experience ⁴ | Overall Sample | 206 | 0.27 | 0.59 | 0 | 3 |
| | Big-Four | 162 | 0.24 | 0.57 | 0 | 3 |
| | Medium-Sized Firm | 44 | 0.36 | 0.65 | 0 | 3 |
| Audit Consultation Experience ⁵ | Overall Sample | 204 | 2.34 | .936 | 0 | 5 |
| | Big-Four | 160 | 0.24** | 0.57 | 0 | 3 |
| | Medium-Sized Firm | 44 | 1.57** | 0.93 | 0 | 4 |

¹⁻⁵ All terms defined in Panel A.

* Means are significantly different at $p < 0.10$

** Means are significantly different at $p < 0.05$

Panel D: Frequencies and Percentages across Firm Types

| Variable | Response | Overall Sample | | Big-Four | | Medium-Sized Firm | |
|--|-----------------|----------------|------|----------|------|-------------------|------|
| | | n | % | n | % | n | % |
| Rank (0=Managers, 1=(Near) Partners) | Managers | 92 | 44.2 | 70 | 42.9 | 22 | 48.9 |
| | (Near) Partners | 116 | 55.8 | 93 | 57.1 | 23 | 51.1 |
| Gender (0=Male, 1=Female) | Male | 182 | 87.5 | 14 | 86.5 | 41 | 91.1 |
| | Female | 26 | 12.5 | 1 | 13.5 | 4 | 8.9 |
| Management Fraud Experience ¹ | Never | 86 | 41.3 | 70 | 42.9 | 16 | 35.6 |
| | Once | 55 | 26.4 | 44 | 27.0 | 11 | 24.4 |
| | Twice | 37 | 17.8 | 24 | 14.7 | 13 | 28.9 |
| | Three times | 13 | 6.3 | 12 | 7.4 | 1 | 2.2 |
| | Four times | 6 | 2.9 | 5 | 3.1 | 1 | 2.2 |
| | Five or more | 10 | 4.8 | 8 | 4.9 | 2 | 4.4 |
| | Missing | 1 | 0.5 | 0 | 0 | 1 | 2.2 |
| Employee Fraud Experience ² | Never | 40 | 19.2 | 32 | 19.6 | 8 | 17.8 |
| | Once | 73 | 35.1 | 56 | 34.4 | 17 | 37.8 |
| | Twice | 32 | 15.4 | 23 | 14.1 | 9 | 20.0 |
| | Three times | 24 | 11.5 | 17 | 10.4 | 7 | 15.6 |
| | Four times | 6 | 2.9 | 6 | 3.7 | 0 | 0 |
| | Five or more | 32 | 15.4 | 29 | 17.8 | 3 | 6.7 |
| | Missing | 1 | 0.5 | 0 | 0 | 1 | 2.2 |
| Fraud Consultation Experience ³ | Never | 163 | 78.4 | 13 | 81.0 | 31 | 68.9 |
| | Once | 34 | 16.3 | 2 | 14.1 | 11 | 24.4 |
| | Twice | 6 | 2.9 | 5 | 3.1 | 1 | 2.2 |
| | Three times | 3 | 1.4 | 2 | 1.2 | 1 | 2.2 |
| | Missing | 2 | 1.0 | 1 | 0.6 | 1 | 2.2 |
| Audit Consultation Experience ⁴ | Never | 28 | 13.5 | 25 | 15.3 | 3 | 6.7 |
| | 1-5 times | 110 | 52.9 | 88 | 54.0 | 22 | 48.9 |
| | 6-10 times | 39 | 18.8 | 28 | 17.2 | 11 | 24.4 |
| | 11-20 times | 23 | 11.1 | 16 | 9.8 | 7 | 15.6 |
| | 21-30 times | 3 | 1.4 | 2 | 1.2 | 1 | 2.2 |
| | More than 30 | 1 | 0.5 | 1 | 0.6 | 0 | 0 |
| | Missing | 4 | 1.9 | 3 | 1.8 | 1 | 2.2 |

¹⁻⁴ All terms defined in Panel A.

TABLE 2**Experiment 1—The Effect of Consultation Requirement Strictness and Underlying Fraud Risk on Fraud Risk Assessment and Consultation Propensity****Panel A: Fraud Risk Assessment^a — Raw Means, Standard Deviations, and Adjusted Means^b by Consultation Requirement Strictness^c and Underlying Fraud Risk^d**

| Consultation Requirement Strictness | Underlying Fraud Risk | Raw Mean | SD | Adjusted Mean | n |
|-------------------------------------|-----------------------|----------|-------|---------------|-----|
| High | High | 70.00 | 20.55 | 70.23 | 28 |
| | Low | 60.83 | 16.40 | 60.91 | 24 |
| | Overall | 65.77 | 19.13 | 65.57 | 52 |
| Low | High | 56.92 | 17.84 | 56.80 | 26 |
| | Low | 59.58 | 22.16 | 59.38 | 24 |
| | Overall | 58.20 | 19.87 | 58.09 | 50 |
| Overall | High | 63.70 | 20.22 | 63.51 | 54 |
| | Low | 60.21 | 19.30 | 60.14 | 48 |
| | Overall | 62.06 | 19.77 | 61.83 | 102 |

^a Fraud risk was assessed in response to the following question: “In your opinion, what is the probability that the described 2006 audit issue is an indicator of material fraud?” (0% = very low, 100% = very high)

^b Means are adjusted for covariates “Public Accounting Experience” and “Firm size” (Big4 auditors vs. medium-sized firm auditors).

^c Participants in the ‘strict requirement’ condition (CRS high) were told that consultation with a technical expert, in case fraud indicators are detected, is mandatory, that any advice received would be binding, and that additional testing must be reviewed by the expert. Participants in the ‘lenient requirement’ condition (CRS low) were told that they would decide themselves whether to seek advice from a technical expert or not, that any advice received would not be binding, and further review by the expert would not be required.

^d Underlying fraud risk was manipulated by varying opportunity, attitude and pressure factors for the client company. For example, in the high (low) UFR condition, management’s focus on internal controls is described as strong (limited), the client has (no) history of aggressive accounting, and many (few) audit adjustment have been proposed in prior year audits.

Panel B: Consultation Propensity^a — Raw Means, Standard Deviations, and Adjusted Means^b by Consultation Requirement Strictness^c (CRS) and Underlying Fraud Risk^d

| Consultation Requirement Strictness | Underlying Fraud Risk | Raw Mean | SD | Adjusted Mean | n |
|--|------------------------------|-----------------|-----------|----------------------|----------|
| High | High | 77.14 | 27.47 | 77.40 | 28 |
| | Low | 67.50 | 27.23 | 68.24 | 24 |
| | Overall | 72.69 | 27.52 | 72.82 | 52 |
| Low | High | 60.77 | 30.58 | 60.43 | 26 |
| | Low | 61.25 | 32.61 | 60.57 | 24 |
| | Overall | 61.00 | 31.25 | 60.50 | 50 |
| Overall | High | 69.26 | 29.90 | 68.92 | 54 |
| | Low | 64.38 | 29.89 | 64.40 | 48 |
| | Overall | 66.96 | 29.84 | 66.66 | 102 |

^a Consultation propensity was measured by asking participants the following question: “What is the probability that you would consult with the fraud advisor of your firm on the described audit issue?” (0% = very low, 100% = very high).

^b Means are adjusted for the covariates “Public Accounting Experience” (measured in years) and “Firm size” (Big4 auditors vs. medium-sized firm auditors).

^c See Panel A for a definition of consultation requirement strictness.

^d See Panel A for a definition of underlying fraud risk.

Panel C: Results of a 2x2 MANCOVA of Consultation Requirement Strictness (CRS) and Underlying Fraud Risk (UFR) on Fraud Risk Assessment and Consultation Propensity^a

| <u>Source of Variance</u> | <u>Wilks' λ</u> | <u>F-Statistic</u> | <u>p-value</u> |
|------------------------------|------------------------------------|--------------------|----------------|
| <u>Independent variables</u> | | | |
| CRS | 0.95 | 2.52 | 0.09 |
| UFR | 0.99 | 0.46 | 0.63 |
| CRS x UFR | 0.98 | 1.23 | 0.30 |
| <u>Covariates</u> | | | |
| Public Accounting Experience | 0.99 | 0.39 | 0.68 |
| Firm Size | 0.91 | 4.94 | 0.01 |

^a All terms defined in Panels A and B.

Panel D: Results of individual 2x2 ANCOVAs of Consultation Requirement Strictness (CRS) and Underlying Fraud Risk (UFR) on Fraud Risk Assessment (FRA) and Consultation Propensity (CP)^a

| <u>Source of Variance</u> | <u>DV</u> | <u>Type III Sum of Squares</u> | <u>df</u> | <u>Mean Square</u> | <u>F-Statistic</u> | <u>p-value</u> |
|------------------------------|-----------|--------------------------------|-----------|--------------------|--------------------|-------------------------|
| Model | FRA | 5292.48 | 5 | 1058.50 | 2.97 | 0.02 |
| | CP | 5010.13 | 5 | 1002.03 | 1.13 | 0.35 |
| <u>Independent variables</u> | | | | | | |
| CRS | FRA | 1315.54 | 1 | 1315.54 | 3.70 | 0.06 |
| | CP | 3567.52 | 1 | 3567.52 | 4.03 | 0.05 |
| UFR | FRA | 288.19 | 1 | 288.19 | 0.81 | 0.37 |
| | CP | 517.26 | 1 | 517.26 | 0.59 | 0.45 |
| CRS x UFR | FRA | 886.57 | 1 | 886.57 | 2.49 | 0.12 |
| | CP | 841.87 | 1 | 841.87 | 0.61 | 0.44 |
| <u>Covariates</u> | | | | | | |
| Public Acctng Experience | FRA | 271.65 | 1 | 271.65 | 0.76 | 0.39 |
| | CP | 307.68 | 1 | 307.68 | 0.35 | 0.56 |
| Firm Size | FRA | 2560.32 | 1 | 2560.32 | 7.19 | 0.01^b |
| | CP | 1.63 | 1 | 1.63 | 0.00 | 0.97 |
| <u>Error</u> | | | | | | |
| Error | FRA | 34175.16 | 96 | 355.99 | | |
| | CP | 84947.71 | 96 | 884.87 | | |

^a All terms defined in Panels A and B.

^b Big4 auditors assess fraud risk higher than medium-sized firm auditors.

TABLE 3**Experiment 2—The Effect of Consultation Requirement Strictness and Deadline Pressure on Fraud Risk Assessment and Consultation Propensity****Panel A: Fraud Risk Assessment^a—Raw Means and Standard Deviations by Consultation Requirement Strictness^b and Deadline Pressure^c**

| Consultation Requirement Strictness | Deadline Pressure | Raw Mean | SD | n |
|--|--------------------------|-----------------|-----------|----------|
| High | High | 68.89 | 20.63 | 27 |
| | Low | 69.20 | 20.40 | 25 |
| | Overall | 69.04 | 20.32 | 52 |
| Low | High | 60.00 | 21.02 | 25 |
| | Low | 59.66 | 21.80 | 29 |
| | Overall | 59.81 | 21.24 | 54 |
| Overall | High | 64.62 | 21.10 | 52 |
| | Low | 64.07 | 21.50 | 54 |
| | Overall | 64.34 | 21.20 | 106 |

^a Fraud risk was assessed in response to the following question: “In your opinion, what is the probability that the described 2006 audit issue is an indicator of material fraud?” (0% = very low, 100% = very high)

^b Participants in the ‘strict requirement’ condition (CRS high) were told that consultation with a technical expert, in case fraud indicators are detected, is mandatory, that any advice received would be binding, and that additional testing must be reviewed by the expert. Participants in the ‘lenient requirement’ condition (CRS low) were told that they would decide themselves whether to seek advice from a technical expert or not, that any advice received would not be binding, and further review by the expert would not be required.

^c Deadline pressure was manipulated by varying the time available to report the results of the audit to a bank as being either eight days or three months.

Panel B: Consultation Propensity^a—Raw Means and Standard Deviations by Consultation Requirement Strictness^b and Deadline Pressure^c

| Consultation Requirement Strictness | Deadline Pressure | Raw Mean | SD | n |
|--|--------------------------|-----------------|-----------|----------|
| High | High | 88.15 | 16.42 | 27 |
| | Low | 75.60 | 26.15 | 25 |
| | Overall | 82.12 | 22.35 | 52 |
| Low | High | 53.20 | 36.20 | 25 |
| | Low | 60.34 | 31.79 | 29 |
| | Overall | 57.74 | 33.61 | 53 |
| Overall | High | 71.35 | 32.54 | 52 |
| | Low | 67.41 | 30.04 | 54 |
| | Overall | 69.34 | 31.20 | 106 |

^a Consultation propensity was measured by asking participants the following question: “What is the probability that you would consult with the fraud advisor of your firm on the described audit issue?” (0% = very low, 100% = very high).

^b See Panel A for a definition of consultation requirement strictness.

^c See Panel A for a definition of deadline pressure.

Panel C: Results of a 2x2 MANCOVA of Consultation Requirement Strictness (CRS) and Deadline Pressure (DP) on Fraud Risk Assessment and Consultation Propensity^a

| <u>Source of Variance</u> | <u>Wilks' λ</u> | <u>F-Statistic</u> | <u>p-value</u> |
|------------------------------|------------------------------------|--------------------|----------------|
| <u>Independent variables</u> | | | |
| CRS | 0.83 | 10.16 | 0.00 |
| DP | 0.10 | 0.15 | 0.86 |
| CRS x DP | 0.96 | 2.06 | 0.13 |

^a All terms defined in Panels A and B.

Panel D: Results of Individual 2x2 ANCOVAs of Consultation Requirement Strictness (CRS) and Deadline Pressure (DP) on Fraud Risk Assessment (FRA) and Consultation Propensity (CP)^a

| <u>Source of Variance</u> | <u>DV</u> | <u>Type III Sum of Squares</u> | <u>df</u> | <u>Mean Square</u> | <u>F-Statistic</u> | <u>p-value</u> |
|------------------------------|-----------|--------------------------------|-----------|--------------------|--------------------|----------------|
| Model | FRA | 2256.56 | 3 | 752.19 | 1.71 | 0.17 |
| | CP | 19389.81 | 3 | 6463.27 | 7.96 | 0.00 |
| <u>Independent variables</u> | | | | | | |
| CRS | FRA | 2242.62 | 1 | 2242.62 | 5.09 | 0.03 |
| | CP | 16633.96 | 1 | 16633.96 | 20.48 | 0.00 |
| DP | FRA | 0.01 | | 0.01 | 0.00 | 0.10 |
| | CP | 192.69 | 1 | 192.69 | 0.24 | 0.63 |
| CRS x DP | FRA | 2.84 | 1 | 2.84 | 0.01 | 0.94 |
| | CP | 2559.49 | 1 | 2559.49 | 3.15 | 0.08 |
| <u>Error</u> | FRA | 44947.22 | 102 | 110.66 | | |
| | CP | 82863.96 | 102 | 812.39 | | |

^a All terms defined in Panels A and B.

Panel E: Interaction of Consultation Requirement Strictness and Deadline Pressure on Consultation Propensity—Means and Bonferroni Pairwise Comparisons (p-values)

| <u>Consultation Requirement Strictness</u> | <u>Deadline Pressure</u> | <u>Mean</u> | <u>Bonferroni Pairwise Comparisons (p-values)</u> | | |
|--|--------------------------|-------------|---|-----------------------------|-----------------------------|
| | | | <u>High CRS/ High DP</u> | <u>High CRS/ Low DP</u> | <u>Low CRS/ High DP</u> |
| High | High | 88.15 | | | |
| High | Low | 75.60 | 0.70 | | |
| Low | High | 53.20 | 0.00 | 0.04 | |
| Low | Low | 60.34 | 0.00 | 0.32 | 1.00 |

TABLE 4
Summary Results from ANCOVA Testing by Rank Split (Manager versus Partner/Near-Partner)

Panel A: F-Statistics (p-values)^{a, b}

| IV | DV | Experiment 1 | | Experiment 2 | |
|---------|-----|----------------------|------------------------------|----------------------|------------------------------|
| | | Managers | (Near) Partners ^c | Managers | (Near) Partners ^c |
| CRS | FRA | 1.09 (0.30) | 2.73 (0.10) | 0.22 (0.64) | 6.08 (0.02) |
| | CP | 3.60 (0.07) | 1.32 (0.26) | 9.71 (0.00) | 8.68 (0.01) |
| UFR | FRA | 0.02 (0.88) | 1.58 (0.21) | | |
| | CP | 0.11 (0.74) | 1.47 (0.23) | | |
| CRSxUFR | FRA | 0.06 (0.81) | 3.37 (0.07) | | |
| | CP | 0.11 (0.74) | 2.93 (0.09) | | |
| DP | FRA | | | 2.92 (0.09) | 3.26 (0.08) |
| | CP | | | 0.07 (0.80) | 0.08 (0.79) |
| CRSxDP | FRA | | | 0.16 (0.69) | 0.03 (0.87) |
| | CP | | | 3.10 (0.09) | 0.83 (0.37) |

^a All terms defined in Tables 1 and 2.

^b Before conducting rank-specific analyses for Experiment 1 and 2 data, we followed the same procedure of preliminary covariate testing as reported previously. First, given the previously reported non-random distribution of public accounting experience across treatment conditions in Experiment 1, we include this covariate in all separate analyses of Experiment 1 data. In addition, for (*near-*) *partners*, we found that firm size has a significant association with fraud risk assessment ($p=0.02$), which we therefore include in the respective MANCOVA and ANCOVA analyses in Experiment 1. For *managers*, we include employee fraud experience as a covariate in Experiment 1, since it is associated with fraud risk assessment ($p=0.03$). In Experiment 2, for (*near-*) *partners*, fraud consultation experience is associated with fraud risk assessment ($p=0.02$). For *managers*, management fraud experience is associated with fraud risk assessment ($p=0.09$).

^c Refers to the combined group of partners and senior managers in the sample.

Panel B: Experiment 1— (Near) Partners—Interaction of Consultation Requirement Strictness and Underlying Fraud Risk on Fraud Risk Assessment—Adjusted Means and Bonferroni Pairwise Comparisons (p-values)

| Consultation Requirement Strictness | Underlying Fraud Risk | Mean | n | Bonferroni Pairwise Comparisons (p-values) | | |
|-------------------------------------|-----------------------|-------|----|--|----------------------|----------------------|
| | | | | High CRS/ High UFR | High CRS/ Low UFR | Low CRS/ High UFR |
| High | High | 75.32 | 14 | | | |
| High | Low | 59.38 | 12 | 0.24 | | |
| Low | High | 57.24 | 19 | 0.07 | 1.00 | |
| Low | Low | 60.37 | 15 | 0.25 | 1.00 | 1.00 |

Panel C: Experiment 1— (Near) Partners—Interaction of Consultation Requirement Strictness and Underlying Fraud Risk on Consultation Propensity—Adjusted Means and Bonferroni Pairwise Comparisons (p-values)

| Consultation Requirement Strictness | Underlying Fraud Risk | Mean | n | Bonferroni Pairwise Comparisons (p-values) | | |
|-------------------------------------|-----------------------|-------|----|--|----------------------|----------------------|
| | | | | High CRS/ High UFR | High CRS/ Low UFR | Low CRS/ High UFR |
| High | High | 84.16 | 14 | | | |
| High | Low | 59.38 | 12 | 0.30 | | |
| Low | High | 59.76 | 19 | 0.20 | 1.00 | |
| Low | Low | 64.25 | 15 | 0.48 | 1.00 | 1.00 |

Panel D: Experiment 2—Managers—Interaction of Consultation Requirement Strictness and Deadline Pressure on Consultation Propensity—Adjusted Means and Bonferroni Pairwise Comparisons (p-values)

| Consultation Requirement Strictness | Deadline Pressure | Mean | n | Bonferroni Pairwise Comparisons (p-values) | | |
|-------------------------------------|-------------------|-------|----|--|---------------------|---------------------|
| | | | | High CRS/ High DP | High CRS/ Low DP | Low CRS/ High DP |
| High | High | 87.68 | 12 | | | |
| High | Low | 70.22 | 16 | 0.86 | | |
| Low | High | 45.66 | 9 | 0.01 | 0.34 | |
| Low | Low | 58.72 | 13 | 0.10 | 1.00 | 1.00 |

TABLE 5
Mediation Analysis

Panel A: Experiment 1—Results of Mediation Analysis (Baron and Kenny 1986)

Step 1

Show that X (consultation requirement strictness) is correlated with Y (fraud risk assessment).

| <u>Variable (n=102)</u> | <u>Coefficient</u> | <u>t-statistic</u> | <u>p-value</u> |
|-------------------------------------|--------------------|--------------------|----------------|
| Consultation requirement strictness | -0.19 | -1.96 | 0.05 |

Step 2

Show that X (consultation requirement strictness) is correlated with the mediator M (consultation propensity).

| <u>Variable (n=102)</u> | <u>Coefficient</u> | <u>t-statistic</u> | <u>p-value</u> |
|-------------------------------------|--------------------|--------------------|----------------|
| Consultation requirement strictness | -0.20 | -2.01 | 0.05 |

Steps 3 and 4

Show that M (consultation propensity) affects Y (fraud risk assessment). To establish that M completely mediates the X-Y relationship, the effect of X on Y controlling for M should be zero.

| <u>Variable (n=102)</u> | <u>Coefficient</u> | <u>t-statistic</u> | <u>p-value</u> |
|-------------------------------------|--------------------|--------------------|----------------|
| Consultation requirement strictness | -0.09 | -1.06 | 0.29 |
| Consultation propensity | 0.51 | 5.88 | 0.00 |

Step 5

Test whether the indirect effect of X (consultation requirement strictness) on Y (fraud risk assessment) via M (consultation propensity) is significantly different from zero.

Sobel test statistic: -1.90; $p=0.06$

Aroian test statistic: -1.88; $p=0.06$

Goodman test statistic: -1.93; $p=0.05$

Panel B: Experiment 2— Results of Mediation Analysis (Baron and Kenny 1986)

Step 1

Show that X (consultation requirement strictness) is correlated with Y (fraud risk assessment).

| <u>Variable (n=102)</u> | <u>Coefficient</u> | <u>t-statistic</u> | <u>p-value</u> |
|-------------------------------------|--------------------|--------------------|----------------|
| Consultation requirement strictness | -0.22 | -2.28 | 0.02 |

Step 2

Show that X (consultation requirement strictness) is correlated with the mediator M (consultation propensity).

| <u>Variable (n=102)</u> | <u>Coefficient</u> | <u>t-statistic</u> | <u>p-value</u> |
|-------------------------------------|--------------------|--------------------|----------------|
| Consultation requirement strictness | -0.40 | -4.50 | 0.00 |

Steps 3 and 4

Show that M (consultation propensity) affects Y (fraud risk assessment). To establish that M completely mediates the X-Y relationship, the effect of X on Y controlling for M should be zero.

| <u>Variable (n=102)</u> | <u>Coefficient</u> | <u>t-statistic</u> | <u>p-value</u> |
|-------------------------------------|--------------------|--------------------|----------------|
| Consultation requirement strictness | -0.03 | -0.27 | 0.79 |
| Consultation propensity | 0.48 | 5.08 | 0.00 |

Step 5

Test whether the indirect effect of X (consultation requirement strictness) on Y (fraud risk assessment) via M (consultation propensity) is significantly different from zero.

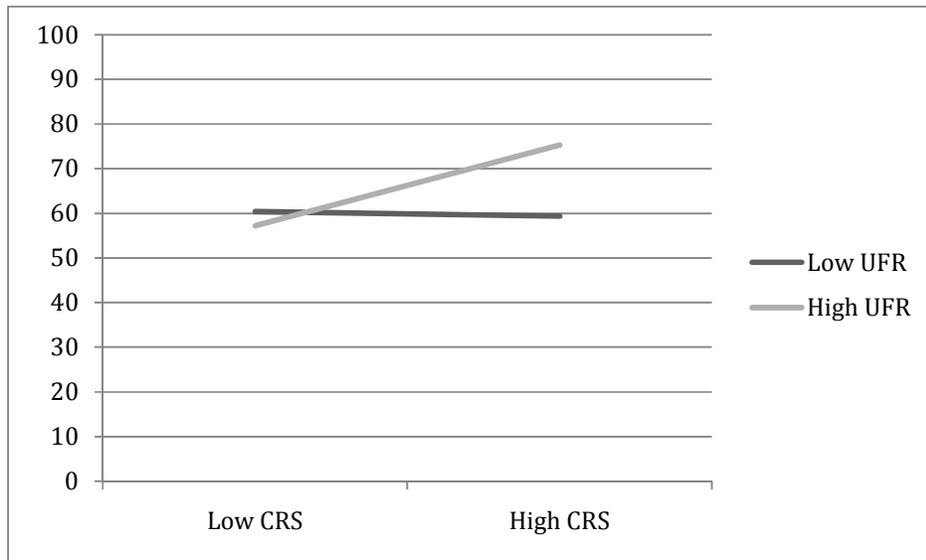
Sobel test statistic: -3.37; $p=0.00$

Aroian test statistic: -3.33; $p=0.00$

Goodman test statistic: -3.40; $p=0.00$

FIGURE 1
Experiment 1—Interaction Plots

Panel A: (Near) Partners—Interaction of Consultation Requirement Strictness and Underlying Fraud Risk on Fraud Risk Assessment



Panel B: (Near) Partners—Interaction of Consultation Requirement Strictness and Underlying Fraud Risk on Consultation Propensity

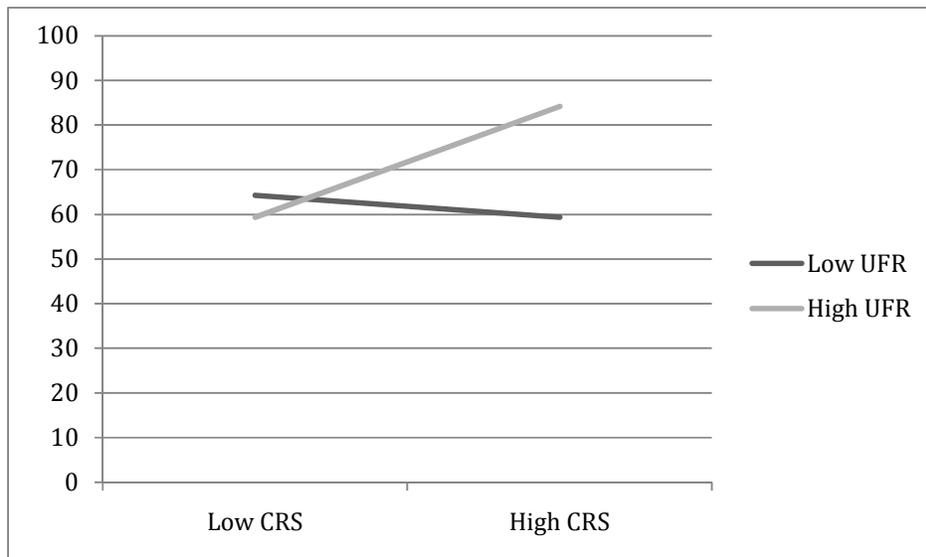
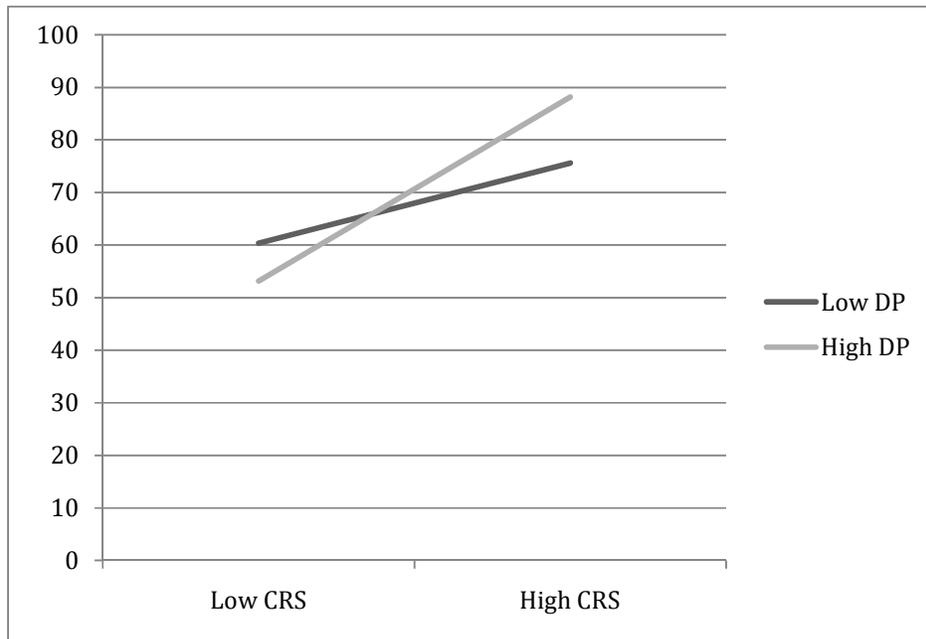
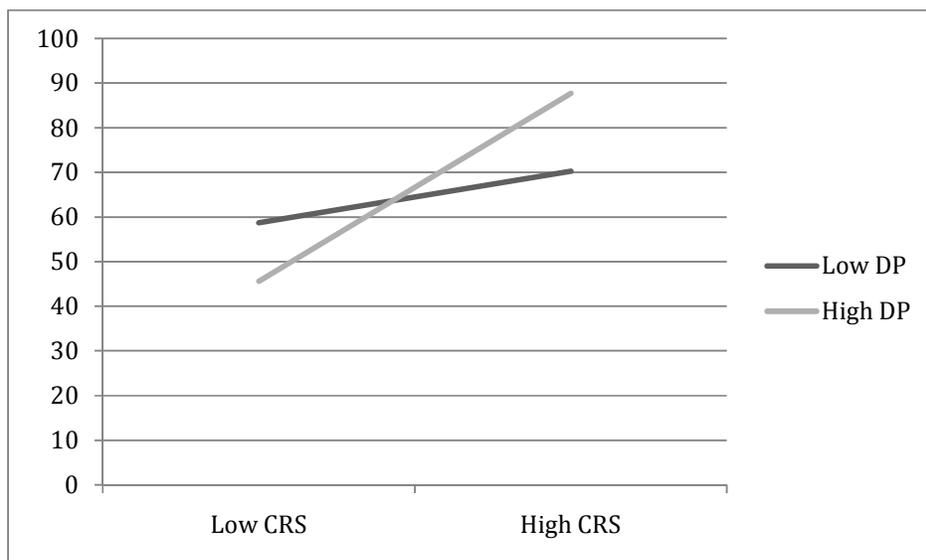


FIGURE 2
Experiment 2—Interaction Plots

Panel A: Complete Sample—Interaction of Consultation Requirement Strictness and Deadline Pressure on Consultation Propensity



Panel B: Managers—Interaction of Consultation Requirement Strictness and Deadline Pressure on Consultation Propensity



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