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This is a pre-copy-editing, author-produced PDF of an article accepted for publication in *AUDITING: A Journal of Practice & Theory*, volume 40, issue 1, in 2021 following peer review. The definitive publisher-authenticated version is available online at <https://doi.org/10.2308/AJPT-19-038>.

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Sounds Good to Me:
How Communication Mode and Priming Affect Auditor Performance

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Acknowledgements: We are grateful to the Center for Audit Quality for selecting this project to receive a 2017 Research Advisory Board Grant and for providing access to the auditing professional who participated in the study. We would also like to thank Robert Bowen, Martha Eining, Ira Solomon, Chris Smith, Xin Zheng, and participants of the 2019 Auditing Section Midyear meeting, 2019 Hawaii Accounting Research Conference, and workshop participants at the University of San Diego and the University of Nevada – Las Vegas for their valuable comments.

Sounds Good to Me:
How Communication Mode and Priming Affect Auditor Performance

Abstract: Audit associates routinely interact with clients to request explanations and evidence regarding financial statement account balances. Client explanations may be vague or incomplete. We examine whether auditors' assessments of the quality of client explanations and their decision to follow-up with the client are influenced by (i) communication modes that vary in media richness, and (ii) a prime that is intended to stimulate skeptical behavior. Media richness refers to the amount of data inherent in the communication mode. We predict that richer communication modes, such as video, can be more distracting than less rich communication modes, such as email. More distracted auditors will assess the quality of the client's response as higher and are less likely to follow-up with the client -- potentially impairing audit quality and increasing audit risk. We also predict that this behavior can be mitigated by a prime that focuses the auditor on the verifiability of the client's response. Our results are consistent with these predictions.

Key words: Auditor-client interactions, Distraction-Conflict theory, priming, skepticism, mode of communication, computer mediated communications, media-richness

I. INTRODUCTION

Throughout the course of an audit, audit associates routinely interact with the client to request explanations and evidence regarding financial statement account balances. Because client management may have incentives to misrepresent their financial statements during an audit, their communications with the auditor may be intentionally vague or incomplete. Ideally, when client communications are vague or incomplete, audit associates follow-up with client management to corroborate or refute the client's explanations. Audit associates then communicate the results of this fieldwork to their superiors, who monitor their work to ensure sufficient and appropriate audit evidence is obtained to support the audit opinion. The quality of the audit is affected by the auditor's use of professional skepticism to evaluate the explanations and evidence received from the client. PCAOB standards define professional skepticism as "an attitude that includes a questioning mind and a critical assessment of audit evidence" (PCAOB 2012).

Our research investigates whether (i) the communication mode (video or email) and (ii) priming via the description of the client's response (as an explanation or fact) affect how auditors assess the quality of the client's response and the auditor's decision to follow-up with additional questions. Examining the effect of communication mode is important because audit associates often can choose their mode of communication for client enquiry, e.g., whether to have an in-person conversation with the client or to send an email. Auditors should also be aware that the communication mode used by the client can influence the auditor's subsequent level of skepticism.

Each communication mode has different characteristics. Until recently, face-to-face communication was the only communication mode that was high in both social presence (i.e., awareness of the other party to the communication) and media richness (the volume of data

conveyed). However, improvements in technology allow video communication (e.g., Skype or Zoom meetings) to provide the convenience and efficiency of remote auditing, yet preserve much of the social presence and richness associated with face-to-face communication. Media richness theory describes the ability of a communication medium to reproduce the information sent over it and ranks the richness of different communication media. According to media richness theory, video communication ranks second, behind face-to face communication, in richness because it communicates visual data as well as auditory data (Robert and Dennis 2005; Suh 1999). Recent papers examining outcomes associated with different auditor-client communication modes include email and video communication modes. For example, Saiewitz and Kida (2018) find that the client is more likely to respond with biased information supporting the client's position when an auditor asks for information via e-mail rather than video communication. As video communication is increasingly used in practice, we believe it is important to study in its own right. Additionally, much of what we learn from video communication likely extrapolates to face-to-face communication.

Typically, when audit associates inquire with clients in the evidence gathering process, audit associates prefer to use email and this preference continues to strengthen with generational differences (Nellen, Manly, and Thomas 2009; Reutter 2010; Wilson and Rember 2010). There are several reasons for this preference. First, email is generally considered more convenient and less intrusive by both the sender and receiver, which is beneficial as auditors balance the need to obtain necessary audit evidence while not annoying or bothering the client through excessive questioning (Guenin-Paracini, Malsch and Tremblay 2015). Second, audit associates often experience social anxiety when they question a client in-person, as client managers are typically older, more experienced, and more knowledgeable about the company's financial reporting

(Bennett and Hatfield 2013). Social anxiety “arises when people are motivated to make a preferred impression on real or imagined audiences but doubt they will do so, and thus perceive or imagine unsatisfactory evaluative reactions” (Schlenker and Leary, 1982, p. 641).

In addition to generating social anxiety, in-person communications in the audit environment are distracting because of their media richness, i.e., the sheer volume of visual and auditory stimuli. Email, being less data-rich, involves less distraction and allows the auditor to process the content of communications received from the client without the client present. Auditors can also carefully compose responses to the client without these distractions. Prior experiments that compare face-to-face communications to email have both social anxiety and distraction (due to media richness) simultaneously influencing the performance of their face-to-face participants. In our experiments, we remove the social anxiety present with in-person communication by using (one-way) video communications. As a result, the effects in our study should be due primarily to distraction inherent in the data “richness” of the video communication compared to the email communication, i.e., the client and the client’s physical environment are visible and communications are audible but the auditor does not interact with the client.

In practice, audit partners tend to prefer that audit associates communicate with clients in-person (Bennett and Hatfield 2018; Westermann, Bedard, and Earley 2015). Partners believe these conversations are more effective for relationship building and that nonverbal cues observed in in-person conversations are helpful for interpreting the truthfulness of client managers’ responses.¹ Therefore, the challenge for audit associates is to maintain appropriate skepticism when interacting with clients in-person so that the relationship-building objectives can be achieved without impairing audit quality or increasing audit risk.

¹ Professionals tend to be overconfident in their ability to detect deception via nonverbal cues (McCornack and Parks 1986; Holderness 2013).

We investigate whether using email communication between auditors and client management may have advantages over more media-rich communications, such as video communication. First, we predict that email (compared to video) communication will facilitate auditors' ability to more accurately assess the quality of the client's response by reducing distraction and allowing the auditor to focus on the content of the communication. Second, we predict that when media-rich communication is desirable or unavoidable, auditors can be primed to more accurately assess the quality of the client's response.

Auditors often ask their client for explanations about account balances or unexplained fluctuations in accounts. Clients' responses can vary in quality from complete and verifiable to incomplete and misleading. Ideally, the auditor's questions elicit evidence that can be corroborated. This ideal may be accomplished through structured auditing tools such as templates that guide the auditor or through other less formal (and less conscious) means such as activating skeptical behavior through priming (Durkin, Rose and Thibodeau 2020). In this experiment, we demonstrate this concept by priming the auditor to apply skepticism when evaluating a vague and incomplete response from the client by using the phrases "I've outlined the facts" or "I wanted to provide you with an explanation." When the client's response is described as "facts" rather than "explanation," the prime activates the auditor's goal to evaluate the validity of the response. We predict this prime will counteract distraction and help the auditor more appropriately assess the quality of the client's response. We also predict that the auditors' likelihood of following up with the client will be mediated by their quality assessments of the client's communication.

We conducted a 2x2 between-participants experiment with 199 auditors. Each auditor read a short case and then composed a message to a fictitious client asking about the valuation of

a particular product line in the client’s inventory. The auditor was then provided with a response from the client that was purposely vague and omitted important information relevant to the inventory balance. All of the auditors received a response with nearly identical content; however, they received the response as either a written email or a video message. Each response was described either as an explanation (“I wanted to provide you with an explanation about the [inventory] valuation”) or as facts (“I’ve outlined the facts regarding the [inventory] valuation”) with enumeration of the content. All other content in the communication was kept constant across conditions (see Appendix A for the text of the responses). Each auditor then assessed the quality of the client’s response (i.e., the reasonableness, usefulness, completeness and vagueness) and indicated the likelihood they would follow-up with the client with additional questions.

Our results indicate that a video response from the client that was described as an explanation was assessed as higher quality than a video response described as facts, or than email responses whether described as facts or explanation. As a result, auditors were less likely to follow-up with additional questions when a video response from the client was described as an explanation, compared to the other three conditions. These results support our hypothesis that auditors are less critical of the client’s explanation when received via rich communication media, such as video or face-to-face.² However, priming moderates this effect. When the client claims to be presenting the “facts” in the video but provides the auditor with somewhat vague and incomplete information, auditors react with increased skepticism similar to the email conditions.

Given that clients are often asked to provide auditors with explanations of account balances, our results suggest that there may be an underappreciated benefit of using email as a

² The video message was likely less distracting to the auditor than an actual face-to-face meeting with a client would be – potentially weakening our results. A setting that compares an actual face-to-face setting and email may reveal even stronger differences.

communication channel for these interactions. Email reduces the distraction that media-rich communication engenders. Email also allows auditors more time to process the client's response. Both increase the likelihood of auditors using healthy professional skepticism. While audit partners typically encourage audit associates to use in-person interactions whenever possible, our findings suggest that in-person communication may limit associate auditors' performance.

We acknowledge that email exchanges are not always possible and are less likely to encourage relationship building. While the auditor may have little influence on how the client responds, our results suggest that interventions that encourage the auditor to request facts from the client, rather than an explanation, could help audit associates mitigate distractions and exercise appropriate skepticism.

The paper is organized as follows. Section II presents a literature review and the theory underlying our predictions. Section III presents our experimental method. Section IV discusses the results. Section V discusses limitations and concludes.

II. LITERATURE REVIEW, THEORY AND HYPOTHESES

Auditor and Client Interactions

Auditors try to strike a delicate balance between obtaining necessary audit evidence and not annoying or bothering the client through excessive questioning (Guenin-Paracini et al. 2015). During fieldwork, auditors at the associate level have extensive interactions with client management.³ Associate auditors are typically significantly younger, less experienced, and less knowledgeable about financial accounting issues than client management. Experimental evidence from Bennett and Hatfield (2013) suggests that relatively inexperienced auditors (i)

³Ninety-three percent of our participants (associate auditors) report interacting with clients at least once per day. Bennett and Hatfield (2013) surveyed auditors and found that 86 percent of staff auditors report meeting with management three to five times per week, while 37 percent report meeting daily.

find client management intimidating because of the differences in age, experience, and knowledge, (ii) avoid face-to-face interaction, and (iii) are reluctant to follow up with clients on audit matters that require further evidence. Obviously, any failure to follow-up with client management could have serious implications for audit quality if not detected in the review process. To compound the potential problem, Bennett and Hatfield (2013) also find that approximately half of the participants (graduate accounting students with internship experience) who did not follow-up with clients documented their work in a vague or inappropriate manner. Such poor-quality documentation reduces the likelihood that supervising auditors would identify problems during their review. Bennett and Hatfield (2013) also examine the effect of communication mode on the likelihood of participants to initiate a request for additional evidence. They find that when interactions with client management were accomplished through email, participants were more likely to follow-up with requests for additional evidence. Audit associates generally prefer email because, in contrast to face-to-face communication, it allows the sender to carefully compose what needs to be communicated. The receiver can also review and process the communication more extensively (Brazel, Agoglia and Hatfield 2004; Maruping and Agarwal 2004). However, communicating through email may not always be possible or desirable.

Our research complements and extends Bennett and Hatfield (2013) in the following ways. First, we use associate auditors with approximately three years of audit experience rather than Master of Accounting Students with two and a half months of internship experience. Second, we use video communication whereas they used face-to-face communication using an experimental confederate as the client. We believe this is important given (i) the increase in remote location auditing made possible by recent technological advances, and (ii) the

experimental control a video provides. Third, we use a more experienced client in our videos who projects a friendly, unthreatening manner whereas they manipulated the age/experience of the client and found that their participants were only reluctant to follow-up with the older, more experienced client.⁴ Finally, as we explain later, we introduce a prime to activate a skepticism goal to determine whether an intervention of this type might counteract the distraction engendered in media-rich communication modes such as in-person and video.

Media Richness Theory

Modes of communication vary in terms of media richness. Media richness refers to the volume of information available to the receiver of a communication at the time of the communication (Robert and Dennis 2005). Face-to-face communication is considered the “richest” in information because it brings both parties together at the same time and place and transmits body language, gestures and situational data (characteristics of the room, person’s clothing, grooming, etc.). Video communication, such as Skype or Zoom, is considered the next “richest” communication mode and is similar to face-to-face communication as it also allows both parties to communicate with each other at a specific time, and transmits body language, gestures and situational data. However, video communication lacks physical proximity. Finally, written communication such as email, is the least “rich” communication mode because the only information conveyed is the message content (Robert and Dennis 2005).

The Benefits and Drawbacks of Face-to-Face Communication

Westermann et al. (2015) report that audit partners express two major concerns with associate auditors’ preference to use email as a primary communication channel with clients. First, audit partners are conscious of building and maintaining client relationships for the future

⁴ Bennett & Hatfield (2013) manipulated the demeanor of their older, more experienced client (intimidating versus neutral) and found no difference between conditions with respect to the behavior of their participants.

benefit of the firm and believe this is best accomplished through in-person conversations. In support of this conjecture, Bennett and Hatfield (2018) find that auditors communicating through email use fewer relationship-building statements. Second, professional guidance advises auditors to attend to verbal and nonverbal responses that might indicate deception (AICPA 2002; CICA 2000). Audit partners believe that nonverbal cues observed in face-to-face and video communication are helpful in interpreting the truthfulness of managers' responses. In support of this conjecture, Bennett and Hatfield (2018) find that auditors communicating via email ask fewer follow-up questions of the client, although they do request more documentation relative to their face-to-face participants. Bennett and Hatfield (2018) employ a confederate representing the client in their experiments. They manipulate whether the client exhibits nonverbal behaviors believed to be associated with deception, i.e., acting uncomfortably. They find auditors are more skeptical when facing a confederate exhibiting deceptive signals (lack of eye contact, etc.) compared to a confederate who does not. However, clients practiced in the art of deception may not exhibit such behavior. In the larger body of deception detection research, evidence is sparse to support the belief that deception can be reliably detected from visual nonverbal cues. Rather, prior research generally finds that individuals perform barely better than chance in detecting true deception (Levine 2014). In fact, some evidence suggests that face-to-face communication can *increase* individuals' predisposition to believe what they are being told (Holderness 2013; Buller, Strzyzewski and Hunsaker 1991) because nonverbal cues can be distracting and easily misinterpreted. In addition, credible lies (and liars) can be persuasive. The challenge is for audit associates to exercise appropriate skepticism when interacting with clients in-person so that the relationship-building objectives can be achieved without impairing audit quality or increasing audit risk. Although we are interested in skeptical behavior among auditors, we do not look for

deception detection by auditors. Instead, we investigate a more common situation in which the client (intentionally or not) provides a less than useful response to an inquiry – one that is vague and omits important information. We hypothesize that higher media richness will be distracting in this situation and impair auditors' ability to discern the quality of the client's response.

Distraction-Conflict Theory

Distraction-Conflict Theory predicts that when interacting with others, an individual's attention is distracted by a myriad of stimuli, many of which are irrelevant to the primary task (e.g., the other party's facial expressions, clothes, what is on their desk, etc.). This overload stimulates the individual to restrict their attention to a narrower range of stimuli (Baron 1986). If this prioritizing restricts the individual to relevant cues and screens out irrelevant cues, the individual's performance improves. Enhanced performance is more likely on simple tasks where the relevant cues are obvious. On more complex tasks, such as evaluating communications from client management, performance is likely hindered as relevant cues may not be obvious and the client may try to obscure relevant information. Without clearly relevant cues, an individual is likely to prioritize (and possibly re-prioritize) attention to incorrect stimuli. Distracted individuals are unlikely to deeply process "real time" communications because they cannot easily restrict their attention to only what is pertinent to the task at hand. Without deep processing, distracted individuals tend to be less critical, ignore important cues and resort to various cognitive shortcuts to conserve their limited attention, i.e., they tend to engage in shallow information processing. For example, one could evaluate the consistency rather than the completeness of a client explanation. Consistency matters for a good story and creating a coherent pattern in a story makes it more likely that the story will seem acceptable, particularly when the listener lacks knowledge in the area (Kahneman 2011).

Priming the Auditor to Reduce Distraction

Can the distraction present in communications with high media richness be mitigated by a prime that prompts distracted auditors to narrow their attention to more relevant stimuli?

Research by Ninio and Kahneman (1974) describes attention as a limited commodity that gets allocated to some stimuli in preference to other stimuli. When irrelevant stimuli draw attention, the processing of relevant stimuli suffers (Ninio and Kahneman 1974). The key is to nudge the individual to allocate attention to desired stimuli. Then only spare capacity, if any, will be allocated to irrelevant stimuli. We propose that priming may be a promising intervention to provide that nudge and mitigate distraction.

How can priming do this? Priming occurs when the introduction of one stimulus influences how individuals respond to subsequent stimuli. Priming works by activating a mental association, representation, or goal, prior to the introduction of the subsequent stimuli, without our conscious awareness (Chartrand and Bargh 1996). For example, auditors are required to audit the client's assertions that account balances are appropriately valued.⁵ An audit associate tasked with this audit objective might start by asking a client to explain the valuation of the account balance. The auditor then seeks to corroborate the client's explanation, i.e., the auditor wants to know what facts support or refute the valuation of that account. However, explanations vary in quality and research clearly indicates that individuals are prone to accepting explanations more readily than is warranted by their quality or evidential value (Gilbert 1991; Brem and Rips 2000). Explanations are often influenced by more than facts; explanations can reflect beliefs, prejudices, hopes, and incentives, among other things. As a result, an explanation may be less relevant, less reliable, and less complete than the recipient might realize. This can be a

⁵ Inventory balances should be written down to their realizable value if there is evidence that realizable value is below cost.

significant problem for an auditor who must assess the quality of clients' explanations and how to support or refute them. We believe that mechanisms that focus attention on relevant information – like priming – could be effective in this regard.

Priming behavior, i.e., when a prime unconsciously influences behavior, has been demonstrated repeatedly in the psychology literature (e.g., Bargh, Gollwitzer, Lee-Chai, Barndollar, and Trötschel 2001). More recently however, priming has become controversial due to failures to directly replicate some earlier studies (e.g., Doyen, Klein, Pichon, and Cleeremans 2012; Harris, Coburn, Rohrer, and Pashler 2013; Klein et al. 2014; Shanks et al. 2013).⁶ Replication failures may be due to many factors such as experimental procedures, small sample sizes, and differences in stimuli, but the failure to replicate also raises the real possibility that the original studies incorrectly rejected the null of hypothesis of no priming effects, i.e., type I errors.

To shed some light on this controversy, Weingarten et al. (2016) examine 352 effect sizes from 133 published and unpublished studies with a meta-analysis. Their meta analyses indicate stronger priming effects when the behavior or goal being primed is more highly valued by participants, consistent with prior literature suggesting a positive relation between valued behavior and behavioral priming (Fishbach and Ferguson 2007; Forster, Liberman, and Friedman 2007).⁷ Weingarten et al. (2016) suggest that some of the studies may have failed to replicate priming effects because the behavior being primed was not highly valued by the participants, e.g., presenting achievement words to participants who do not value successful puzzle solving.

⁶ Behavioral priming is conceptually distinct from semantic priming. In the latter, a word prime activates associations such that related words are more quickly recognized, e.g., after being primed with the word “nurse,” a person will more quickly recognize the word “doctor.” Our study is concerned with behavioral priming.

⁷ For example, priming with achievement-related words is more likely effective with individuals who are intrinsically or extrinsically motivated to achieve.

Relatedly, Payne, Brown-Iannuzzi and Loersch (2016) replicate priming effects in six studies and find evidence that primes can influence behavior unintentionally, i.e., unconsciously, as found in earlier research (Bargh et al., 2001).

We use priming in our study to activate the auditor's goal to carefully evaluate the quality of the client's response. We believe that priming could be an effective mechanism in this setting because skeptical behavior is highly valued in the auditing profession. Thus, the conditions are favorable for finding a priming effect should one exist.

We implement a prime in our experiment as follows. The client describes his response as "facts" (rather than an "explanation") and enumerates the elements of the response. The word "fact" is defined as a statement that can be objectively verified. This prime essentially activates the goal of listening to the client's communication to determine its veracity, i.e., the ability to be corroborated or refuted. If this prime is successful, we expect that auditors who receive a video response described as "facts" will focus their attention on verifying the facts and evaluate the response as lower quality than auditors who receive a video response described as an "explanation." We expect auditors in the video condition receiving an "explanation" to have lower performance due to their distracted attention. If more distracted, they will rate the client's explanation as higher in quality, and therefore require less follow-up.⁸ Our hypotheses follow:

H1: Conditioned on receiving an explanation from the client, video communications result in lower auditor performance than email communications.

H2: Conditioned on receiving video responses from the client, responses described as facts will result in higher auditor performance than responses described as explanations.

⁸ We do not predict a fact versus explanation main effect because we cross this factor with email versus video. The use of email communication gives participants the opportunity to read the "facts" or "explanation" without distraction, and to re-read the client's response. Reading without distraction can induce more careful processing of the content in the response, similar to the primed behavior. Therefore, we expect the responses of participants in the video/fact condition to be similar to the responses of participants in both email conditions (email/fact and email/explanation).

H3: Auditors' follow-up judgments are mediated by their evaluations of the quality of the client's response.

III. EXPERIMENT

Participants

The *Center for Audit Quality* (CAQ) provided access to associate auditors working at seven public accounting firms.⁹ For one accounting firm, we were given access to their auditors (42 usable responses) during one afternoon of their week-long firm training. An author distributed cards with the link (URL) printed on it for the auditors to type into their browser to access the study. The author remained in the room until all auditors left. For the remaining six accounting firms, the CAQ provided our survey link directly to the firms. These six firms distributed the link to audit associates within their firm. We had no direct contact with the firm or their auditors nor could we control when the auditors activated the link. Our data indicate that approximately 52% of these auditors started the experiment in the morning, 38% in the afternoon and 10% in the evening. This collection resulted in 157 usable responses.¹⁰ Combined, our data includes responses from 199 auditors with an average of 3.5 years of audit experience. Seventy-eight percent (156 of the 199 auditors) have between three and five years of experience; the minimum experience is 22 months and maximum experience is 96 months. The auditors (196 of 199) describe their current position or rank within the firm as “Senior.” On average, the auditors

⁹ The CAQ is an autonomous, nonpartisan, nonprofit public policy organization based in Washington, DC, and is supported by the membership of U.S. accounting firms registered with the Public Company Accounting Oversight Board (PCAOB). In 2009, the CAQ began awarding grants to support auditing-related scholarly research, including monetary funding and providing access to auditors working in public accounting.

¹⁰ Eleven responses were unusable because the auditors answered frivolously and/or completed the survey in less than 10 minutes, which the experimenters were barely able to do with skimming the text and mindlessly “clicking” for each forced response. For example, we asked participants to compose a message to the client. Frivolous responses could be a message to the client that says only “Hi Mark, I like your shirt” or random keystrokes.

have worked on the audit team of eleven different clients. Fifty-nine percent are currently employed at Big 4 accounting firms (with the remaining 41 percent coming from other multinational firms), 80 percent are CPAs, 52 percent are male, and 93 percent report that they interact with clients at least once per day.¹¹ The auditors estimate interacting with the client approximately 37 percent of the time in-person and 49 percent via email.

Experimental Case

The web-based experiment was administered to the auditors using *Qualtrics* software, which randomly assigned auditors to experimental conditions. Auditors read a short case about the inventory valuation of a fictitious client (adapted from Durkin 2020). The auditors were asked to assume the role of an audit engagement team member who is performing a preliminary analysis of the finished goods inventory balance for a client. A pending acquisition by another company is discussed in the case making it clear that it is in the client's best interest to have impressive numbers for certain balance sheet and income statement accounts.

The case suggests that one of the client's products has a potential obsolescence problem. Auditors were asked to write a message to the client asking about the valuation of the inventory balance. Auditors then received a response from the client in the form of an email or a video message. The content of the response contains some vague but truthful information. However, the response omits important information from the case that suggests a write-down of the inventory balance may be necessary.

In all conditions, auditors are asked to provide their judgments of the client's response with respect to reasonableness, usefulness, completeness, and vagueness. Although the auditors

¹¹ We requested access to auditors with at least 2 years and preferably 3-4 years of experience in auditing for our instrument. Of the 199 auditors, eight failed the manipulation check question. The results do not change if these responses are removed. Given this, we include them in the analysis.

weren't provided with an opportunity to engage in a back and forth conversation with the client, we ask the auditors how *likely* they are to follow-up with the client, to list additional questions or requests they have for the client, and to indicate how likely it is that their audit team will recommend a write-down of the inventory account and the amount. Auditors then respond to debriefing questions and provide demographic information.

Independent Variables

The experiment is a 2x2 between-participants design. First, we manipulate the *communication mode* between the client and the auditor. The response from the client is received in the form of an email or a video.¹² The actor playing the role of the client was selected to give the impression that he was older and more experienced than the auditor.¹³ He was instructed to read the script with an easy-going approachable demeanor to minimize the feeling of intimidation.¹⁴ The advantage of video over face-to-face communication in experiments is that videos are rich in information similar to face-to-face communications yet they do not demand as much of the experimenter, i.e., they avoid using 'confederates' who communicate with each participant separately and potentially introduce experimental error. Additionally, using videos

¹² The auditors in the email condition indicated that they read the email response from the client 2.6 times on average (2.38 and 2.81 times in the explanation and fact conditions respectively). This difference was significant ($p = 0.04$, one-tailed) supporting our prediction that priming with "facts" focuses auditors on the relevant data. One of the benefits of email is that the communication can be re-visited, and the auditors indicated that they took advantage of this characteristic. Auditors in the video conditions indicated that they watched the video 1.1 times on average, (1.15 and 1.09 times in the explanation and fact conditions respectively, with no significant difference between the two conditions $p = 0.41$) suggesting that they treated the video as a real live conversation where information is communicated once, with limited opportunities to ask a communicator to repeat themselves.

¹³ To ensure the appearance of the client or the sound of his voice weren't driving the results, auditors (including those in the email condition) watched a short (4 second) video at the beginning of the case where the client introduced himself. The data were collected in two phases (before and after the 2018 busy season) and the introduction video was added prior to commencing the second phase of data collection. When added as a covariate, the data collection period was not significant.

¹⁴ The video message was pretested with undergraduate auditing students. We confirmed that the client's tone and demeanor were not viewed as intimidating or threatening by the students. Rather, the tone was assessed between friendly and neutral. Bennett and Hatfield (2013) examined the intimidation of an older, more aggressive client as compared to a kinder client of a similar age to the participant. To mimic a realistic audit setting, we chose a client older than the average audit associate.

controls for the synchronicity differences between face-to-face communications and email, i.e., immediate interactions can occur with face-to-face communications but not with email. The use of (one-way) video has an added advantage in our case as it controls for social anxiety because the auditor does not interact with the client.

Second, we manipulated the *description of the communication* from the client. When the response was described as an explanation, the client began by saying “I want to provide you with an explanation about the inventory valuation.” When the response was described as the facts, the client began by saying “I’ve outlined the facts regarding the inventory valuation.” In the “facts” condition, the remainder of the content was presented by the client in a list (numbered 1 to 3), whereas in the “explanation” condition, the identical content was presented without enumeration.¹⁵ See Appendix A for the client responses.

Dependent Variables

The first dependent variable is the auditor’s assessment of the quality of the client’s response. This variable was the result of a factor analysis of four questions we asked auditors about the client’s response. Specifically, the auditors were asked to assess the (i) reasonableness, (ii) usefulness, (iii) completeness, and (iv) vagueness of the client’s response. Assessments were on an eleven-point scale (from 1 = “not at all” to 11 = “very”). The responses to vagueness were reverse coded so that the means could be interpreted in the same direction as the other three questions. These four variables loaded on one factor which we call “quality” of the response.¹⁶

¹⁵ Because both the description “facts” vs “explanation” and the enumeration vary across the fact and explanation conditions, it is impossible to tell exactly what causes a difference between these conditions. To resolve this issue, we ran two additional “fact” video conditions with senior accounting students (n =41) where the only difference is the removal of the enumeration in one of the conditions. We find no significant differences between enumeration and no-enumeration conditions for any of the dependent variables. The closest to significance was $p = 0.17$ for quality (two-tailed) with enumeration associated with lower quality assessment. However, this difference did not carry through to auditors’ propensity to ask follow-up questions ($p = 0.99$).

¹⁶ This factor had an eigen value of 2.120 and explained 53 percent of the variance. Bartlett’s test of sphericity yielded an approximate Chi-Square of 137.638, $df = 6$ and $p < 0.001$.

To construct this variable, we average the auditor's responses to four questions related to the quality of the client's response.¹⁷

The second dependent variable is the auditor's assessment of the likelihood of following up with the client. The auditors responded using an eleven-point scale (from 1 = "very unlikely" to 11 = "very likely"). We also asked questions about the write-down of the inventory account, i.e., how likely it was that the audit team would recommend a write-down of the inventory account and the amount of the write-down. However, it likely seemed premature to recommend adjusting the account before the client's explanation has been further examined.

Covariate

We also measure the pressure the auditors perceived from the client as there could be individual differences with respect to pressure felt when communicating with an audit client. Differences in pressure may be due to the auditor's prior experiences interacting with clients (or people in authority) or due to the auditor's personality (such as shyness). We expect that random assignment to conditions would limit the effect of these factors on the outcome of the experiment. The auditors indicated their agreement with the following statement: "When asking about the inventory balance, I felt pressure from Mark [the client] to avoid recommending a write-down" using a seven-point scale (from 1 = "strongly agree" to 7 = "strongly disagree"). See Table 1 for descriptive statistics on these variables by condition and overall.

[insert Table 1 about here]

IV. RESULTS

¹⁷ If we include three other variables (how honest the response was, how likely that the client was trying to mislead, and how skeptical they were of the client response) in the factor analysis, two distinct components emerge. The first is Quality (with the four variables described above); the second component is Client Integrity based on these three variables. We do not discuss Client Integrity as a dependent variable because we did not expect to nor do we find that the client is characterized as having more or less integrity based on our independent variables.

Univariate Analysis

Table 2, Panel A shows the mean (standard deviations) of the auditors' responses to four questions designed to measure auditors' quality assessments.¹⁸ The perceived quality of the client's response is lowest in the email/facts condition (4.14), consistent with auditors being most skeptical in this condition. The perceived quality of the client's response is highest in the video/explanation condition (4.92), consistent with auditors being most distracted and least skeptical in this condition.

[insert Table 2 about here]

In Table 2, Panel B, we examine the simple main effects of communication mode and priming of the client's response on auditors' judgment of the quality of the client's response. To test H1, we examine the simple main effect of communication mode (email or video) within the explanation condition. We use one-tailed tests because we have directional predictions. Consistent with H1, we find that auditors receiving an email explanation from the client considered the client's response to be of significantly lower quality than auditors receiving a video explanation ($t = 1.65, p = 0.05$, one-tailed). To test H2, we examine the simple main effect of priming (explanation or fact) in the video condition. Consistent with H2, we find that auditors who receive a video response from the client described as "facts" assess the client's response significantly lower in quality than auditors who receive a video response described as an "explanation" ($t = 1.71, p = 0.05$, one-tailed). To jointly test H1 and H2, we examine the simple main effect of a video explanation on the assessed quality of the client's response relative to the other three

¹⁸ The number of auditors in each condition varies slightly as the assignment to the condition occurs when auditors begin the case. Some auditors started but did not finish the case resulting in different numbers of completed instruments for each condition (only completed instruments are included in the data). There are no statistical differences in months of experience, the number of clients, gender, or CPA status between the four conditions, therefore we did not control for these characteristics in the analysis.

conditions. We find the quality evaluation is significantly higher in this condition ($t = 2.52$, $p = 0.01$, one-tailed), again consistent with auditors being more distracted and less skeptical.¹⁹

Table 3 presents univariate results where the likelihood of follow-up with the client is the dependent variable. Panel A presents the mean likelihood, standard deviations, and the number of auditors in each of the four conditions. The likelihood of following up with the client was highest in the email/facts condition (10.63), consistent with auditors being most skeptical in this condition. The likelihood of following up with the client was lowest in the video/explanation condition (10.21), consistent with auditors being least skeptical in this condition.²⁰

[insert Table 3 about here]

In Table 3, Panel B we provide simple main effects of communication mode and priming on the likelihood of auditor follow-up. To test H1, we examine the simple effect of communication mode (email or video) within the explanation condition. We again use one-tailed tests because we have directional predictions. Consistent with H1, we find that auditors receiving an email explanation from the client were somewhat more likely to follow-up with the client than auditors receiving a video explanation ($t = 1.38$, $p = 0.08$, one-tailed). To test H2, we examine

¹⁹ For robustness we compare our primary model with models that include “Phase” and “Firm” and “Starting Late in the day” (i.e., after 3 pm) as independent interacting variables and test for a differences with a semi-omnibus F test as recommended in Piercey (2020). These factors do not add significantly to the explained variance ($F = 1.674$, $F = 1.536$ and $F = 0.952$, respectively, p 's > 0.10). One exception is for the model that includes a variable for participants completing the experiment during an in-person training versus participants completing the experiment at a remote location ($F = 2.672$, $p < 0.05$). This result is difficult to interpret as it is perfectly confounded with one firm. We cannot be sure if significance is due to firm characteristics, participants being present in the room with the experimenter and other participants while completing the experiment, or other circumstances at the time. For the in-person training group, Quality of the client’s explanation is judged higher in three of the four cells (both email conditions and the video/fact condition), compared to participants not completing the experiment during in-person training. Examining this group alone yields no significant effects (although the power is low with only 42 observations spread over 4 cells). Hence, the inclusion of these 42 observations works against our hypothesis.

²⁰ The means presented in Table 2, Panel A, and Table 3, Panel A, suggest that the effects of email communication and fact priming may be additive. The means for quality (likelihood of follow-up) are the lowest (highest) in the email/fact condition (cell 2). We find that quality in the email/fact condition is significantly lower than quality in the email/explanation condition ($t=1.43$, $p=0.08$, one-tailed), and the video/fact condition ($t=1.07$ $p=.14$, one tailed). The likelihood of follow-up is not significantly different between these three cells. As the evidence is very weak, we cannot conclude the effects are additive, but leave this question for future studies.

the simple main effect of priming (explanation or fact) in the video conditions. Consistent with H2, we find that auditors receiving a video response described as “facts” are somewhat more likely to follow-up with the client than auditors receiving a video response described as an “explanation” ($t = 1.45$, $p = 0.08$, one-tailed). To jointly test H1 and H2, we compare the likelihood of follow-up with the client for the video/explanation condition to the mean of the other three conditions. We find the likelihood of follow-up is significantly lower in this condition than in the other three conditions ($t = 1.96$, $p = 0.03$, one-tailed), again consistent with auditors in the video/explanation condition being less skeptical.

We also examine the number of follow-up questions that auditors indicated they would ask the client prior to making a final assessment about the inventory valuation (untabulated). Auditors suggested the most follow-up questions in the email/facts condition (mean = 3.08) and the least number of questions in the video/explanation condition (mean = 2.38). The main effect for email was significant ($t = 2.07$, $p = 0.02$ one-tailed). A comparison of the means for video/explanation condition versus the video/facts condition is also marginally significant (2.38 vs. 2.76, $t = 1.36$, $p = 0.09$, one-tailed). Finally, a comparison of means for the video/explanation condition versus the average of the other three conditions is significant in the expected direction (2.38 vs. 2.78, $t = 1.76$, $p = 0.04$, one-tailed). As professional skepticism is defined as a “questioning mindset” (PCAOB 2012), these results support our argument that email and priming can activate auditor’s skepticism when evaluating a client’s explanation for an account balance.

We also asked auditors how likely they thought it was that the audit team would recommend a write-down of the inventory account on a scale of 1 through 11 (where 1= very likely and 11= very unlikely), and the percentage write-down on a scale of 1 to 11 (where 1=

0%, and 11= 50%, with unit increases of 5%). Auditors' responses to both questions were clustered, with mean = 7.45, standard deviation = 1.85, and mean = 4.48 with standard deviation = 2.26, respectively. There were no significant differences between conditions. Perhaps, prior to receiving any follow-up information from clients, auditors' views on write-downs were still unclear.

Distraction Analysis

During the experiment, we asked auditors receiving a video response from the client two questions designed to measure their level of distraction during the communication with the client. We first asked about the color of the client's shirt. Unfortunately, when we reviewed the video, we realized that the shirt color (which was light blue) looked different on different devices (the shirt appeared either blue, white or grey). Therefore, responses to this question were not interpretable. We also examined whether auditors correctly indicated that the client was wearing a tie (he was). We found no statistical difference in accuracy between the fact and explanation video conditions, perhaps because it was predictable that the executive would be wearing a tie.

To determine whether priming the client's response as "facts" reduced distraction, we conducted an additional analysis using 62 undergraduate accounting majors in an upper division auditing class as participants in a classroom setting. The participants watched one of the two videos where the client provided a response (i) described as the "facts" or (ii) described as an "explanation." Participants then answered three questions about the content of the client's response and three questions about the client's appearance. Participants in the facts condition answered more questions correctly about the *content* of the response than participants in the explanation condition ($t = 1.90$, $p = 0.03$, one-tailed), consistent with less distraction in the facts condition. In contrast, participants in the explanation condition answered more questions

correctly about the client's *appearance* than participants in the fact condition ($t = 1.69, p = 0.05$, one-tailed). Taken together, these results are consistent with our distraction theory as participants in the explanation condition focused less on the content of the communication and paid more attention to (irrelevant) visual stimuli compared to participants in the facts condition.

Mediation Analysis

Our distraction theory posits that auditors in the video conditions tend to be more distracted in this situation due to media richness associated with in-person communications. As a result of this distraction, performance decreases in complex tasks such as evaluating the quality of the client's response and determining the necessary follow-up. However, if the distracted individual can focus more on the task at hand, the adverse performance effects of video may be mitigated. Evidence of mitigation would be lower quality evaluations and greater need for follow-up, perhaps similar to the email conditions. The univariate results discussed above from Tables 1 and 2 suggest this is largely what we find. However, the univariate analyses do not reflect the relationship *between* quality and follow-up implicit in our theory. Our arguments suggest that auditors' evaluations of client responses mediate or explain auditors' judgments to follow-up. To better capture this dependency between quality assessments and follow-up, we analyze our data using a mediation model from Hayes (2018).²¹ See Figure 1.

[insert Figure 1 about here]

Our independent variable (Video/Exp) is coded 1 if auditors are in the video condition and the client's response is described as an explanation, and 0 otherwise. Our mediating variable is auditors' assessment of quality of the client's response (Quality) and the dependent variable is the likelihood that the auditor would follow-up on the client's response (Follow-up). Both

²¹ We use Model 4 (Hayes 2018, 585) and the Process macro in SPSS.

variables are as defined in the univariate analyses. The auditor's sense of pressure from the client (Pressure), measured on a 7-point scale, is included as a covariate because we find that perceived pressure is associated with both the mediator and the dependent variable – but is not significantly correlated with our independent variable. This suggests that perceived pressure is likely driven by auditors' prior experiences or personalities and not factors in our experiment.

The results of the path analysis are presented in Figure 1 and are consistent with Hypothesis 3. Our independent variable, Video/Exp, is positively related to auditors' quality assessments ($a_1 = 0.56$, $p < 0.01$, one-tailed), which in turn, is negatively related to the likelihood of auditor follow-up ($b_1 = -0.20$, $p < 0.01$, one-tailed) supporting Hypothesis 3. This is the *indirect* mediated effect, i.e., auditor follow-up is influenced *through* their quality assessments.²² The independent variable, Video/Exp, is also *directly* related to auditor follow-up ($c_1 = -0.22$, $p = 0.09$, one-tailed). The covariate, Pressure, is positively related to auditors' quality assessments ($a_2 = 0.10$, $p = 0.06$) and negatively related to auditor follow-up ($c_2 = -0.09$, $p = 0.03$), indicating that auditors who feel more pressure when communicating with a client tend to be more accepting of the client's explanation and are less likely to follow-up, regardless of the independent variable manipulations.²³

Alternative Explanations

While we believe that distraction theory and priming explain our results, it is possible that other mechanisms are at work. For example, auditors could see the “explanation” of the client

²² The 95% confidence interval for the indirect effect of Video/Exp on Follow-up in Figure 1 ($a_1 * b_1 = -0.1125$, $SE = 0.167$) is from -0.236 to -0.036. Importantly, this interval does not include zero.

²³ Our dependent variable, the likelihood of follow-up, is highly skewed. Most auditors indicate a high likelihood of follow-up. However, we are looking at *differences* in likelihoods between conditions. Nevertheless, as a robustness check, we also run our tests with a transformation of our dependent variable to correct for skewness (Pallant 2007). The specific transformation is new variable = $LG10(K - \text{old variable})$ where K is the largest possible value of the old variable + 1. Our (untabulated) results are nearly identical. The *direct* effect of Video/Exp is slightly less significant at $p = 0.10$ (one-tailed) but the *indirect* effect remains significant ($p < 0.025$, one-tailed) and the mediator, Quality, is highly significant ($p < 0.001$).

more as a narrative and the enumerated “facts” as more of a list. Research has found that narratives are more persuasive if they tell a causal story (e.g., Sedor 2002). We attempt to rule out this alternative in two ways. First, this theory would predict a fact versus explanation main effect rather than the simple main effect we predict. We predict and find that priming (fact versus explanation) *only* occurs in the video condition where we expect auditors to be distracted by the richness of the media. Second, to determine whether enumeration in the facts condition is driving the results we conduct an additional experiment (described earlier in footnote 12). Our participants were 41 accounting majors in upper division audit and tax accounting classes. We randomly assigned the participants to one of two conditions; the first group received the “video/facts” version of the client’s explanation with enumeration (as in the original study). The second group received the “video/facts” condition without enumeration (i.e., it was identical to the original video/facts video but with the words “one”, “two” and “three” removed). Thus, other than how the client introduces their communication (as an explanation or as the facts) the wording, order and content of the evidence was identical between the video/explanation condition and the video/fact condition. We then compared the dependent variables for the video/fact (without enumeration) to video/fact (with enumeration). We do not find significant differences between these two conditions (p 's > 0.16). While we of course cannot accept the null, this supplemental experiment suggests that enumeration of the “facts” is not a strong alternative explanation for our results.

Another competing explanation for our results could be that aural comprehension is more difficult than reading comprehension, i.e., the client’s explanation is more difficult to process when *heard* in the video conditions than when *read* in the email conditions. This theory assumes that all of the visual data in a video is ignored and predicts a main effect for email versus video.

We predict and find only a simple main effect (i.e., email will outperform video in the explanation conditions only). To gain some insight, we turn to the psychology literature, which has investigated this issue. The rise of digital media makes it possible for individuals to easily listen, read, or do both from their smart phones, tablets, or other devices. An important question is whether comprehension after listening to a digital audio recording would differ from comprehension after reading an electronic version of the same text.²⁴ Rogowsky, Calhoun, and Tallal (2016) find that when they tested English-speaking adults for comprehension with three groups who either listened to an audio book, read an e-text of the same book, or both read and listened to the e-text and audio recording simultaneously, there was no significant difference in comprehension. Again, while not accepting the null, this study casts doubt on whether our results can be explained simply by aural versus reading comprehension. Also, as indicated earlier in footnote 9, auditors in the email/facts condition read the email significantly more carefully than did auditors in the email/explanation condition – indicating greater effort or attention to the content of the email.

V. LIMITATIONS AND CONCLUSION

There are limitations when studying auditor-client communication in an experimental setting. First, the use of a video in the experiment does not allow for back and forth interaction between the auditor and the client. We chose to standardize the client response with video and email to ensure that changes in auditor judgment were a result of the manipulated variables. Both the use of video and the lack of a back and forth conversation likely resulted in the auditor experiencing minimal levels of anxiety and social pressure in this setting as compared to an in-

²⁴ Empirical research on this topic was scant prior to Rogowsky et al. (2016) and presented conflicting results. These conflicts were likely due to some studies using children or foreign language learning participants and variation among the studies as to whether participants could go back to study the information before being tested for comprehension.

person conversation with an actual client. Our results that find greater distraction in one-way videos would likely be strengthened in an interactive video or in face-to-face conversation. Second, as with many experiments, the auditors participating were not explicitly accountable for their judgment. The participating firms were supportive of the study and provided the auditors with ample time to complete it, which likely engendered some uniform accountability across conditions. Third, we also sacrificed some experimental control by having firms distribute the URL to auditors of their choosing. Those who completed our study could have self-selected for one reason or another. Unfortunately, this tradeoff was necessary to get professional auditors as participants outside of training sessions.

In our experiment, the client provides a vague and incomplete response. Therefore, the auditor's assessment of the quality of the client's response (i.e., reasonableness, usefulness, completeness, and vagueness) and their assessed likelihood of follow-up should demonstrate professional skepticism or the lack thereof. When the client describes the response as an "explanation" of the inventory valuation and auditors receive this information via video, auditors assess the quality of the response as higher than when the response is described as "facts" or when it is received by email. In this important and common situation, auditors are *less likely* to follow-up with additional questions as compared to the other three conditions. We also found that auditors in the video/explanation condition planned to ask significantly fewer questions in their follow-up. This suggests that the quality of the follow-up, not merely the likelihood of follow-up, could vary depending on how skeptical auditors are of the initial explanation from the client. We leave this intriguing suggestion to future research.

We contribute to recent literature examining the use of email communication between audit associates and audit clients. In both interviews and surveys, audit partners have expressed

concerns that associates are not meeting with the client frequently enough (Westermann et al. 2015; Bennett and Hatfield 2018). Previous studies have found that (i) audit associates may avoid follow-up with the client when they feel intimidated and face-to-face inquiry is the only option (Bennett and Hatfield 2013), but (ii) if auditors *do* decide to follow-up, they will ask more follow-up questions when interacting face-to-face compared to via email (Bennett and Hatfield 2018). While Bennett and Hatfield (2018) control intimidation by choosing a confederate for the client who is similar in age to the participants, we chose a client who is older and more experienced than the auditors (which we believe is more realistic). In addition, rather than focusing on the auditor's initial questions to the client, we examine the auditor's reaction to the client's communication regarding an inventory valuation. This research also provides an extension of the research by Saiewitz and Kida (2018) who find that the client is more likely to respond with biased information if the auditor uses email to make the request. Our findings indicate that auditors are likely to respond more appropriately to this biased information due to the decreased distraction associated with email.

We posit that distraction works against skepticism in media rich communications. The vast majority of auditors in this study (93%) indicate that they interact with a client at least once per day, and on average, 37% of their client interactions occur in-person.²⁵ During in-person interactions, clients are often asked to provide auditors with explanations for balance fluctuations, management estimates, and other aspects of financial reporting. Our results suggest that when auditors seek an explanation, there may be an underappreciated benefit in using email. The benefits of email should be of particular interest to the auditing profession given the drastic changes to the work environment during the COVID-19 pandemic. Recent stay-at-home orders

²⁵ Data collection for this study was completed in 2019, prior to the restrictions from the COVID-19 pandemic.

intended to stop the spread of COVID-19 have required nearly all interactions between auditors and their clients be accomplished virtually. Increased use of email and video communications in the audit environment will likely persist even after these restrictions are relaxed due to efficiencies that have been discovered. Our findings can assist auditors in evaluating the most appropriate medium for their intended communication.

For post-pandemic auditor-client interactions, our recommendation is consistent with Bennett and Hatfield's (2018) appeal to match the media with the task, particularly if the follow-up occurs in-person. When in-person interactions are needed, our research suggests that audit associates should be trained to consider the way they pose the question to the client as it may affect (i) how the client characterizes their response, and (ii) how the auditor processes the response from the client. While associate auditors cannot completely control how the client responds, they can use the prime of "facts" to focus themselves on their task, reduce distractions, and maintain more appropriate skepticism. Firms could consider templates for associate auditors to use when making client inquiries in order to activate the goal of critically evaluating clients' responses. For example, auditors could provide a form for the client to list the relevant facts about the issue prior to a face-to-face meeting. This allows an auditor to process the information in a low anxiety/low distraction setting while potentially preserving relationship building.

REFERENCES

- American Institute of Certified Public Accountants (AICPA). 2002. *Consideration of Fraud in a Financial Statement Audit. Statement on Auditing Standards No. 99*. New York, NY: AICPA.
- Bargh, J. A., P. M. Gollwitzer, A. Lee-Chai, K. Barndollar, and R. Trötschel. 2001. The automated will: Nonconscious activation and pursuit of behavioral goals. *Journal of Personality and Social Psychology* 81(6): 1014.
- Baron, R. S. 1986. Distraction-conflict theory: Progress and problems. In *Advances in Experimental Social Psychology* Vol. 19: 1-40. Edited by L. Berkowitz. Academic Press. Orlando, FL 32887.
- Bennett, G. B. and R. C. Hatfield. 2013. The effect of the social mismatch between staff auditors and client management on the collection of audit evidence. *The Accounting Review* 88 (1): 31-50.
- Bennett, G. B. and R. C. Hatfield. 2018. Staff auditors' proclivity for computer-mediated communication with clients and its effect on skeptical behavior. *Accounting, Organizations, and Society* 68-69: 42-57.
- Brazel, J. F., C. P. Agoglia, and R. C. Hatfield. 2004. Electronic versus face-to-face review: The effects of alternative forms of review on auditors' performance. *The Accounting Review* 79 (4): 949-966.
- Brem, S. K., and L. J. Rips. 2000. Explanation and evidence in informal argument. *Cognitive Science* 24(4): 573-604.
- Buller, D. B., K. D. Strzyzewski, and F. G. Hunsaker. 1991. Interpersonal Deception II: The inferiority of conversational participants as deception detectors. *Communication Monographs* 58 (1): 25-40.
- Canadian Institute of Chartered Accountants (CICA). 2000. *Audit Enquiry: Seeking More Reliable Evidence from Audit Enquiry*. Toronto, Canada: CICA.
- Chartrand, T. L., and J. A. Bargh. 1996. Automatic activation of impression formation and memorization goals: Nonconscious goal priming reproduces effects of explicit task instructions. *Journal of Personality and Social Psychology* 71(3): 464.
- Doyen S., O. Klein, C. L. Pichon, and A. Cleeremans. 2012. Behavioral priming: it's all in the mind, but whose mind? *PLoS ONE* 7(1): e29081.
- Durkin, M. P. 2020. Can professional skepticism be primed when the incentive structure rewards efficiency? Working paper. University of San Diego.
- Durkin, M. P., J. M. Rose, J. C. Thibodeau. 2020. Can simple metaphors be used as decision aids to promote professional skepticism? *Journal of Information Systems* 34(1), 47-60.

- Fishbach, A., and M. J. Ferguson. 2007. The goal construct in social psychology. In A. W. Kruglanski and E. T. Higgins (Eds.), *Social Psychology: Handbook of Basic Principles*, 490–515. The Guilford Press.
- Forster J., N. Liberman, and R.S. Friedman. 2007. Seven principles of goal activation: A systematic approach to distinguishing goal priming from priming of non-goal constructs. *Personality and Social Psychology Review* 11(3): 211–233.
- Gilbert, D. T. 1991. How mental systems believe. *American psychologist* 46(2): 107.
- Guenin-Paracini, H., B. Malsch, and M. S. Tremblay. 2015. On the operational reality of auditors' independence: Lessons from the field. *Auditing: A Journal of Practice & Theory* 34(2): 201–236.
- Harris C.R., N. Coburn, D. Rohrer, and H. Pashler. 2013. Two failures to replicate high-performance-goal priming effects. *PLoS ONE* 8(8): e72467.
- Hayes, A. F. 2018. *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. 2nd edition, New York, NY: The Guilford Press.
- Holderness, D. K., Jr. 2013. Detecting deception in client inquiries. PhD Dissertation, Bentley University. ProQuest (Publication No. 3560714.)
- Kahneman, D. 2011. *Thinking fast and thinking slow*. New York: Farrar, Straus and Giroux.
- Klein R. A., K. A. Ratliff, M. Vianello, R. B. Adams Jr., S. Bahnik, M. J. Bernstein, K. Bocian, M. J. Brandt, B. Brooks, C. C. Brumbaugh, Z. Cemalcilar, J. Chandler, W. Cheong, W. E. Davis, T. Devos, M. Eisner, N. Frankowska, D. Furrow, E. M. Galliani, F. Hasselman, J. A. Hicks, J. F. Hovermale, S. J. Hunt, J. R. Huntsinger, H. IJzerman, M. John, J. A. Joy-Gaba, H. B. Kappes, L. E. Krueger, J. Kurtz, C. A. Levitan, R. K. Mallett, W. L. Morris, A. J. Nelson, J. A. Nier, G. Packard, R. Pilati, A. M. Tuchick, K. Schmidt K, J. L. Skorinko, R. Smith, T. G. Steiner, J. Storbeck, L. M. Van Swol, D. Thompson, A. E. van 't Veer, L. A. Vaughn, M. Vranka, A. L. Wichman, J. A. Woodzicka, and B. Nosek. 2014. Investigating variation in replicability: A “many labs” replication project. *Social Psychology*, 45(3):142–152.
- Levine, T.R. 2014. Truth-default theory (TDT): A theory of human deception and deception detection. *Journal of Language and Social Psychology* 33(4): 378-392.
- Maruping, L. M. and R. Agarwal. 2004. Managing team interpersonal processes through technology: A task-technology fit perspective. *Journal of Applied Psychology* 89(6): 975-990.
- McCornack, S. A. and M. Parks. 1986. Deception detection and relationship development: The other side of trust. In *Communications Yearbook* 9, edited by McLaughlin, Beverly Hills, CA: Sage Publications.

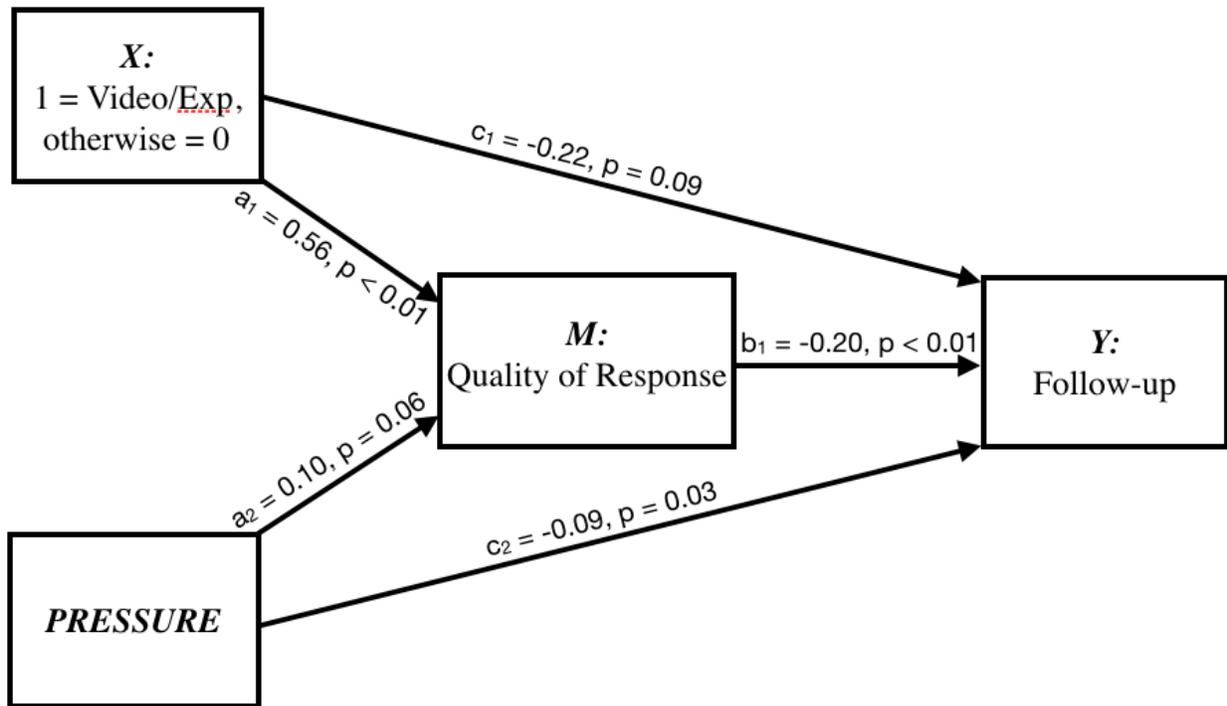
- Nellen, A, T.S. Manly, and D. W. Thomas. 2009. Campus to clients: adapting accounting education to the generations: working with the millennials. *The Tax Adviser* (February) Available at: <http://goliath.ecnext.com>.
- Ninio, A. and D. Kahneman. 1974. Reaction time in focused and in divided attention. *Journal of Experimental Psychology* 103(3): 394-399.
- Pallant, J. 2007. *SPSS survival manual: A step by step guide to data analysis using SPSS version 15*. 3rd edition. McGraw Hill Open University Press.
- Payne, B. K., J. L. Brown-Iannuzzi, and C. Loersch. 2016. Replicable effects of primes on human behavior. *Journal of Experimental Psychology: General* 145(10): 1269-1279.
- Piercey, M. D. (2020). Throw it in as a Covariate? Common Problems using Measured Control Variables in Experimental Auditing Research. Working paper, University of Massachusetts Amherst.
- Public Company Oversight Board. 2012. *Staff Audit Practice Alert No. 10: Maintaining and Applying Professional Skepticism in Audits*. Washington, D.C.
- Reutter, J. November 2010. Differences Matter: Effectively managing diverse generations in the workplace. *WebCPA*. Available at: <http://www.accountingtoday.com>
- Robert, L. and A. Dennis. 2005. Paradox of richness: A cognitive model of media choice. *IEEE Transactions on Professional Communication* 48(1):10 - 21
- Rogowsky, B., B. M. Calhoun, and P. Tallal. 2016. Does modality matter? The effects of reading, listening, and dual modality on comprehension. *SAGE Open* (July-September): 1-9.
- Saiewitz, A. and T. Kida. 2018. The effects of an auditor's communication mode and professional tone on client responses to audit inquiries. *Accounting, Organizations and Society* 65: 33-43.
- Schlenker, B.R. and M. R. Leary. 1982. Social anxiety and self-presentation: A conceptualization model. *Psychological Bulletin* 92(3): 641-669.
- Sedor, L. M. 2002. An explanation for unintentional optimism in analysts' earnings forecasts. *The Accounting Review* 77(4): 731-753.
- Shanks, D. R., B. R. Newell, E. H. Lee, D. Balakrishnan, L. Ekelund, Z. Cenac, F. Kavvadia, and C. Moore. 2013. Priming intelligent behavior: An elusive phenomenon. *PLoS ONE* 8(4): e56515.
- Suh, K. S. 1999. Impact of communication medium on task performance and satisfaction: an examination of media-richness theory. *Information & Management* 35: 295-312.

Weingarten, E., Q. Chen, M. McAdams, J. Yi, J. Hepler, and D. Albarracin. 2016. From primed concepts to action: A meta-analysis of the behavioral effects of incidentally presented words. *Psychological Bulletin* 142(5): 472–497.

Westermann, K. D., J.C. Bedard, and C. E. Earley. 2015. Learning the “craft” of auditing: A dynamic view of auditors' on-the-job learning. *Contemporary Accounting Research* 32: 864–896.

Wilson J. and K. Rember. November 2010. Skills for tomorrow’s firm leaders. *WebCPA*. Available at: [http:// www.accountingtoday.com](http://www.accountingtoday.com).

FIGURE 1
The Direct and Indirect Effects of Communication Mode and Priming on Auditor Decisions to Follow-up on Clients' Explanations



Notes:

The univariate analyses in Tables 1 and 2 do not reflect the relationship between auditors' evaluations of client response quality and auditor follow-up implicit in our theory. Our arguments suggest that high-quality evaluations mediate the judgments regarding auditor follow-up. To better capture this phenomenon, we analyze our data using mediation Model 4 from Hayes (2018, p. 585) and Process the macro in SPSS as referenced in his book.

Our independent variable X is the Video/Explanation (Video/Exp) condition. It is coded 1 if auditors received the communication via video, and the client's response was described as an explanation. Responses from the other three conditions were coded 0.

Our mediator M is the average of auditors' evaluations of the quality of the client's response as "useful," "complete," "vague" (with coding reversed) and "reasonable" — all on a scale of 1-11. Higher numbers indicate higher evaluations of client response quality.

Our dependent variable Y is auditors' rating of how likely auditors are to follow-up on the client's response using a scale of 1-11. Higher numbers indicate greater likelihood of follow-up.

Pressure is auditors' response to how much pressure they feel from the client on a 1-7 scale with higher numbers indicating more pressure.

All p-values are one-tailed because we have directional predictions of the relationships between the variables.

TABLE 1

Descriptive statistics presented for the full sample of auditors and by condition.

Variable Description/Question	Full Sample N=199 Mean (Std Dev)	Email/ Explanation N=57 Mean (Std Dev)	Email/Fact N=49 Mean (Std Dev)	Video / Explanation N=47 Mean (Std Dev)	Video/Fact N=46 Mean (Std Dev)
How would you assess the reasonableness of the client's explanation for the valuation of the M4 processors? (1=very unreasonable, 11=very reasonable)	5.12 (1.72)	5.14 (1.81)	4.73 (1.68)	5.47 (1.74)	5.15 (1.58)
In your opinion, how useful was the client's response for your write-down recommendation? (1=not at all useful, 11=very useful)	4.82 (1.96)	4.65 (1.63)	4.43 (1.97)	5.23 (2.02)	5.02 (2.22)
In your opinion, how honest was the client's explanation? (1=not at all honest, 11=very honest)	6.23 (1.88)	6.35 (1.62)	6.22 (2.02)	6.21 (2.01)	6.24 (1.93)
In your opinion, how complete was the client's explanation? (1=not at all complete, 11=very complete)	4.06 (1.63)	4.09 (1.38)	3.88 (1.72)	4.30 (1.82)	3.98 (1.65)
In your opinion, how vague was the client's explanation? (1=not at all vague, 11=very vague)	8.03 (2.11)	7.95 (1.84)	8.49 (2.05)	7.32 (2.46)	8.35 (1.97)
How many times did you watch the video with Mark's response about The M4 inventory valuation?	1.12 (0.36)	NA	NA	1.15 (0.36)	1.09 (0.35)
How many times did you read the email with Mark's response about The M4 inventory valuation?	2.58 (1.25)	2.38 (0.84)	2.81 (1.58)	NA	NA
Based on the information you've received, including the client's explanation, how likely do you think it is that the audit team will recommend that Greenvale write down the inventory balance? (1=very unlikely, 11=very likely)	7.45 (1.85)	7.30 (1.58)	7.49 (2.02)	7.32 (2.27)	7.72 (1.52)
Given the available information, what is your preliminary assessment of the percentage of The M4 inventory balance that should be written down? (1=0%, 11=50%, unit increases of 5%)	4.48 (2.06)	4.30 (2.01)	4.63 (2.17)	4.43 (2.26)	4.59 (1.84)
The number of follow-up questions or requests for the client suggested by auditors prior to making a final assessment about the inventory valuation	2.68 (1.59)	2.53 (1.17)	3.08 (2.28)	2.38 (1.21)	2.76 (1.46)
If I recommended a write-down of the inventory balance, Mark would complain heavily. (1=strongly agree, 7=strongly disagree)	2.48 (1.06)	2.53 (1.00)	2.39 (0.95)	2.45 (1.32)	2.54 (0.98)
When asking about the inventory balance, I felt pressure from Mark to avoid recommending a write-down. (1=strongly agree, 7=strongly disagree)	3.41 (1.41)	3.58 (1.39)	3.18 (1.39)	3.51 (1.52)	3.35 (1.37)
How relevant is the prior history with the client in your write-down recommendation? (1=not at all relevant, 11=very relevant)	5.51 (2.84)	5.53 (2.93)	5.47 (2.90)	5.62 (2.72)	5.43 (2.87)
How skeptical are you of the valuation of the inventory balance? (1=not skeptical, 11=very skeptical)	8.26 (1.55)	8.37 (1.50)	8.20 (1.50)	8.05 (1.83)	8.38 (1.50)
How likely is it that Mark was trying to mislead you? (1=very unlikely, 11=very likely)	5.13 (2.04)	5.07 (2.20)	5.08 (1.87)	5.05 (1.96)	5.31 (2.17)

*The skepticism and mislead questions were added for the second round of data collection. N=102 for these variables

TABLE 2

The Effect of Priming and Client Communication Mode on Auditors' Quality Evaluations

Panel A: Descriptive Statistics – means (standard deviations)

<u>Communication Mode</u>	<u>Prime</u>		<u>Row Means</u>
	<u>Explanation</u>	<u>Fact</u>	
Email	Cell 1 4.48 (1.11) n = 57	Cell 2 4.14 (1.38) n = 49	4.32 (1.25) n = 106
Video	Cell 3 4.92 (1.37) n = 47	Cell 4 4.45 (1.47) n = 46	4.69 (1.43) n = 93
<u>Column Means</u>	4.68 (1.24) n = 104	4.29 (1.43) n = 95	

Panel B: Simple Main Effects: Effect of Client Communication Mode and Prime

<u>Comparison:</u>	<u>Difference</u>	<u>t-stat</u>	<u>p-value</u>
Explanation: Email vs Video (Cell 1 vs 3)	0.44 (0.26)	1.65	0.05
Video: Explanation vs Fact (Cell 3 vs 4)	0.47 (0.27)	1.71	0.05
Video/Explanation vs other three cells (Cell 3 vs the average of Cells 1, 2, and 4)	0.56 (0.22)	2.52	0.01

Notes:

P-values are one-tailed in Panel B where we test specific directional hypotheses.

Our dependent variable is the assessed quality of the client's response, calculated as the average of auditors' evaluations how useful, complete, vague (reversed) and reasonable was the client's response, on a scale of 1-11. Higher numbers indicate higher evaluations of quality.

TABLE 3

The Effect of Priming and Client Communication Mode on Auditors' Follow-up Judgments

Panel A: Descriptive Statistics means (standard deviations)

<u>Communication Mode</u>	<u>Prime</u>		<u>Row Means</u>
	<u>Explanation</u>	<u>Fact</u>	
Email	Cell 1 10.49 (0.97) n = 57	Cell 2 10.63 (0.95) n = 49	10.56 (0.96) n = 106
Video	Cell 3 10.21 (1.28) n = 47	Cell 4 10.52 (0.86) n = 46	10.37 (1.10) n = 93
<u>Column Means</u>	10.37 (1.12) n = 104	10.58 (0.91) n = 95	

Panel B: Simple Main Effects: Effect of Client Communication Mode and Prime

<u>Comparison:</u>	<u>Difference</u>	<u>t-stat</u>	<u>p-value</u>
Explanation: Email vs Video (Cell 1 vs 3)	0.44 (0.26)	1.38	0.08
Video: Explanation vs Fact (Cell 3 vs 4)	0.47 (0.27)	1.45	0.08
Video /Explanation vs other three cells (Cell 3 vs the average of Cells 1, 2, and 4)	0.56 (0.22)	1.96	0.03

Notes:

P-values are one-tailed in Panel B where we test specific directional hypotheses.

Our dependent variable is the auditor's rating of how likely they are to follow-up on the client's response on a 1-11 point scale. Higher numbers indicate greater likelihood of follow-up.

APPENDIX A

The text below was either shown in the format of an email or was used as the script for the client in the video communication. The text of the explanation (fact) message was the same between email and video conditions.

Client Response with Explanation Prime²⁶

Hi – I saw your email and wanted to provide you with an explanation about the M4 valuation. Luckily, inventory valuation has been straightforward this year. As you know, the M4 is one of our best products and we’ve built a base of customers who depend on it. There was only a slight decline in orders for the M4 in our last quarter – otherwise sales have been stable. One of our competitors has developed a similar product, but I’m not concerned about it. They haven’t shipped a single product and it certainly doesn’t warrant an adjustment in the year-end balance.

Best Regards,

Mark

Client Response with Fact Prime

Hi – I saw your email and wanted to get back to you. Luckily, inventory valuation has been straightforward this year. I’ve outlined the facts regarding the M4 valuation below.

1. The M4 is one of our best products and we’ve built a base of customers who depend on it.
2. There was only a slight decline in orders for the M4 in our last quarter – otherwise sales have been stable.
3. One of our competitors has developed a similar product, but I’m not concerned about it. They haven’t shipped a single product and it certainly doesn’t warrant an adjustment in the year-end balance.

Best Regards,

Mark

²⁶ In the review process, it was brought to our attention that the words “as you know” (used in the email explanation condition above) may have confounded the results by enhancing the perceived validity of the communication or by appearing condescending. As a result, we ran an additional analysis for this condition without these three words. Participants were 38 senior auditors at a Big 4 firm. We did not find significant differences between the original auditor’s responses and the responses of these auditors for our two dependent variables, the quality of the response ($t = 1.46$, $p = 0.15$, two-tailed) and the likelihood of follow-up ($t = 1.06$, $p = 0.29$, two-tailed).