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## Craters of the Moon National Monument Basalts as Unshocked Compositional and Weathering Analogs for Martian Rocks and Meteorites

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**The Effects of an Auditor's Communication Mode and  
Professional Tone on Client Responses to Audit Inquiries**

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## **The Effects of an Auditor's Communication Mode and Professional Tone on Client Responses to Audit Inquiries**

**ABSTRACT:** In this study, we investigate whether receiving an auditor inquiry via e-mail differentially affects client responses as compared to more traditional modes of inquiry, and whether those responses are affected by the auditor's professional tone. In an experiment, experienced business professionals respond to an auditor's information request regarding a potential accounting adjustment. We varied the communication mode of the request (e-mail, audio, or visual) and the professional tone of the communication (more versus less professional) and then measured the extent to which participants revealed information that either supported or did not support the client's accounting position. We find that if an auditor asks for information via e-mail, client responses are more biased towards information that supports the client's position as compared to audio or visual inquiries. In addition, we find that clients respond in a more biased manner when the inquiry is worded in a less professional tone as compared to a more professional tone. Further underscoring the implications of these findings for audit outcomes, our results suggest that if an auditor's request leads clients to provide a response that is biased towards client-supporting information, clients may be less likely to agree with an auditor's proposed income-decreasing adjustment.

**Keywords:** *audit inquiry, communication mode, negotiation, professionalism*

## 1. Introduction

In recent years, partners at audit firms have expressed concern regarding the extent to which junior auditors use e-mail for communication with client personnel (Westermann, Bedard, & Earley, 2015; May & May, 2012). Most of these junior auditors are “Millennials” (those born since 1980) who have grown up utilizing computer-based communication technology and are often most comfortable sending abbreviated, text-based messages (Lancaster & Stillman, 2010). In fact, recent auditing research demonstrates that younger professionals use e-mail for client inquiries in order to avoid uncomfortable interactions with more senior client personnel (Bennett & Hatfield, 2013). While younger professionals may be more comfortable using e-mail for inquiries with client personnel, the question arises: are there adverse effects on client responses as a result of auditors using e-mail for client inquiries?

We investigate whether inquiries made by auditors via e-mail result in adverse audit consequences as compared to more traditional inquiry methods such as audio requests (e.g., phone) or visual requests (e.g., face-to-face). Based on relevant psychological research on defensive bolstering and social presence theory, we argue that clients will respond in a less cooperative manner to an auditor’s e-mail inquiry as compared with audio or visual inquiries. We expect that less cooperative behavior could include engaging in strategic bolstering behavior by providing more information that supports the client’s position and/or withholding relevant information that does not support the client’s position. Together, these less cooperative behaviors lead to a client response that is more biased towards providing information that supports the client’s position and away from information that does not support their position (hereafter, biased information set) in response to an auditor’s e-mail inquiry as compared to audio or visual inquiries.

Another concern regarding the audit inquiry process is that junior auditors often lack appropriate professional communication skills (Jackson, 2012; Dixon, Belnap, Albrecht, & Lee, 2010). A lack of professionalism in an inquiry could be viewed by experienced business professionals as norm violating. Psychological theory on norm violations predicts that aversive reactions can occur when a norm is violated (Brauer & Chekroun, 2005). These reactions could be in the form of less cooperative behavior (Fehr & Fischbacher, 2004). As a result, we predict that if a client receives a less professionally-worded inquiry, they will provide a more biased information set as compared to a client who receives a more professionally-worded inquiry.

Further, we consider whether the auditor's communication mode or professional tone affects audit outcomes beyond client response bias. Specifically, we predict that if a client is less cooperative due to an auditor's e-mail or less professionally-worded inquiry, the client may be more resistant to a subsequent proposed income-decreasing audit adjustment.

In our study, experienced business professionals, most with managerial experience, assumed the role of a client manager who receives an audit inquiry related to a potential inventory obsolescence problem. The inquiry was either presented as an e-mail, an audio-only request, or a visual request, and the inquiry wording was either more or less professional in tone. Rather than have clients interact with auditors, we hold the auditor request constant, and there is no back-and-forth communication. Instead, we use an audio recording to proxy for a phone request and a video recording to proxy for an in-person request. We also hold constant the mode of response by requiring all participants to compose a response in writing.<sup>1</sup>

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<sup>1</sup> If we had allowed for interaction to occur or varied the response mode along with the request mode, the cause of biased responses would be uncertain (e.g., the cause could have been differences in the request mode, the response mode, perceived time pressure to respond, or visual cues from the auditor). By holding these features constant, we strengthen internal validity and are able to make strong causal inferences (Peecher & Solomon, 2001). Of course, in practice the client will likely respond using the same communication mode as the request. Further, various characteristics of interactive communication could affect a client's tendency to provide biased responses (e.g., the

In our experiment, the participants responded to the inquiry based on an information set that included items that support the client's position that there is no inventory obsolescence problem and items that do not support the client's position. We then coded participant responses to determine the number of supporting and non-supporting items revealed by the participants. From this coding, we constructed a dependent variable called "net items revealed" which is the net number of items that support versus do not support the client's position. This dependent variable represents the extent to which the client's response is biased towards information that supports their position and away from information that does not support their position, and serves as a proxy for the construct "biased information set."

Consistent with our expectations, we find participants provide a more biased information set when receiving an e-mail inquiry than when receiving an audio or visual inquiry. In addition, participants also provide a more biased information set when receiving a less versus more professionally-worded inquiry. Further, our results suggest that an auditor's communication mode and professional tone can have downstream effects on audit outcomes. Specifically, we find that clients are less likely to agree with an auditor's proposed income-decreasing adjustment and they plan to negotiate more aggressively with the auditors if the client had previously provided a more biased information set as a result of receiving an e-mail or less professionally-worded inquiry.

This research has implications for both audit research and practice. Our findings provide evidence that the communication mode and professional tone of an audit inquiry can have ramifications for audit outcomes. In particular, the trend of young auditors using e-mail for client inquiries increases the likelihood that clients will provide a biased information set. This has

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auditor could ask follow-up questions, the client could see cues in the auditor's behavior, or the client could choose to delay their response).

several implications for the audit process. Trompeter and Wright (2010) note inquiry is a prominent source for investigating potential audit issues. Further, they express concerns that auditors may not adequately corroborate client responses or seek disconfirming evidence (see also Doty, 2011; Hirst & Koonce, 1996). Accordingly, if clients provide biased responses, auditors may fail to discover disconfirming evidence, suggesting the biased responses found in our study could impact audit outcomes. Finally, even if auditors discover disconfirming evidence through other audit procedures, we find clients that provide biased responses may be less likely to agree with an auditor's proposed income-decreasing adjustment. This resistance could result in a less conservative adjustment (Hatfield, Houston, Stefaniak, & Usrey, 2010; Brown-Liburd & Wright, 2011). Together, these findings demonstrate the importance of effective audit inquiry.

The next section discusses prior literature and the hypotheses development. Section 3 describes the method. Section 4 details the results and Section 5 provides concluding remarks.

## **2. Background and hypotheses development**

### *2.1 Audit inquiry and communication mode*

Inquiry includes direct requests for information or specific questions posed by the auditor to client personnel. Messier, Glover, and Prawitt (2017) note auditors discover a great deal of information via direct inquiry with client personnel, and Trompeter and Wright (2010) confirm inquiry is a frequently-used method for gathering information regarding unusual fluctuations and potential risk areas.

However, in response to inquiry, clients are likely to engage in defensive bolstering, a process in which individuals feel compelled to defend their position (Tetlock, Skitka, & Boettger, 1989). Kunda (1990) notes that "people expecting to incur heavier costs if their desired

beliefs turn out to be wrong may expend greater effort to justify those desired beliefs” (p. 487). In an audit context, a client has an incentive to maintain commitment to their pre-existing accounting positions, with the knowledge that the auditor is typically seeking a more conservative position (i.e., typically income-decreasing). Accordingly, the client may feel compelled to defend their position and may bias their inquiry responses by revealing more information that supports their position and/or less information that does not support their position. A biased response that is weighted more heavily towards information that supports a client’s position could ultimately affect auditor judgments (Hoffman & Patton, 1997).

We posit that communication mode can affect how clients respond to audit inquiries. While prior research has considered the effects of different communication modes on auditor performance (e.g., Bennett & Hatfield, 2013; Lynch, Murthy, & Engel, 2009; Brazel, Agoglia, & Hatfield, 2004), research has not considered how communication mode impacts client responses to audit inquiries. Inquiry is often conducted by lower-level audit staff (Trompeter & Wright, 2010) and these junior auditors often use e-mail for client inquiry (Westermann et al., 2015). From a positive perspective, Bennett and Hatfield (2013) find junior staff auditors who use e-mail for an inquiry are more likely to request additional information from senior client personnel as compared to junior staff auditors who make a face-to-face request. This benefit of e-mail use arises because e-mail allows the junior auditors to avoid uncomfortable social interactions with senior client personnel. However, if client personnel respond in a biased manner to e-communication, the benefit may be eliminated or may become negative overall, ultimately affecting audit outcomes.

Social presence theory (Short, Williams, & Christie, 1976) potentially explains why clients will provide different responses based on the communication mode of the request. Social



presence theory predicts that the degree of “social presence” in a communication mode, i.e., the degree to which the communication mode indicates another person is “present,” affects individual behavior (Short et al., 1976). Swaab, Galinsky, Medvec, and Diermeier (2012) note audio and visual interactions involve greater social presence than e-communication, leading to greater cooperation and information sharing between negotiating parties (see also Bazerman, Curhan, Moore, & Valley, 2000; Frohlich & Oppenheimer, 1998). When a party is more cooperative, they are less likely to withhold information that can aid the other party or they may engage in less strategic provision of information that bolsters their position.<sup>2</sup> Van Zant and Kray (2014) provide related evidence, finding individuals who provide information face-to-face are more honest than those who communicate through an intermediary, even in the absence of actual interaction. Similarly, Drolet and Morris (2000) find face-to-face communication leads to greater rapport and cooperativeness between negotiating parties.<sup>3</sup>

Accordingly, we expect that when a client receives a request from an auditor in person rather than via e-mail, greater social presence will lead the client to respond in a more cooperative manner, sharing more information that does not support the client’s position and/or engaging in less strategic bolstering by providing less information that supports the client’s position. Conversely, if an auditor asks a client for information via e-mail, the client is more

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<sup>2</sup> Rogers, Zeckhauser, Gino, Norton, and Schweitzer (2017) note several strategic behaviors individuals utilize when providing information to another party. These include both omission strategies (i.e., not providing relevant information) and commission strategies (i.e., providing false statements). They also note that individuals can engage in strategic behavior by providing information that, while not false in its details, creates a false impression about a situation. In an audit context, this could occur when a client provides supporting information in the absence of related non-supporting information. Accordingly, we posit that a more cooperative client will engage in less strategic information-sharing behavior, either by revealing more non-supporting information or by providing less supporting information that dilutes the impact of non-supporting information.

<sup>3</sup> Elliott, Hodge, and Sedor (2012) investigate the effects of social presence in an accounting context. Specifically, they find that social presence affects investors’ trust in management earnings announcements.

likely to respond with a biased information set as compared to a face-to-face or phone inquiry.

This leads to our first hypothesis:

**H1:** Clients will provide an information set that is more biased towards information that supports their position and away from information that does not support their position in response to an e-mail inquiry as compared to an audio or visual inquiry.

While we propose that e-mail requests lead to more biased responses from clients as compared to more traditional modes of inquiry (e.g., face-to-face and phone), client inquiries may be made by any of these methods. As a result, we also investigate whether an audio-only request leads to any difference in client responses versus a visual request. Increased social presence in a face-to-face context may lead to superior outcomes as compared to a phone context (Short, 1974). However, Suh (1999) finds that, in some situations, phone can lead to better outcomes than face-to-face because individuals focus more on the task than the sender's appearance. Additionally, Daft and Lengel (1986) suggest there may be no difference between outcomes for phone versus face-to-face for a relatively simple request. Given this prior research, we do not predict differences between responses to audio and visual inquiries.

## *2.2 Professional tone*

An auditor's professional tone may also affect how clients respond to an audit inquiry. Experienced professionals generally expect professionalism in communication. Carr and Stefaniak (2012) note that "managers consider basic writing mechanics an essential job skill, even more so than most computer competencies in increasingly wired organizations" (pp. 406-7). Similarly, Jones (2011) finds accounting managers rate "appropriate level of tone and formality" in communications as very important. However, managers generally are not satisfied with staff accountants' performance in this area (Jones, 2011).

Cheney and Ashcraft (2007) note that, over time, a professional environment can lead individuals to conform with established, dominant norms. As such, a less professional tone may be viewed by experienced professionals as norm-violating. Research suggests such norm-violating behavior may lead to aversive reactions. Brauer and Chekroun (2005) note that a negative response to a norm violation could be an expression of social control, in which the perceiver expresses disapproval in response to a norm violation, while Fehr and Fischbacher (2004) demonstrate that a norm violation could result in less cooperative behavior in order to punish deviations from the norm. Cialdini and Goldstein (2004) suggest willingness to comply with a request could be affected by whether the request is norm-violating.

Accordingly, it is possible that if a client receives a request from an auditor that is in a less professional tone, this norm violation may cause the client to become less cooperative. As described above in our discussion of the effects of communication mode, a lack of cooperation with an auditor could involve revealing less information that does not support the client's position or could involve increased strategic bolstering (i.e., providing more information that supports the client's position). Together, reduced cooperation as a response to a violation of professional communication norms could cause the client to provide a more biased information set. This leads to the following hypothesis:

**H2:** Clients will provide an information set that is more biased towards information that supports their position and away from information that does not support their position in response to an inquiry with a less professional tone as compared to a more professional tone.

### *2.3 Effects of biased responses on agreement with an auditor's proposed adjustment*

Of course, inquiry is not the only audit technique used to uncover information. Relevant information could be uncovered via tests of transactions and balances, analytical procedures,

reading industry and economic news, and even inquiries with other personnel. Accordingly, a question could be raised regarding whether it matters if a client provides a biased response to an audit inquiry. However, prior audit research suggests the information set provided by clients can affect auditor behavior. For example, Trompeter and Wright (2010) question whether auditors adequately search for appropriate evidence after receiving client responses to auditor inquiries. In particular, they note auditors may focus on confirming evidence and may not adequately search for disconfirming evidence.<sup>4</sup> Therefore, if a client provides a more biased information set, auditors may inadequately search for contradictory evidence and could fail to uncover information that could affect the financial statements. Also, Hoffman and Patton (1997) demonstrate that auditors make less conservative decisions when presented with an information set weighted more towards positive items (i.e., information that supports a client's less conservative position) versus an information set weighted more towards negative items. Accordingly, an auditor's failure to elicit complete and unbiased information directly from the client could lead to negative audit outcomes.<sup>5</sup>

While prior literature suggests biased client responses can negatively affect the audit by influencing the judgments and decisions of auditors, we consider the possibility that biased client responses may also affect audit outcomes by influencing the judgments and decisions of the client who provided the biased response. Specifically, if a client provides a biased response as a result of the auditor's communication mode or professional tone, it may affect a client's

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<sup>4</sup> This confirmation bias regarding client responses to audit inquiries echoes earlier findings by Hirst and Koonce (1996), who also found auditors primarily search for corroborating evidence. Additionally, the PCAOB has expressed concerns that auditors fail to adequately search for disconfirming evidence (e.g., Doty, 2011).

<sup>5</sup> If a staff auditor fails to uncover information or if their conclusions are affected by a biased information set, it is possible this information could be unearthed during the review process. However, the staff auditor may stylize the documentation of the client response in a manner that makes it more difficult for the reviewer to determine that the interaction between the auditor and the client was inadequate (Ricchiute, 1999; Yip-Ow & Tan, 2000; Bennett & Hatfield, 2013).

willingness to agree with an auditor's proposed income-decreasing financial statement adjustment. If this occurs, it would suggest that the manner in which auditors conduct client inquiry may affect audit outcomes, even if relevant issues are uncovered by other audit procedures.

As discussed previously, greater social presence inherent in a visual or audio request is likely to lead to increased client cooperation with the auditor as compared to an e-mail request. Similarly, norm violation theory suggests clients who receive a more professionally-worded communication will be more cooperative with the auditor compared to those who receive a less professionally-worded communication. A logical extension of these expectations is that increased cooperation should also result in increased willingness to agree with an auditor's proposed income-decreasing adjustment. Together, this leads to our next hypothesis:

**H3a:** If a client previously received an audio or visual request or a more professionally-worded request from an auditor, the client is more likely to agree with an auditor's subsequent proposed income-decreasing adjustment as compared to clients who received an e-mail request or a less professionally-worded request from an auditor.

While H3a indicates there may be a direct effect of communication mode or professional tone on client agreement with an auditor's proposed income-decreasing adjustment, the likelihood of agreeing with an auditor's proposed adjustment may be contingent on the extent of bias in the client's inquiry response. Prior psychology research has shown that individuals with biased positions are generally more resistant to counter-attitudinal persuasion attempts (e.g., Biek, Wood, & Chaiken, 1996; Kruglanski, Webster, & Klem, 1993; Wood, 1982; Brock, 1967). In particular, Brock and his colleagues provide evidence that individuals who provide more counterarguments in advance of a persuasion attempt are ultimately more resistant to the

subsequent persuasion attempt (Brock, 1967; Osterhouse & Brock, 1970; Keating & Brock, 1974).

As noted earlier, when an auditor asks a client to provide information about an audit issue, the client may provide an information set that defends their pre-existing position (i.e., an information set that is biased towards supporting information and away from non-supporting information). When an auditor proposes an income-decreasing financial statement adjustment, he/she will generally provide the client with the rationale for the proposed adjustment (McCracken, Salterio, & Gibbins, 2008). From the perspective of persuasion theory, this provision of arguments in favor of the auditor's position can be seen as an attempt to persuade the client to "move" from the client's previous position.<sup>6</sup> Brock and colleagues' research suggests clients who provide a more biased inquiry response might then be more resistant to the subsequent persuasion attempt inherent in the auditor's proposed income-decreasing adjusting journal entry. Accordingly, in addition to our direct effects hypothesis in H3a, we propose an indirect effects hypothesis, whereby if a client provides a more biased information set as a result of the communication mode or professional tone of an audit inquiry, they will be less likely to agree with an auditor's proposed income-decreasing adjustment. Stated formally:

**H3b:** If a client reacts to an auditor's communication mode or professional tone by providing a response set that is more biased towards information that supports their position and away from non-supporting information, the client is less likely to agree with an auditor's subsequent proposed income-decreasing adjustment.

### 3. Method

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<sup>6</sup> Gibbins, McCracken, and Salterio (2005) find that audit partners and CFOs generally perceive auditor-client negotiations as a persuasion process. When the proposed adjustment is contrary to the client's goals (e.g., an income-decreasing adjustment when the client desires to report income as high as possible), the client is likely to resist the persuasion attempt.

### *3.1 Participants*

Participants were 183 experienced business professionals enrolled in a professional MBA program at a large university.<sup>7</sup> On average, participants had 11.6 years of business experience and 6.0 years of managerial experience. Mean participant age was 37, and 32% were female.<sup>8</sup> Participants' professional roles included upper level executives (e.g., CFOs, controllers, and vice-presidents), middle management (e.g., operations, sales, and finance managers), and experienced business professionals without management experience (e.g., financial and systems analysts).<sup>9</sup> It is generally recommended that auditors make inquiries with both financial and non-financial personnel within an organization (Messier et al., 2017). Additionally, prior research indicates that non-financial personnel (e.g., operations managers) can be involved in resolving disagreements between auditors and the client (Gibbins, McCracken, & Salterio, 2007; Fanning & Piercey, 2014).

### *3.2 Experimental design*

The experiment was administered online via Qualtrics.<sup>10</sup> Participants completed a task in which an auditor requests information related to inventory obsolescence. There were two manipulated independent variables: communication mode of the inquiry (e-mail, audio, or visual) and professional tone of the inquiry (more professional versus less professional),

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<sup>7</sup> Participants were enrolled in courses with lecturers who were not co-authors in this study. Participants were offered a nominal amount of extra credit in exchange for their voluntary participation. Approximately 63% of those invited elected to participate, for a total of 191 completed responses. We removed one respondent who had participated in a separate class for a pilot test. Seven participants were removed because they did not have business experience. Key statistical inferences are unchanged if those seven participants are included in the data. However, we report results without these participants because our goal was to investigate the behavior of experienced business professionals.

<sup>8</sup> Results do not vary by gender, and age is not a significant covariate.

<sup>9</sup> Sixteen percent of the participants were upper level executives, 63% were middle management, and 21% were experienced business professionals without management experience.

<sup>10</sup> Participants could complete the study at a time of their choosing during a window of approximately one week.

resulting in a  $3 \times 2$  between-subjects design. Participants were randomly assigned to experimental conditions via the randomization function within Qualtrics. The flow of the experiment can be seen in Figure 1.

[INSERT FIGURE 1 APPROXIMATELY HERE]

The experimental scenario was adapted from Fanning and Piercey (2014), with financial information adapted from Cohen, Krishnamoorthy, and Wright (2005). Participants assumed the role of a client manager responsible for interfacing with the auditor regarding inventory questions. The background material stated that “like most companies, it is the goal of management to present income as high as possible. However, the company does not want to receive a qualified audit opinion, which would indicate that the auditor believes the financial statements are materially misstated.”<sup>11</sup>

Participants were first introduced to the junior staff auditor. In a video, the auditor introduces himself as “Ryan Miller” and says he is working on the audit of inventory. The purpose of this introductory video was to hold constant exposure to the auditor’s image and voice. This approach rules out the possibility that effects are driven by participants not seeing and/or hearing the auditor in the e-mail or audio conditions.

Participants then reviewed information about the company and its products. They were also informed they would be allowed to refer to the materials if needed. The information included company background, selected financial information (e.g., inventory performance measures), and 18 specific information items about the company’s products and related

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<sup>11</sup> This statement, adapted from Perreault, Kida, and Piercey (2017), was designed to provide the client position to the participants and to induce enough of an incentive so participants would not simply agree with everything the auditor proposed. It is interesting to note that 42% of the participants engaged in persuasion attempts (i.e., rather than just provide information, they actively attempted to convince the auditor there was no obsolescence issue). This was despite having no incentive to do so, other than this statement. Only 6% indicated in their response that they thought the inventory was obsolete (the remaining 52% did not provide an opinion in their response).



obsolescence risks. Half of these items supported an inventory obsolescence write-down and, therefore, did not support the client's position that no write-down is necessary, while half of the items did not support an inventory write-down, supporting the client's position of no inventory obsolescence. Examples of items supporting an inventory obsolescence write-down included: "One of the division's VPs discovered at a trade show that the competition has designed a technologically superior product that has the potential to make ManuTech's component technologically obsolete"; "Some customers have already pre-ordered the new device from the competition"; and "The price point at which ManuTech's component could be sold in international markets would probably not be enough to cover the product costs for the component." Items that did not support an inventory obsolescence write-down included: "It is an open question as to whether or not the competition will be successful at taking away ManuTech's market share as the Company's products have an established reputation in the market"; "It might be possible that ManuTech's existing component could continue to serve existing customers' needs until the commercial success and cost competitiveness of the competitor's new technology is established"; and "Some sources suggest that the competition may not have done adequate testing of their new product."

The participants then received an inquiry from the auditor regarding inventory obsolescence. In the inquiry, the auditor notes concerns about an inventory obsolescence problem and asks about the effects of potential competing products and whether there are mitigating factors that would reduce obsolescence risk. The inquiry is where we implemented the between-subjects manipulation of communication mode and professional tone. Participants were told either the junior auditor "sent you an e-mail. Please click the button to read," "calls you on the phone. Please click the button to listen," or "comes to see you in person. Please click the

button to see.” Dependent on condition, participants read an e-mail, listened to an audio track, or saw a video. The visual condition showed a video of the same auditor from the introduction video. He makes the same request as the e-mail condition, using the same wording. The audio condition was the audio track from the video.<sup>12</sup>

The inquiry wording was varied to be either more or less professionally-worded. The specific wording of each professional tone condition can be seen in the Appendix.<sup>13</sup> To prevent potential confounds between the spoken and written conditions, the e-mail does not include grammar errors or misspellings, even though this is a common problem in e-communication (Carr & Stefaniak, 2012).<sup>14</sup> Further, individuals have the ability to re-read the text of an e-mail inquiry. To control for this between conditions, participants had the option to replay the audio and visual requests even while composing their response. This is akin to asking someone to repeat their request and is consistent with the ability to re-read the e-mail.

The participants were then instructed, “In the space below, please compose your response to the auditor.” Participants were able to refer back to the company background, financial information, and inventory-related issues. Their response was automatically saved as they worked to prevent loss of text while going back to see and/or hear the request again.

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<sup>12</sup> The video is meant to represent a visual request (e.g., face-to-face or videoconferencing) and the audio track represents an audio-only request (e.g., phone). Of course, such communication usually involves interaction between the parties. E-mail communication can also involve interactions, although less immediate. We do not consider interaction between auditors and clients so all participants experience the same message, varied only by communication mode of the request (and professional tone). This is designed to maintain adequate control on our experiment, allowing us to make direct causal inferences on the effect of the auditor’s choice of communication mode for client inquiries.

<sup>13</sup> The less professional tone wording was developed based on a preliminary study in which senior auditing students were provided with the front-end of the experimental instrument and were asked to compose an inquiry to the client regarding inventory obsolescence. We considered examples from students who had one to five months of audit experience, most with Big 4 firms. The initial wording of the less professional condition was also provided to several corporate managers and an audit partner, who each provided feedback on the realism and understandability of the communication, as well as their experience with e-mails from inexperienced professionals. Some changes were made based on this feedback.

<sup>14</sup> In our preliminary study of senior auditing students, these problems were common, even among students with experience in Big 4 and other large accounting firms.

After submitting their response, the participants learned that the audit partner contacted the management team to propose an \$18 million adjustment for inventory obsolescence, or 6% of the inventory balance (17% of net income).<sup>15</sup> The narrative states that the proposed adjustment was based on facts provided by the participant, by other managers, and as a result of other audit procedures. The narrative also included the auditors' description of factors that led to the adjustment. The purpose of this description was to ensure that the participants were aware of the reasons for the adjustment, regardless of whether they revealed the information themselves.

Participants were then asked to provide their agreement with the proposed adjustment on a ten-point scale anchored with 1 = strongly disagree and 10 = strongly agree. They were then told the management team wanted their input on how to respond. Specifically, they were asked whether the company should accept the adjustment outright and, if not, how much the company should counter-propose and the maximum write-down the company should be willing to accept.

Finally, we asked various post-experimental questions regarding participants' opinions of the auditor and the audit team. We also asked several questions regarding views on professional technology use and professionalism and then collected demographic data.

### *3.3 Dependent variable and data coding procedures*

The primary dependent variable is the number of items revealed that support an inventory write-down minus the number of items revealed that do not support an inventory write-down, referred to as "net items revealed." A lower value of net items revealed represents a response that is more biased towards information that supports the client's position of no

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<sup>15</sup> Various professionals who pilot-tested or reviewed the instrument, including experienced auditors and corporate managers, provided feedback that this adjustment was perceived as material.

inventory obsolescence and away from non-supporting information, which, as noted earlier, represent less cooperative behavior on the part of the client.

Responses were coded by two independent coders and one of the authors, all blind to experimental condition. The three coders had between three and thirteen years of audit experience. The responses were provided to each coder in a different random order. For each response, the coders identified which of the 18 items in the inventory-related issues list were revealed by the participant.<sup>16</sup> If the participant revealed at least part of a particular item, it was considered revealed to the auditor under the logic that the auditor could ask follow-up clarifying questions or search for corroborating evidence. Inter-rater reliability (IRR) for net items revealed, measured using Krippendorff's alpha (Hayes & Krippendorff, 2007), was 0.808, which indicates a high level of reliability (Neuendorf, 2002).<sup>17</sup> All remaining coding differences were resolved between the three coders without dispute.

## **4. Results**

### *4.1 H1 and H2: Effects of communication mode and professional tone on client response bias*

As noted above, the primary dependent variable was measured based on the difference of the number of items revealed that support an inventory obsolescence write-down less the number

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<sup>16</sup> Few participants revealed anything outside of the eighteen inventory-related issues, even though they had other information about the company background and the company's overall financial performance. Accordingly, coders only recorded whether each of the 18 inventory-related items was revealed.

<sup>17</sup> Net items revealed represents a net count of specific items revealed (interval coding) rather than a categorization of items (nominal coding). Cohen's kappa, which is commonly used for IRR, is only appropriate for nominal coding. Accordingly, Krippendorff's alpha is a more precise measure when the outcome is a count of items rather than a categorization of responses (Neuendorf, 2002). We report IRR for interval coding specifically to match IRR with our dependent variable (i.e., our dependent variable is an interval variable, therefore we test IRR on the same interval variable). However, we also conducted an analysis of IRR for nominal coding (i.e., comparing coders' decisions on whether each item was revealed or not revealed). Again using Krippendorff's alpha due to the presence of more than two coders (Cohen's kappa cannot be used for more than two coders at a time), IRR for nominal coding of items revealed vs. unrevealed was 0.831.

of items revealed that do not support a write-down, referred to as “net items revealed.” Lower net items revealed represents a more biased information set (i.e., greater bias towards information that supports the client’s position of no inventory write-down and away from non-supporting information). Descriptive statistics can be seen in Table 1, Panel A. The means are presented graphically in Figure 2. Panel B of Table 1 details ANOVA results indicating a significant main effect for communication mode ( $F_{2,177} = 4.35, p = 0.014$ ). Planned contrasts presented in Panel C indicate that participants who received an e-mail inquiry provided responses with a lower value of net items revealed as compared to those who received an audio inquiry (Means =  $-0.45$  and  $0.52$ , respectively,  $t_{177} = 2.93, p = 0.002$ , 1-tailed) or a visual inquiry (Means =  $-0.45$  and  $0.14$ , respectively,  $t_{177} = 1.78, p = 0.038$ , 1-tailed), supporting H1. The audio and visual conditions did not differ in terms of net items revealed (Means =  $0.52$  and  $0.14$ , respectively,  $t_{177} = 1.11, p = 0.270$ ). These results demonstrate that an auditor’s e-mail inquiry can lead to clients providing a more biased information set as compared to clients responding to audio or visual inquiries.<sup>18</sup>

[INSERT TABLE 1 APPROXIMATELY HERE]

[INSERT FIGURE 2 APPROXIMATELY HERE]

The ANOVA also reveals a significant main effect for professional tone, supporting H2. In response to an inquiry in a less professional tone, participants provided responses with a lower value of net items revealed (i.e., a more biased information set) as compared to responses to an inquiry in a more professional tone (Means =  $-0.16$  and  $0.32$ , respectively,  $F_{1,177} = 2.85, p = 0.047$ , 1-tailed equivalent). The interaction term in the ANOVA is not significant ( $F_{2,177} = 0.28, p = 0.755$ ).

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<sup>18</sup> Note that while the magnitude of the differences in net items revealed detailed in Table 1, Panel A, may not seem large, the grand mean of total items revealed was 4.23 items (2.08 items that support the client’s position and 2.15 items that do not support the client’s position). Therefore, the differences reported in Table 1 represent as much as 33% of the mean total items revealed.

We also conducted further analysis of the responses by calculating a MANOVA with total items revealed that support the client's position as one dependent variable and total items revealed that do not support the client's position as the second dependent variable. This MANOVA controls for the extent of each type of item revealed as well as the balance of net items revealed (e.g., it accounts for whether a -1 score for net items revealed arises from two client-supporting items and one non-supporting item as opposed to eight client-supporting items and seven non-supporting items). The overall results from this MANOVA (untabulated) are similar to the ANOVA of net items revealed. We find a significant main effect for communication mode (Wilks lambda = .923,  $F_{4,352} = 3.60$ ,  $p = 0.007$ ), demonstrating robustness of our results when considering both the extent and balance of items revealed by the client. Contrast tests within the MANOVA reveal the communication mode results are driven by the extent to which participants revealed items supporting their position. In response to an e-mail request, participants were more likely to reveal items that support their position compared to audio requests (Means = 2.65 and 1.84, respectively,  $t_{352} = 2.71$ ,  $p = 0.004$ , 1-tailed) and compared to visual requests (Means = 2.65 and 1.75, respectively,  $t_{352} = 3.00$ ,  $p = 0.002$ , 1-tailed). There were no significant differences between communication modes with respect to items that do not support the client's position.

While the main effect for professional tone in the MANOVA is somewhat outside traditional significance levels (Wilks lambda = 0.976,  $F_{2,176} = 2.14$ ,  $p = 0.121$ ), we note MANOVA contrasts within the types of responses reveal significant differences. Participants provided more items that did not support their position in response to a more professional request as compared to a less professional request (Means = 2.40 and 1.91, respectively,  $t_{176} = 1.91$ ,  $p = 0.029$ , 1-tailed), consistent with H2. There were no significant differences between professional

tone conditions with respect to items that support the client's position.<sup>19</sup> Consistent with the ANOVA of net items revealed, the interaction term in the MANOVA is not significant (Wilks lambda = 0.988,  $F_{4,352} = 0.526$ ,  $p = 0.717$ ).

## *4.2 Supplemental analyses related to H1 and H2*

### *4.2.1 H1: Communication mode and social presence*

We investigate several post-experimental measures to determine whether response differences between e-mail and audio/visual requests were driven by differences in social presence across communication modes. Shen and Khalifa (2008) note that greater social presence is associated with more favorable affective reactions. Consistent with this, we find differences in certain affect measures across communication modes, but only in the less professional tone condition. Specifically, in the less professional tone condition, visual request recipients were less annoyed ( $t_{62} = 2.04$ ,  $p = 0.023$ , 1-tailed) and less frustrated ( $t_{61} = 2.48$ ,  $p = 0.008$ , 1-tailed) with the auditor compared to those who received an e-mail request, suggesting greater social presence in a visual request led to a reduction of negative affect compared to an e-mail request (audio request recipients fell in the middle and did not statistically differ from the

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<sup>19</sup> These results regarding supporting and non-supporting items also help address a potential concern about the less professional tone wording versus the more professional tone. We aimed to hold constant the meaning of the more and less professional tone wording. To that end, the wording and meaning of the requests were reviewed with experienced professionals during instrument development. However, a concern could be raised that the professional tone conditions could convey different instructions to the participants. For example, in the more professional tone condition, the auditor says, "If you believe there are factors that mitigate a potential obsolescence problem, please let me know." In the less professional tone condition, the auditor uses the wording, "If you think there are things that make you believe there's not really an obsolescence problem, let me know." While the intention of the phrase "not really...a problem" was intended to match the term "mitigate," it could be construed that "not really a problem" refers to the elimination of a problem, whereas "mitigate" denotes only a reduction of a problem. If this were the case, we would expect to see those in the less professional condition provide more information that supports their position. However, as noted above, the professional tone results were driven by participants providing more non-supporting items in the more professional tone condition. There was no difference in the number of supporting items revealed by participants in the more versus less professional tone conditions. Accordingly, it appears differences in the terms "mitigate" versus "not really a problem" did not drive response differences.

other two cells). Following recommendations from Hayes (2013), we tested for mediation using 10,000 bootstrap samples drawn only from the participants who received a less professional e-mail or visual request. This analysis reveals annoyance (but not frustration) mediated the relationship of communication mode and net items revealed (a 90% bias-corrected bootstrap confidence interval for the indirect effect excludes zero, and the direct effect confidence interval includes zero, indicating mediation of the direct effect of communication mode on net items revealed when controlling for the annoyance measure). Therefore, those in the visual condition may have felt less negative affect towards the auditor due to greater social presence, leading to a more cooperative response. Future research can more deeply investigate the underlying processes in order to find additional ways to improve the audit inquiry process.<sup>20</sup>

#### 4.2.2 H2: Professional tone and norm violations

In our hypothesis development concerning professional tone, we suggest that a lack of cooperativeness occurs due to an aversive reaction to a norm violation. To determine whether participants hold a norm of professional communication, we first confirm whether participants believe professional communication is important. In a post-experimental question, we asked participants for their agreement level with the statement: “It is important to be professional in your interactions with colleagues and customers/clients,” on a seven-point scale anchored with 1 = strongly disagree and 7 = strongly agree. The mean response was 6.83 and there were no differences across experimental conditions. Importantly, 85.2%, of the participants chose 7

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<sup>20</sup> To investigate whether these results were replicable, we ran an additional study using only these two cells (e-mail/less professional and visual/less professional) and without the negotiation phase of the experiment. In this study, conducted with 34 undergraduate students, we find the same effect of communication mode on net items revealed; e-mail requests led participants to provide a more biased response as compared to a visual request ( $t_{32} = 2.18, p = 0.018$ , 1-tailed, untabulated), replicating the main study results and providing further support for H1. We find that annoyance mediates this relationship as part of a serial mediation including agreement with the statement “I felt the need to defend my position to the auditor.” In other words, participants who received a visual request were less annoyed and felt less need to defend their company’s position, leading to less biased responses as compared to participants who received an e-mail request.



(strongly agree) as their response and an additional 11.5% chose 6, suggesting a strongly-held norm of professional communication.<sup>21</sup> We then analyzed participants' assessments of the professionalism of the request. We asked participants post-experimentally, "How professional did you think Ryan was in his request for information?" Participants responded using a 9-point scale anchored with 1 = Very unprofessional and 9 = Very professional. The main effect for professional tone was significant ( $F_{1,176} = 3.14, p = 0.039$ , 1-tailed equivalent), indicating participants in the less professional tone condition viewed the auditor as less professional compared to those in the more professional tone condition. The main effect for communication mode and the interaction of professional tone and communication mode were not significant ( $p > 0.10$ ). Finally, following recommendations in Hayes (2013), we test for and find significant indirect effects of professional tone on net items revealed through the intervening variable of perceptions of professionalism (the 95% bias-corrected bootstrap confidence interval developed from 10,000 bootstrap samples excludes zero, and the direct effect of professional tone on net items revealed is no longer significant when controlling for perceptions of professionalism, indicating mediation of the direct effect of professional tone on net items revealed).<sup>22</sup>

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<sup>21</sup> We also asked post-experimental questions to explore whether participants had a norm of face-to-face versus e-mail communication. For example, we asked about participants' communication mode use and preferences. For these questions, we asked participants to apportion the amount of time they would prefer each type of communication mode, such that responses equaled 100%. E-mail and face-to-face communication were both used the most for professional communication (34.6% and 34.9%, respectively) and their use of these two communication modes did not statistically differ ( $t_{182} = 0.14, p = 0.888$ ). Importantly, when asked "what percentage of the time would you prefer to receive a request for information via each of the following communication methods in a professional context," e-mail and face-to-face requests were preferred the most (37.1% and 35.3%, respectively) and they did not statistically differ ( $t_{182} = 0.55, p = 0.584$ ). Together these results suggest there was no difference in a perceived norm with respect to e-mail versus face-to-face communication.

<sup>22</sup> An alternative explanation for less cooperative behavior in response to a less professional tone could be that participants in the less professional tone condition perceived the junior auditor as less competent (Carr & Stefaniak, 2012). If a client perceives the auditor as less competent, the client may feel they can more easily engage in bolstering or omit negative information. To rule out this potential alternative explanation, we asked a post-experimental question about perceptions of the auditor's competence. Participant responses did not vary significantly by experimental condition. Accordingly, it appears differences in net items revealed were not driven by perceptions of competence.

To further investigate whether the professional tone results were due to aversive reactions to a norm violation, we posited that participants who lack business experience (and, therefore, are less familiar with the norm) should have no difference in the bias level of their responses regardless of professional tone. To test this proposition, we collected data from 33 senior undergraduate business majors and from 47 additional experienced business professionals. The experiment was identical to the main study except we only investigated the e-mail condition and there was no introduction video. We found a significant interaction of professional tone and experience with respect to net items revealed ( $F_{1,76} = 4.55, p = 0.036$ , untabulated). Planned contrasts indicate that net items revealed by the undergraduate participants did not differ by professional tone condition ( $t_{76} = 1.06, p = 0.293$ , 2-tailed, untabulated), consistent with our expectation that the inexperienced participants would not react to the norm violation. As in the main study, the experienced participants' responses differed by professional tone; those who received the less professional request provided responses with a lower value of net items revealed (i.e., a more biased response) compared to those receiving a more professional request ( $t_{76} = 2.27, p = 0.013$ , 1-tailed, untabulated), replicating the main study and providing further support for H2. Interestingly, for the question asking about the auditor's level of professionalism, the inexperienced participants failed to even detect the difference in professionalism across professional tone conditions ( $t_{76} = 0.04, p = 0.968$ , untabulated). In contrast, the experienced participants in the more professional tone condition detected the auditor was more professional as compared to those in the less professional tone condition ( $t_{76} = 2.44, p = 0.009$ , 1-tailed).<sup>23</sup>

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<sup>23</sup> We again find significant indirect effects of professional tone on net items revealed through the mediating variable of perceptions of professionalism, suggesting perceptions of professionalism mediate the effect of professional tone on net items revealed.

Accordingly, it appears the inexperienced participants did not react to the professional norm violation because they failed to detect differences in the professional tone.

#### *4.3 H3a and H3b: Client agreement with proposed adjustment*

As noted earlier, the main focus of this study is to investigate the effects of communication mode and professional tone on information revealed by the client in response to audit inquiries. However, it is also of interest to know whether clients' biased responses result in further effects on audit outcomes. Accordingly, we designed a second phase to the experiment solely to investigate whether there are downstream effects of eliciting biased information from a client. After supplying their response to the audit inquiry, participants were told that the auditors proposed an adjustment for inventory obsolescence. They were then asked their level of agreement with the adjustment on a ten-point scale anchored with 1 = strongly disagree and 10 = strongly agree. They were also asked whether the company should accept the adjustment and, if not, the amount the company should counter-propose. Finally, they were asked the maximum adjustment the company should accept.<sup>24</sup> Prior research has demonstrated initial negotiation positions are often predictive of negotiation outcomes (Hatfield et al., 2010; Brown-Liburd & Wright, 2011). Therefore, if clients initiate negotiations with a lower counter-proposal and a lower maximum acceptable adjustment, this would predict a lower final adjustment, potentially affecting audit outcomes.

In H3a, we propose a direct effect of communication mode and professional tone on agreement with the auditor's proposed adjustment. In H3b, we propose an indirect effects hypothesis, whereby communication mode and professional tone of the request may affect

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<sup>24</sup> For each of the counter-proposal and the maximum adjustment, participants were provided with a sliding scale ranging from \$0 to \$18 million, moving in \$1 million intervals.

agreement with the auditor's proposed adjustment indirectly through the extent of bias in the client's response. Specifically, our expectation in H3b is that communication mode and professional tone of the request affect the extent of bias in the client's response (H1 and H2) and, if the client responds in a more biased manner, they are less likely to agree with the auditor. Figure 3 presents the model and results for the effect of communication mode on the client's level of agreement with the auditor.<sup>25</sup>

[INSERT FIGURE 3 HERE]

We do not find direct effects of communication mode on any of the measures of agreement with the auditor's proposed adjustment (i.e., communication mode does not affect measures of agreement in the absence of controlling for any intervening variables. See the *c* link in Figure 3). Therefore, we do not find support for H3a with respect to communication mode.

To test H3b, we first explore each link in the model. As shown in Figure 3, the *a* link is significant; this is the same result described above in our analysis of H1.<sup>26</sup> The *b* link is also significant; as net items revealed become lower (i.e., more biased), the client is less likely to agree with the auditor's proposed adjustment ( $t_{179} = 3.25, p = 0.001, 1\text{-tailed}$ ). The key test for H3b, however, is a test of the indirect path (*a x b*). Following procedures recommended by Hayes (2013) for testing indirect effects, we used a bias-corrected bootstrapping analysis based on 10,000 bootstrap samples and generated a 95% (or 90%) confidence interval for each test of indirect effects. We find significant indirect effects of communication mode on all measures of

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<sup>25</sup> For ease of exposition, Figure 3 does not include results for professional tone or other measures of agreement with the auditor (i.e., acceptance of the adjustment, counterproposal, and maximum acceptable adjustment). We discuss the results for each of these variables here in the text.

<sup>26</sup> For ease of interpretation and analysis, we collapsed the audio and visual conditions as there was no significant difference between the two conditions ( $p = 0.270$ , see Table 1, Panel C). As a result, all outcomes reported in this section are based on a  $2 \times 2$  between-subjects design, in which communication mode is varied at e-mail versus audio/visual and tone is more professional versus less professional.

agreement with the auditor's proposed adjustment through net items revealed (the respective 95% confidence intervals exclude zero). These significant indirect effects suggest participants who provided a more biased response as a result of an e-mail request demonstrated lower levels of agreement with the adjustment, were less likely to accept the adjustment outright, and were more likely to offer a lower counter-proposal and had a lower maximum acceptable adjustment.<sup>27</sup>

As with communication mode, we do not find direct effects of professional tone on any measures of agreement with the auditor. The indirect effects of professional tone on agreement with the auditor and outright acceptance of the auditor's adjustment were marginally significant (a 90% confidence interval does not contain zero), while the indirect effects of professional tone on the counter-proposal and maximum acceptable adjustment were not significant.

Overall, these results suggest communication mode indirectly affects both the client's propensity to agree with the auditor's proposed income-decreasing adjustment and the client's opening negotiation positions through the degree of bias in their response, while professional tone had marginal indirect effects on the client's propensity to agree with the auditor. However, because the interpretation of indirect effects in the absence of direct effects is not clear, we recommend further research into whether there are downstream effects of eliciting biased responses from clients.

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<sup>27</sup> There are several reasons why we might observe significant indirect effects (H3b) in the absence of direct effects (H3a). As noted in our H3b development, it may be a necessary condition that the client provides a biased response in order to become more resistant to the auditor's proposed adjustment. Additionally, the multi-stage nature of the experimental task could bias against finding direct effects. Shrout and Bolger (2002) note that when a causal process *X* is less proximal to a dependent variable *Y* (i.e., less immediate to *Y*), a direct effect is less likely to be found than an indirect effect because, for example, the effect is "transmitted through additional links in a causal chain" (p. 429). Consistent with this, our indirect effects model accounts for at least part of the intervening activity by including the extent of bias in the client's response. Importantly, the presence of a significant direct effect is not necessary to determine a significant indirect effect exists (Zhao, Lynch, & Chen, 2010; Hayes, 2009).

## 5. Summary and conclusions

The results of this study suggest there are ramifications to a junior auditor's choice of communication mode for audit inquiries. Specifically, we find clients provide responses that are more biased towards information that supports the client's position and away from non-supporting information (i.e., a biased information set) when responding to an e-mail inquiry versus an audio or visual inquiry. Further, an inquiry in a less professional tone also leads to a more biased information set as compared to an inquiry in a more professional tone. In addition, our results suggest that if clients previously provided a more biased information set as a result of an e-mail inquiry, they are less likely to agree with a proposed income-decreasing audit adjustment and they are likely to negotiate more aggressively in response to the proposed audit adjustment. These findings are particularly important since staff auditors are likely to default to e-mail in order to avoid uncomfortable interactions with senior client personnel (Bennett & Hatfield, 2013). While Bennett and Hatfield find that junior auditors are more willing to request additional information via e-mail, our findings suggest this benefit may be attenuated by the client's tendency to provide a more biased information set in response to an e-mail inquiry.

Several recommendations arise from this research. First, while audit partners have expressed concerns that audit staff's use of e-mail for inquiry can adversely affect professional development and skepticism (Westermann et al., 2015), firms may be less aware that an auditor's choice of communication mode also affects the extent of bias in a client's response. This is particularly important since clients may express a preference for receiving requests via e-mail (e.g., to avoid interruptions by audit staff).

Also, this research underscores the importance of adequate training and attention to professional communication skills, and for educating staff auditors about the potential effects of

communicating in a less professional manner. In fact, the CPA Vision Project (AICPA, 2012) lists communication skills as a core competency, referring to the importance of “appropriate delivery and interpersonal skills” (p. 11). While prior research has demonstrated that less professional communication can have an effect on perceptions of the sender’s competence and credibility (Jessmer & Anderson, 2001; Carr & Stefaniak, 2012), this is the first study to demonstrate that a less professional request can lead to biased client responses, demonstrating the essential nature of appropriate communication skills.

Finally, although auditors and regulators are aware that inquiry is an efficient audit technique that can reveal previously unknown information (Messier et al., 2017), they may be less aware that failing to obtain unbiased information from a client can lead a client to become more resistant to an auditor-proposed adjustment, even if the auditor finds the information through other audit procedures. Accordingly, we suggest that further research identify additional ways to improve the audit inquiry process.

As noted earlier, this study is subject to several limitations. In particular, we do not look at the effects of interactions between the auditor and the client. The back-and-forth of an actual conversation, whether with high temporal synchronicity as found in a phone or face-to-face conversation or low temporal synchronicity as found in an e-mail conversation, could potentially affect client responses. Additionally, face-to-face interaction involves greater social presence than a video (O’Malley, Langton, Anderson, Doherty-Sneddon, & Bruce, 1996). An alternative experimental approach could have been to use a confederate in the role of the junior auditor who could interact with the participants. However, this would create a challenge regarding extraneous factors that could affect experimental control (e.g., in certain conditions, the confederate could unintentionally provide additional cues to the participants regarding the appropriateness of their

responses). The use of a video and audio recording was designed to control for extraneous factors that might have arisen through use of a confederate, allowing for a cleaner test of direct causative effects of communication mode and professional tone. However, it is possible that many of these features of a richer environment could lead to different results. Having established initial evidence of a relationship between communication mode and client response bias, there are many avenues future research can take to increase our understanding of the factors that may affect client responses.

Also, to control for extraneous factors, we did not include errors commonly found in e-mail, such as punctuation and spelling errors, or grammar shortcuts, because they would not be evident in audio or visual communication. We also controlled for features of audio or visual communication that would not be evident in written communication, such as less professional non-verbal gestures or vocal inflection. However, these additional factors that often exist in less professional communication would likely exacerbate differences between e-mail and audio or visual communication. Future research may want to investigate the effects of these variables on client responses to audit inquiries.



## **Appendix. Wording of professional tone manipulation**

### *More professional wording:*

“As previously discussed, I am working on the audit of inventory and I have several questions for you.

We have concerns about a potential inventory obsolescence issue related to your product. If there were an obsolescence problem, it could indicate the need for a write-down of the inventory value to the proper market value which, of course, would reduce your net income.

To aid in our analysis, could you please provide me with information regarding any new products from other companies that are superior to your product? Please describe how this could affect sales of your product and whether you would have to sell your product at a loss.

If you believe there are factors that mitigate a potential obsolescence problem, please let me know.

Thank you, I appreciate your time.”

### *Less professional wording:*

“As I said before, I’m doing the inventory audit and I’ve got some questions.

We think there might be a problem with the inventory numbers. I mean there may be an inventory obsolescence problem. And if that happens we might need to write down the numbers for inventory to be at the real market value which is going to reduce your net income.

So we can look at this and figure out if there’s a problem, let me know are there any new products from other companies which are better than your product? We are wondering what could this do to your product sales and could it make it that you’d have to sell your product at a loss.

If you think there are things that make you believe there’s not really an obsolescence problem, let me know.

Thanks.”

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**Table 1**

Net items revealed by client in response to auditor inquiry

Panel A: Descriptive statistics - Mean <sup>a</sup> (standard deviation) <sup>b</sup> [n]			
Request Mode	Request Tone		Row mean
	More Professional	Less Professional	
E-mail	-0.07 (2.14) [28]	-0.78 (1.96) [32]	-0.45 (2.06) [60]
Audio	0.63 (1.56) [35]	0.38 (1.82) [29]	0.52 (1.67) [64]
Visual	0.33 (1.75) [27]	-0.03 (1.28) [32]	0.14 (1.51) [59]
Column mean	0.32 (1.82) [90]	-0.16 (1.76) [93]	0.08 (1.80) [183]

Panel B: ANOVA results				
	df	Mean Square	F-statistic	p-value
Main Effects				
Communication Mode	2	13.504	4.351	0.014
Professional Tone ( <b>H2</b> )	1	8.835	2.847	0.047 <sup>c</sup>
Two-way Interaction				
Mode x Tone	2	0.874	0.282	0.755
Error	177	3.103		

Panel C: Planned contrasts

	df	t-statistic	p-value <sup>d</sup>
Contrast of e-mail vs. audio and visual ( <b>H1</b> ):			
E-mail vs. audio	177	2.929	0.002
E-mail vs. visual	177	1.782	0.038
Contrast of audio and visual (2-tailed)			
	177	1.106	0.270

<sup>a</sup> Net items revealed = The number of items revealed by the client that support an inventory obsolescence write-down less the number of items revealed that do not support an inventory obsolescence write-down. Lower values represent a client response that is more biased towards items that support the client's position of no inventory obsolescence and away from non-supporting items.

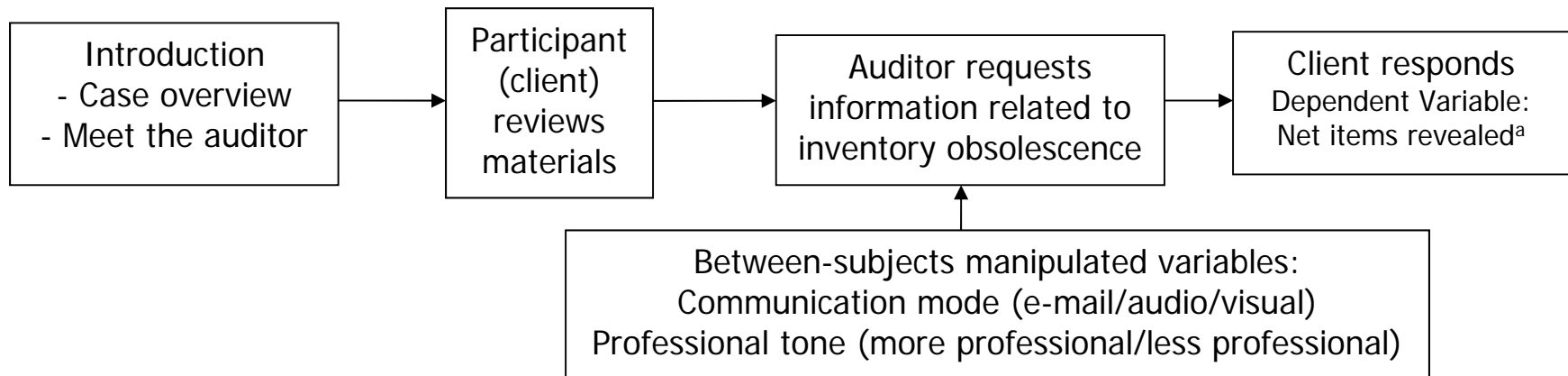
<sup>b</sup> Levene's test of equality of variance indicates no difference in variances ( $p = 0.092$ ).

<sup>c</sup> This  $p$ -value is the 1-tailed equivalent  $p$ -value for a directional hypothesis. An F statistic with one degree of freedom is equivalent to the squared ANOVA contrast t-statistic and results in the identical  $p$ -value (McNeil, Newman, & Kelly, 1996). For prior uses of this presentation, see Kachelmeier and Williamson (2010), Piercey (2011), and Elliott et al. (2012).

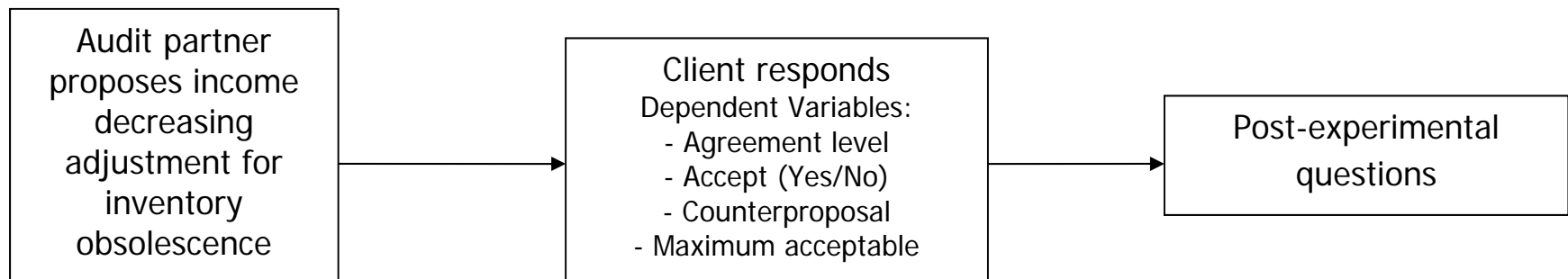
<sup>d</sup> Unless otherwise noted,  $p$ -values are 1-tailed based on directional hypotheses.



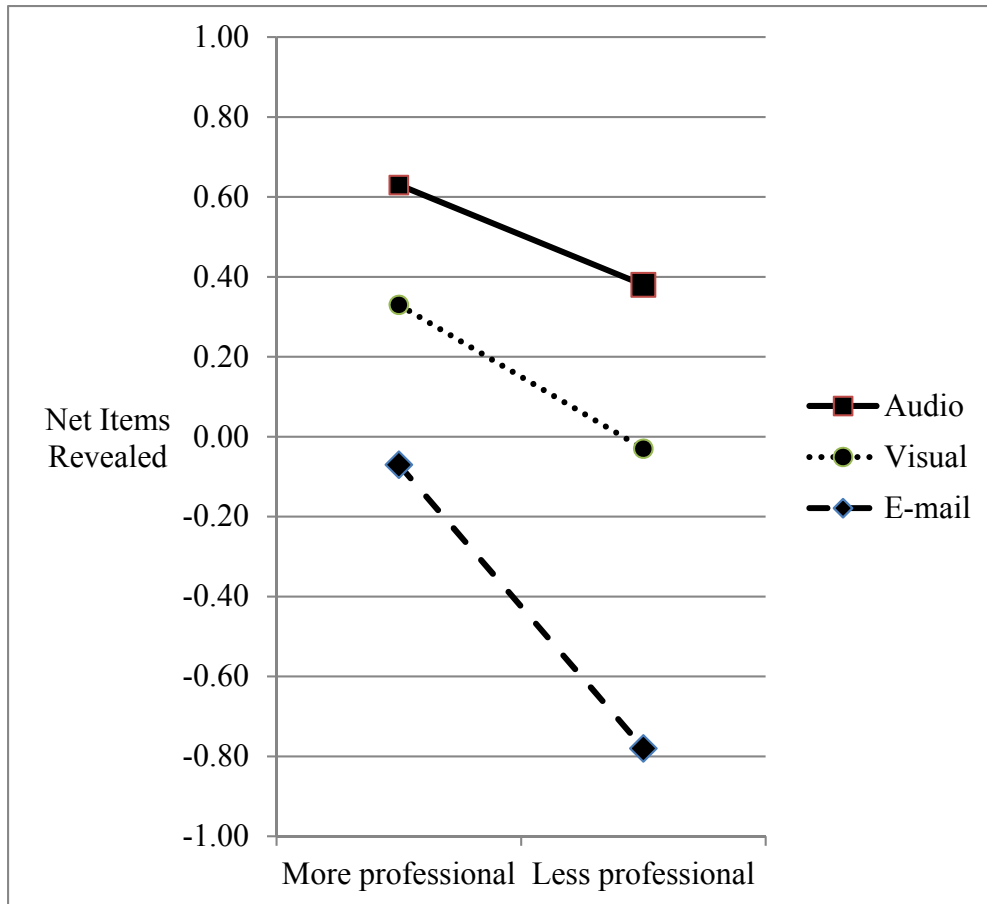
STAGE 1: INQUIRY



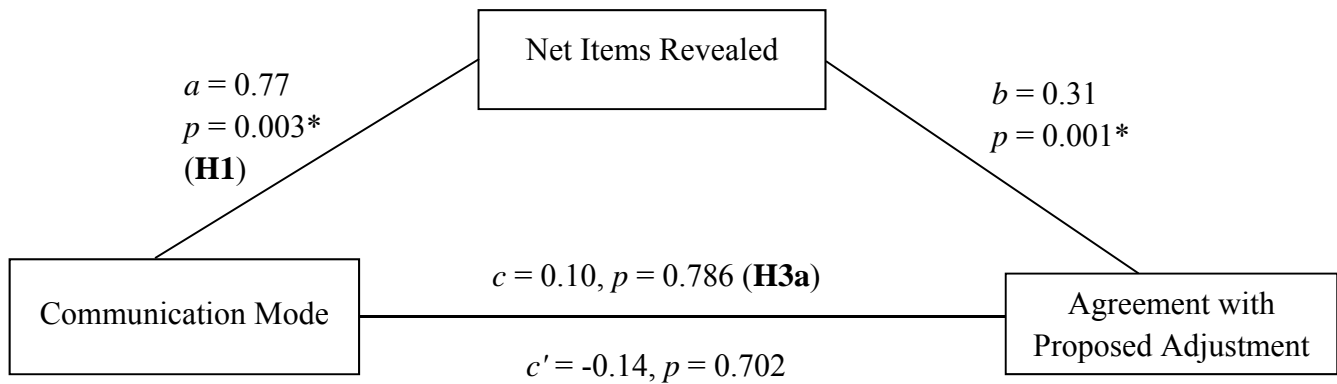
STAGE 2: PROPOSED AUDIT ADJUSTMENT



**Fig. 1.** Experimental flow. *Notes:* <sup>a</sup> Net items revealed = The number of items revealed by the client that support an inventory obsolescence write-down less the number of items revealed that do not support an inventory obsolescence write-down. Lower values represent a client response that is more biased towards items that support the client’s position of no inventory obsolescence and away from non-supporting items.



**Fig. 2.** Net items revealed by clients in response to auditor inquiry. *Notes:* 1) Net items revealed = The number of items revealed by the client that support an inventory obsolescence write-down less the number of items revealed that do not support an inventory obsolescence write-down. Lower values represent a client response that is more biased towards items that support the client’s position of no inventory obsolescence and away from non-supporting items. 2) Audio, Visual, and E-mail refer to the communication mode of the auditor’s inquiry for information related to inventory obsolescence. 3) More professional and Less professional refer to the professional tone of the auditor’s inquiry. The wording of each of these conditions can be seen in the Appendix.



Tests of the  $a \times b$  indirect effect **(H3b)**:

95% bootstrap confidence interval = 0.0591 to 0.5558

Sobel test:  $z = 2.05, p = 0.04$

**Fig. 3.** H3a and H3b: Client agreement with proposed adjustment. *Notes:* 1) Net items revealed = The number of items revealed by the client that support an inventory obsolescence write-down less the number of items revealed that do not support an inventory obsolescence write-down. Lower values represent a client response that is more biased towards items that support the client's position of no inventory obsolescence and away from non-supporting items. 2) Communication Mode is coded as 0 = e-mail and 1 = audio/visual (collapsed for ease of interpretation). 3)  $c$  = The direct effect of communication mode on agreement with the proposed adjustment, without controlling for net items revealed.  $c'$  = The direct effect of communication mode on agreement with the proposed adjustment when controlling for the intervening variable of net items revealed (see Kenny, 2016). 4) This model controls for professional tone as a covariate. \* These p-values are 1-tailed based on directional predictions.