

It Goes Without Saying: The Effects of Intrinsic Motivational Orientation, Leadership Emphasis of Intrinsic Goals, and Audit Issue Ambiguity on Speaking Up

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Up**

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ABSTRACT

Regulation requires auditors to raise significant audit issues and concerns to the attention of audit engagement leadership and requires leadership to encourage such communication. This research demonstrates, using an experiment and a survey, that audit team members' willingness to speak up about such issues is associated with their intrinsic motivational orientation. Based on this result, we test whether audit leadership can leverage this relationship to increase speaking up, particularly when audit issues are more ambiguous, by emphasizing intrinsic goals. Results across three additional experiments indicate that auditors whose leaders emphasize intrinsic goals, whether directly or through tone at the top and firm culture, are more likely to speak up than are other auditors. We also find that auditors are more likely to speak up when an audit issue is less versus more ambiguous. We conclude that leadership can fulfill their obligation to encourage upward communication by emphasizing intrinsic versus extrinsic goals, regardless of the level of ambiguity surrounding the audit issue.

Keywords: Audit teams, information sharing, leadership, employee voice, experiment, survey

Data Availability: Contact the authors.

1. Introduction

Effective audit team communication is essential to conducting high quality audits (Solomon 1987). Upward communication is particularly critical to audit quality because lower-level (staff) auditors gather most of the audit evidence (Bennett and Hatfield 2013), placing them in the best position to discover potential accounting and audit issues. If lower-level auditors do not actively communicate potential issues upward, superiors are unlikely to discover these issues in a timely manner (Rich et al. 1997). Timely upward communication of potential issues facilitates high quality audits by allowing the audit team to effectively and efficiently respond to risks by changing the nature, timing, and extent of audit procedures. Consistent with this premise, PCAOB AS 1201 directs auditors to raise issues that may be consequential and requires audit leadership to encourage that communication (PCAOB 2010a).¹

Despite the PCAOB AS 1201 requirement, raising potential audit issues (“speaking up”) is problematic for auditors, particularly when audit leadership emphasizes efficiency (Nelson et al. 2016). When leadership is concerned about efficiency, auditors tend to worry about meeting time budgets (Agoglia et al. 2015). They may be less willing to raise an issue that will require costly audit plan changes because they expect their supervisor to react negatively (Nelson and Proell 2018), particularly when there is a chance that additional audit work might not identify misstatements, and so might appear unnecessary in hindsight (Brazel et al. 2016).

In this paper, we examine how two important features of the audit environment—audit leadership motivational emphasis (i.e., intrinsic or extrinsic goals) and ambiguity surrounding the potential audit issue—affect auditors’ willingness to raise those issues. We study ambiguity

¹ We define audit leadership broadly to include immediate supervisors (in this case seniors), who have the largest influence on staff behavior (Pickerd et al. 2015; Northhouse 2016), as well as those higher up the hierarchy, including managers, the engagement partner, and firm leaders who set the “tone at the top.”

because it is pervasive in the audit environment (e.g., Brown-Liburd et al. 2015) and because prior work suggests that ambiguity may dampen speaking up (Nelson et al. 2016). We study audit leadership because audit leadership is expressly charged with ensuring upward communication of potential audit issues and concerns. More generally, leadership is responsible for motivating staff (Kotter 2001), and we develop theory predicting that leadership that emphasizes intrinsic goals will increase speaking up, especially in light of more ambiguous audit issues.

We conduct our examination primarily in the context of pressures for audit efficiency. We choose this setting for two reasons. First, pressures for efficiency are pervasive—even when auditors are concerned with effectiveness, they have pressures for efficiency, and second, these pressures can negatively impact audit quality (e.g., Agoglia et al. 2010; Knechel et al. 2013). As noted above, efficiency pressures are associated with reduced speaking up about issues that could increase audit effectiveness, presumably because investigating raised issues consumes time (Brazel et al. 2016; Nelson et al. 2016). We use a multiple-study approach, replicating key results across studies employing different operationalizations of the independent and dependent variables to strengthen our inferences (e.g., Trochim et al. 2016).

We begin our examination by empirically establishing that auditors with an intrinsic motivational orientation are more willing to raise potential audit issues than are other auditors. *Intrinsic motivation* refers to one's drive to engage in activities for the internal rewards of doing so, such as knowledge acquisition and personal development (Ryan and Deci 2000). While all auditors presumably possess intrinsic motivation for their job, that motivation is not always salient. *Intrinsic motivational orientation* refers to the extent to which intrinsic rewards are salient, which varies across individuals and across situations for a given individual (Amabile et

al. 1994; Cerasoli et al. 2014). That is, although individuals tend to be somewhat consistently oriented towards intrinsic and/or extrinsic rewards, environmental elements such as the presence of an intrinsic or extrinsic reward can temporarily change one's orientation (e.g., Amabile 1993, 192-193). For example, having auditors review and rank a list of intrinsic rewards they can get from their jobs improves their performance on a complex judgment task, presumably because it makes auditors' intrinsic motivation for their jobs salient, motivating fuller engagement in the tasks (Kadous and Zhou 2018).² We examine intrinsic motivational orientation as a potential driver of speaking up behavior because our theory predicts that individuals who are oriented towards the intrinsic rewards of learning and personal development will be more likely to raise task-related issues, thereby earning further opportunities to engage with the issue and learn from feedback.

Studies 1 and 2 establish a connection between intrinsic motivational orientation and auditors' willingness to speak up. In Study 1, 93 masters of accountancy students who had previously completed an audit internship assess staff auditors who are described as focusing on intrinsic rewards for their job as more willing to speak up than both staff auditors described as focusing on extrinsic rewards and those for whom no motivational description is given. In Study 2, we survey 65 auditors from two large public accounting firms, and we find a positive association between respondents' trait measures of intrinsic motivational orientation (i.e., the extent to which an individual is typically focused on intrinsic rewards) and their own speaking up behaviors in the workplace. We find no such association between respondents' trait measures

² We study intrinsic motivational orientation rather than the level of intrinsic motivation. If we assume that all auditors possess some level of intrinsic motivation for their job and that this level is relatively stable in a short time period, then it is likely that the extent to which they are oriented towards it is what drives differences in behavior. Moreover, while brief interventions are unlikely to change levels of intrinsic motivation, they can readily change intrinsic motivational orientation (e.g., Burton et al. 2006; Gillet et al. 2013).

of extrinsic motivational orientation and speaking up behaviors. Based on these two studies we conclude that intrinsically oriented auditors are more likely to speak up.

Next we examine whether audit leadership can leverage this result to increase speaking up about audit issues, particularly for more ambiguous issues, where we expect speaking up is most depressed. Leadership is responsible for motivating staff (Kotter 2001), and leadership can make intrinsic rewards salient by a variety of means, including emphasizing intrinsic goals (Vansteenkiste et al. 2004).³ Thus, we expect that audit leadership can increase speaking up by emphasizing intrinsic goals. Further, we expect that this effect will be largest when ambiguity is high because auditors are more likely to look for leader guidance in this case.

In Study 3, an experiment with 117 staff auditors, we find that auditors are less willing to speak up when the audit issue is more, versus less ambiguous. In addition, we find that auditors are more likely to speak up to leaders who emphasize intrinsic versus extrinsic goals *regardless* of the level of audit issue ambiguity. This finding is particularly important because it demonstrates that leaders can improve speaking up even in the presence of relatively unambiguous issues that are required to be communicated to superiors under PCAOB AS 1201.

Study 4, an experiment with 60 masters of accountancy students who had completed an audit internship, replicates Study 3 and tests the robustness of the Study 3 results to a different manipulation of ambiguity, a different measure of speaking up, and a different source of the potential audit issue. In addition, Study 4 extends Study 3 by examining whether the emphasis of intrinsic or extrinsic goals comes from the engagement senior or from the audit firm culture (“tone at the top”). Inferences are identical across Studies 3 and 4, and we do not find differences

³ Intrinsic goals are inwardly directed (i.e., self-development) while extrinsic goals are outwardly directed (i.e., financial success) (Vansteenkiste et al. 2005, 483).

in auditor voice based on motivational source. Finally, in Study 5, an experiment with 120 masters of accountancy students, we provide evidence corroborating the idea that audit leaders' emphasis of intrinsic or extrinsic goals induces staff behavior consistent with their intrinsic and extrinsic motivation, rather than simply focuses them on different types of extrinsic motivators.

These results provide several contributions to practice and research. The PCAOB has expressed concerns about how audit firm management practices such as “tone at the top” affect audit quality (PCAOB 2012). Our research directly informs audit firms and the PCAOB about how audit leadership can create a culture that positively influences speaking up, thereby increasing audit quality. Our results indicate that when audit leadership, whether at the direct supervisor or top firm level, emphasizes intrinsic goals, staff auditors' willingness to communicate audit issues to their superiors increases, even under efficiency pressures. These findings complement work demonstrating that auditors reminded of intrinsic rewards exhibit high quality cognitive processing and improved audit judgments in complex audit tasks (Kadous and Zhou 2018), and they add to the limited research on how employees can be oriented toward their intrinsic motivation in organizations (Gagné and Deci 2005). Our findings also complement research expressing concerns that the current penalty-oriented regulatory regime may not be the optimal approach to motivate auditors in a changing environment (Peecher et al. 2013). We provide a complementary tool to these penalties by demonstrating that audit team leaders can locally alter motivational orientations to increase compliance with auditing standards.

Our research also contributes to the literature investigating determinants of audit team information and knowledge sharing (e.g., Rich et al. 1997; Vera-Munoz et al. 2006; Gold et al. 2014; Nelson et al. 2016; Gissel and Johnstone 2017; Nelson and Proell 2018; Dennis and Johnstone 2018). While this research indicates that auditors do not always speak up to share

issues, we identify a theory-based path for improving information sharing by tapping into what audit leadership is already responsible for doing—motivating audit staff. Our results indicate that small changes in leadership emphasis can result in meaningful improvements in audit quality.

2. Intrinsic motivational orientation and speaking up

Upward communication in audit teams

Relatively inexperienced, lower-level auditors tend to spend more time in the field than do more experienced auditors, and they gather the bulk of audit evidence (Bennett and Hatfield 2013). These lower-level auditors, including staff and interns, may encounter a document or client explanation that is not quite as expected while conducting fieldwork. They may engage in or overhear conversations with client personnel that have potential audit implications.⁴ In order for the audit team to appropriately respond to an issue that may affect the risk of material misstatement, the issue has to be communicated upward. This implies that upward communication of potential audit issues is critical to an effective audit. Accordingly, PCAOB AS 1201 directs auditors to raise issues that may be consequential to their superiors, and it requires leaders to encourage that communication (PCAOB 2010a).

From the perspective of the management literature, upward communication is an illustration of employee “voice.” Employee voice is the “verbal communication of problems or ideas intended to stimulate organizational improvement to superiors” (Burris et al. 2013, 22), and it usually implies a challenge to the status quo (Van Dyne et al. 1995).⁵ Voicing problems or a

⁴ For example, in a qualitative grounded theory study, Clor-Proell et al. (2018) ask interns to describe instances where someone on the audit team did not speak up. Items mentioned include misstatements that turned out to be material, errors in client fair value calculations, improperly authorized invoices, and employee communications accusing the controller of fraud.

⁵ Audit voice overlaps to a degree with whistleblowing. Whereas the former generally deals with potential rather than known issues, it also typically lacks the ethical overtones that are consistently present in whistle-blowing research (Clor-Proell et al. 2018). For example, Taylor and Curtis (2013) study whistleblowing as the willingness to

desire to change the status quo is risky. For example, auditors under efficiency pressures may be unwilling to raise an issue that will require changes to an audit plan because they expect their supervisor to react negatively (Nelson and Proell 2018), particularly if there is a chance that additional audit work might not identify a misstatement (Brazel et al. 2016).

It follows that employees concerned about supervisor reactions might self-censor to avoid any potential negative repercussions from their supervisors. Indeed, auditing research indicates that auditors do not always speak up to share potentially important issues (Gold et al. 2014; Nelson et al. 2016). For example, Gold et al. (2014) find that auditors are unwilling to report known peer workpaper auditing errors when the audit firm's culture is blame-oriented. Nelson et al. (2016) specifically adapt the management voice perspective to the auditing context and find that auditors are more likely to raise issues that are consistent with the audit leader's primary focus on either efficiency or effectiveness, and they are relatively unwilling to share issues contrary to that focus. That auditors are reluctant to raise issues contrary to the leader's primary focus is consistent with auditors' attempts to influence their own performance evaluations by stylizing workpapers (e.g. Rich et al. 1997). In both cases, auditors' efforts to protect themselves put audit effectiveness at risk.

Increasing our understanding of factors that inhibit or enhance an auditor's willingness to raise issues beyond an audit leader's primary focus and beyond a blame culture is important because auditors' failure to raise potentially relevant audit issues limits the audit team's ability to respond to risks in the environment and it violates auditing standards. Our research is focused on examining factors affecting upward communication of issues that potentially impact *audit*

report illegal, immoral, and unethical wrongdoing via a whistleblowing hotline while Nelson et al. (2016) investigate audit voice as a staff auditor's willingness to raise a potential issue to a supervisor that involves suggesting an alternative audit procedure that may not match the supervisor's preference.

effectiveness when leadership is focused on *efficiency*. We choose this focus because this is the setting in which failure to speak up potentially compromises audit quality and is most concerning.

Voice and intrinsic motivational orientation

Auditors, and employees more generally, can be motivated in a variety of ways. Outside of accounting, intrinsic and extrinsic motivations are among the most extensively studied (Cerasoli et al. 2014). Intrinsic motivation refers to an individual's drive to engage in activities for the internal rewards that they bring, including knowledge acquisition and personal development, whereas extrinsic motivation refers to the individual's drive to engage in activities for the external rewards that they bring, including compensation and recognition (Ryan and Deci 2000). For example, an auditor's intrinsic motivation will drive her to ask for a tough assignment because she enjoys a challenge and the opportunity to learn, but her extrinsic motivation will drive her to ask for a tough assignment because she believes it will get her recognition and a promotion.

Individuals are motivated both intrinsically and extrinsically, and both motivations can co-exist. For example, a writer can be intrinsically motivated to write a book because she is interested in the subject matter yet can also be extrinsically motivated to meet a publisher's deadline (Amabile 1993). The extent to which intrinsic or extrinsic motivation are salient and thus available to drive behavior is influenced both by dispositional and situational factors and is referred to as "motivational orientation." Individuals display stable intrinsic and extrinsic motivational orientations, meaning that they are more or less consistently oriented towards intrinsic and/or extrinsic rewards (Amabile et al. 1994), but they can also be temporarily oriented to a particular motivation type by the presence of contextual factors that make intrinsic or

extrinsic rewards more salient (e.g., Burton et al. 2006; Friedman et al. 2010; Kadous and Zhou 2018).

Extrinsic rewards in the audit context are varied and can either encourage or discourage audit quality.⁶ However, in the context of speaking up to a leader with issues inconsistent with that leader's preference, existing extrinsic rewards are likely to depress speaking up.

Investigating issues takes time, and auditors can be evaluated negatively for bringing up issues (Nelson and Proell 2018), particularly when the additional work does not reveal misstatements (Brazel et al. 2016). Accordingly, we expect that extrinsically oriented auditors to be relatively reluctant to raise issues inconsistent with the leader's focus on efficiency for fear that the leader will react poorly and evaluate the auditor's performance negatively.⁷

In contrast, we expect that intrinsically oriented auditors will be more likely to speak up and share information because these auditors are more focused on learning and building general audit knowledge, as well as on satisfying their curiosity about the issue. Raising an issue allows the auditor to engage with the issue in that it will trigger feedback and discussion of the issue, leading to knowledge acquisition. This implies that intrinsically oriented auditors will be more willing to speak up.⁸ Based on the above reasoning, we propose the following hypothesis:

⁶ For example, a threat of legal liability can increase judgment quality (Hackenbrack and Nelson 1996; Blay 2005), and a threat of PCAOB inspections appears to improve auditor decisions about internal control audit reports (Defond and Lennox 2017). In contrast, fear of losing a client (Gramling 1999; Blay 2005) or missing a deadline (Lambert et al. 2017; Bhaskar et al. 2017) can decrease the quality of audit judgments. Many of these extrinsic motivators have been studied in accounting under the umbrella of accountabilities—auditors are viewed as being accountable to supervisors, clients, and regulators for making decisions that please these relevant others in order to gain external rewards or avoid punishment (Gibbins and Newton 1994). Orienting an auditor towards her intrinsic motivation does not diminish these rewards or punishments, but makes the auditor focus more on intrinsic motivators (e.g., enjoyment of the task) instead. Zhou (2018) discusses how an intrinsic motivational orientation influences auditor judgment processing in the presence of extrinsic motivators.

⁷ Potential supervisors' reactions weigh heavily on auditors' decisions to speak up (Nelson et al. 2016), implying that auditors tend to be extrinsically oriented in this context.

⁸ This reasoning is consistent with findings linking transformational leadership to voice (Detert and Burris 2007). Specifically, transformational leaders motivate followers to move beyond their own self-interests via charisma,

HYPOTHESIS 1. *Intrinsically oriented auditors are more willing to speak up to leaders about potentially important audit issues than are other auditors.*

Study 1: Effects of motivational orientation on voice

Method

Overview and participants. Study 1 employs a 1×3 within-participants experimental design, varying the *motivational orientation* of the staff auditor described in the case (intrinsic, extrinsic, or none mentioned (i.e., control)). Ninety-three senior and masters of accounting students from a large public university completed the study on-line. All participants had completed at least one public accounting audit internship, primarily during busy season, and 89 percent had accepted a full-time audit position.⁹ Audit interns serve as a good proxy for staff auditors because they perform many of the same tasks on audit engagements as audit staff (Hawkins et al. 2018). Moreover, similar to staff, interns need to decide whether to raise audit issues to their superiors. Thus, interns' willingness to speak up on audit issues is of direct interest, in itself.

Procedure and task. The task, adapted from Nelson et al. (2016), asks participants to imagine a staff auditor who is in charge of carrying out internal controls and substantive testing of inventory on the audit of a large medical device manufacturer. The context includes pressures

individual consideration, vision articulation, and intellectual stimulation (Bass 1999). On the other end of the leadership spectrum are transactional leaders. Transactional leaders use rewards and penalties (i.e., extrinsic motivators) to motivate followers toward leader goals (Bass 1999). While the motivating mechanisms behind transformational leadership are largely unexplored, there is some associational evidence that intrinsic motivation might play a role (Bono and Judge 2003; Piccolo and Colquitt 2006). Since transformational leadership has been linked to increased voice (Detert and Burris 2007), this research suggests the possibility that directly emphasizing intrinsic motivation can also lead to increased voice.

⁹ That 89 percent of the participants had already accepted full-time audit positions (95 percent of those with "Big 4" firms) indicates that these participants have been vetted by the firms and meet the requirements for staff auditors. Limiting analysis to observations from participants who had accepted a full-time audit position or accepted a full-time position with a "Big 4" firm does not affect our inferences. We include all observations in the reported analyses.

for efficiency. That is, the manager and partner had finalized the substantive testing plan and had emphasized to the team that the client is low risk and that they (team leadership) are exceptionally concerned about audit costs. Participants then read, “Mid-way through the audit, the entire team was working long hours and was slightly behind schedule when the staff auditor came across some potentially important information in a casual conversation with a low-level client employee.” They were told that the potentially important issue, if true, implies changes to the audit team’s approach to inventory testing would “increase audit cost by increasing planned audit hours, but also could potentially increase audit quality.” All participants completed the study on-line. The software prevented them from advancing in the study until they correctly identified condition-relevant information. We counterbalanced case order such that participants were randomly assigned to one of six case orders.¹⁰

Independent variable. We manipulated the staff auditor’s *motivational orientation* within participants at three levels. In the intrinsic condition, participants read, “The **staff auditor** has always been motivated through personal and professional growth by focusing on learning and improving himself.” In the extrinsic condition, participants read, “The **staff auditor** has always been motivated through career success by focusing on rewards and career advancement for himself.” The design includes a control condition in which there is no mention of staff auditor motivation.

Dependent variable. Our dependent variable measures willingness to speak up and is adapted from Nelson et al. (2016). Participants rated “how willing you think the staff auditor

¹⁰ Participants were unable to change responses to the first scenario after reading other scenarios. This allows us to analyze responses to the first scenario as a between-participants study. The between-participant analyses yield identical statistical inferences as those reported for the within-participant analyses, suggesting that the within-participants design did not create demand effects.

described in this circumstance would be suggesting that additional procedures may be needed to investigate the employee's information and inventory sampling might need to be increased, increasing audit cost but also potentially increasing audit quality.” The endpoints were labeled “0: not at all willing to speak up” and “100: very willing to speak up,” and the midpoint was labeled “50: somewhat willing to speak up.” This measure asks what a described person would do rather than what the participants would themselves do. Doing so is consistent with prior accounting research (e.g., Cohen et al. 1998; Cohen et al. 2001; Chung and Monroe 2003) and is helpful when questions are sensitive or are subject to social desirability bias in responding. In these cases, people’s predictions of what others would do is more closely associated with their own actual behavior than are predictions of what they themselves would do (Gronewold et al. 2013, 197).¹¹

Results

Table 1, panel A provides descriptive statistics for auditors’ assessments of the staff auditor’s willingness to speak up by condition. We base our tests of hypotheses on a repeated measures ANOVA model with the staff auditor’s motivational orientation (intrinsic, extrinsic, or control) as the repeated measure.¹² Motivational orientation is significant in this model ($F_{2,184} = 68.17, p < 0.01$). Table 1, panel B provides the contrasts testing our hypothesis. The results

¹¹ Nelson et al. (2016) report consistent inferences across multiple studies that feature different measurements of the dependent variable (typical auditors’ “comfort speaking up” and “willingness to speak up”; their own “willingness to speak up”). We follow this best practice of using multiple measures to triangulate on the voice construct. Triangulation increases confidence that results are not driven by particular ways of manipulating or measuring constructs, captures a more complete portrayal of the constructs, and enhances the study’s validity (Jick 1979; Singleton and Straits 2010; Trochim et al. 2016).

¹² Including order of scenarios in the model and allowing it to interact with the manipulation does not change inferences, so we report results based on the simpler model. We also test for gender effects because questions that can invoke social desirability bias are linked to gender differences (e.g., Cohen et al. 1998, 2001; Nelson et al. 2016). Gender is not correlated with speaking up in any of our studies and including it as a control variable does not change any reported inferences.

support our expectations. Intrinsically oriented auditors are viewed as more willing to speak up about a potential audit issue ($M = 67.54$) than are extrinsically oriented auditors ($M = 41.16$, $p < 0.01$) or auditors whose motivational orientation is not described ($M = 44.12$, $p < 0.01$). There is no difference in willingness to speak up between the control and extrinsic conditions ($p = 0.24$).¹³

[Insert Table 1 here]

Study 2: Associations between motivational orientation and speaking up on the job

Study 1 provides experimental evidence that intrinsically oriented auditors are more willing to speak up about potentially important audit issues than are other auditors. To further demonstrate a link between intrinsic motivational orientation and voice, in Study 2 we use a survey to measure trait levels of intrinsic and extrinsic motivational orientation (i.e., the extent to which a motivation type is typically salient) and actual work behavior. While survey evidence does not, in itself, allow for strong inferences about causality, it complements laboratory experiments by contextualizing and generalizing experimental findings (Bloomfield et al. 2016).

Method

Overview and participants, trait motivational orientation. Participants were 65 auditors from two accounting firms. Participating auditors have, on average, 18.7 months of

¹³ To verify that participants had experience with both intrinsically and extrinsically oriented auditors, we asked participants in the post-experimental questionnaire whether: 1) they had worked with each of the two types of auditors during their internship (scale: 0 (Never) to 100 (All the time)), 2) whether they were aware of staff auditors fitting that profile, and 3) how realistic the descriptions are (both scales: 0 (Not at all) to 100 (Very much)). Participants reported working with both auditor types, though marginally more with intrinsically oriented staff ($M = 66.35$, $SD = 20.02$) than extrinsically oriented staff ($M = 59.42$, $SD = 26.62$) ($p = 0.07$); they were marginally more aware of intrinsically oriented auditors ($M = 71.41$, $SD = 23.53$) than extrinsically oriented auditors ($M = 65.55$, $SD = 27.24$) ($p = 0.09$), and there was no significant difference in the realism of the two staff descriptions ($M = 66.48$, $SD = 20.93$ versus $M = 68.71$, $SD = 22.26$, $p = 0.47$).

audit experience, with 83.1 percent being audit staff and 16.9 percent being audit seniors.¹⁴

We measure participants' trait levels of intrinsic and extrinsic *motivational orientation* using the Work Preference Inventory (WPI) (Amabile et al. 1994). The WPI is designed to assess stable individual differences in motivational orientation (i.e., the extent to which individuals are *typically* oriented intrinsically or extrinsically). The WPI separately measures intrinsic and extrinsic motivational orientations with 15 items each. For each item in the WPI, participants indicate the extent to which the item describes them on a 4-point scale from 1 (never or almost never true of me) to 4 (always or almost always true of me). Prior research indicates that the levels of intrinsic and extrinsic motivational orientation as assessed by the WPI are independent of one another (Amabile et al. 1994). That is, individuals can score high or low on one or another or both. The intrinsic and extrinsic measures are not significantly correlated with each other in our sample (coefficient = -0.05, $p = 0.67$). Untabulated analyses yield alpha coefficients for the intrinsic and extrinsic motivational orientation scales of 0.86 and 0.72, respectively, both indicating reasonable internal consistency (Cortina 1993).

Dependent variable. We asked participants to report how much they speak up at work using seven measures adapted from Van Dyne and LePine (1998) and Nelson et al. (2016). These measures address a variety of ways of speaking up, including challenging a supervisor, offering suggestions to a team, and sharing one's unpopular perspective. The seven speaking up measures are provided in online Appendix A.¹⁵ A confirmatory factor analysis yields one factor with an eigenvalue of 5.02 that explains 71.7 percent of the cumulative variance. Using a

¹⁴ We appended the survey to the end of our computer-based instruments (only) used in Study 3 and in a follow-up study referenced in FN 21, so participants completed the survey after an experiment.

¹⁵ Please see "Appendix A: Dependent Variable Wording," available in the Supporting Information section of the online article.

varimax rotation, the rotated loadings of the seven measures range from 0.75 to 0.93, indicating that each measure has a meaningful factor loading (Hatcher 1994). Further, the alpha coefficient for this construct is 0.93, indicating good internal consistency (Cortina 1993). We use the factor score as our dependent measure of speaking up. A finding of a positive association between trait intrinsic motivational orientation and speaking up behavior would corroborate the Study 1 findings that intrinsically oriented auditors are more likely to speak up.

Results

Table 2 reports the results of a regression for the speaking up measure on our two trait motivational orientations, as well as audit experience in months. Speaking up is significantly positively correlated with trait levels of intrinsic orientation ($p < 0.01$) as well as with work experience ($p = 0.04$) and is uncorrelated with trait levels of extrinsic orientation ($p = 0.89$). These results hold for each individual measure of speaking up analyzed separately.¹⁶ The survey evidence complements Study 1 in that it directly measures participants' trait intrinsic and extrinsic motivational orientations and shows that the impact of an intrinsic orientation on speaking up generalizes to auditors' real-world work behaviors.

[Insert Table 2 here]

3. Ambiguity, leader emphasis of intrinsic goals, and speaking up

Studies 1 and 2 provide evidence that intrinsically oriented auditors are associated with increased speaking up. In this section, we build on these results to examine whether audit leadership can leverage auditors' motivational orientations to improve upward communication of

¹⁶ For our sample, mean intrinsic (extrinsic) motivational orientation is 3.00 (2.79), both measured out of 4.00. These means are similar to those reported in prior research (Amabile et al. 1994). We also collected the same survey data from 100 MTurk participants with non-audit work experience. We observe identical inferences about relationships between the motivational orientations and speaking up behaviors for that population. In addition, auditors report higher levels of speaking up than the MTurk sample ($p < 0.01$).

audit issues, whether ambiguity, a common feature of the audit environment, dampens speaking up, and whether audit leaderships' influence on speaking up depends on the level of ambiguity in the audit issue.

Voice and audit leadership

We expect that leadership can increase auditors' willingness to speak up by emphasizing intrinsic goals. We focus on leaders because they are responsible for setting goals that motivate staff (Kotter 2001) and because auditing standards specifically charge audit team leaders with these motivation responsibilities (PCAOB 2010a). We noted above that people can be temporarily oriented to a particular motivation (i.e., intrinsic or extrinsic) when contextual factors prompt such a focus (e.g., Amabile 1985; Amabile 1993; Kadous and Zhou 2018). Leader behavior is one such contextual factor. In particular, leaders can orient staff to their intrinsic (extrinsic) motivation by setting or priming intrinsic (extrinsic) goals or by exhibiting intrinsic (extrinsic) motivations of their own (Oldham and Cummings 1996; Vansteenkiste et al. 2004; Vansteenkiste et al. 2005; Friedman et al. 2010). Building on this idea and the reasoning behind Hypothesis 1, we predict that when leaders emphasize intrinsic goals they prompt an intrinsic orientation, thereby increasing auditors' willingness to speak up.

HYPOTHESIS 2. Auditors are more willing to speak up to leaders about potentially important audit issues when leaders emphasize intrinsic versus extrinsic goals.

Voice and ambiguity

Following the judgment and decision making and accounting literatures, we define ambiguity as uncertainty about a current state (i.e., Einhorn and Hogarth 1985; Luippold and Kida 2012). Ambiguity arises from insufficient information and is influenced by the amount, type, reliability, and degree of conflict in available information, among other factors (Ellsberg

1961; Einhorn and Hogarth 1985). We expect that ambiguity surrounding an audit issue reduces auditors' willingness to speak up. Auditors are required to report audit issues potentially affecting audit quality under PCAOB AS 1201; however, ambiguity provides cover for motivated reasoning (Pyszczynski and Greenberg 1987; Kadous et al. 2003). Faced with information that may indicate a need for additional work, as well as risk of exposure to negative evaluation outcomes, auditors may prefer to believe that the issue is not important and would not materially impact the audit report.¹⁷ Thus, it may be easier to justify not speaking up about more ambiguous issues because there is more room to rationalize that the issue may not be worth a supervisor's time to discuss. In contrast, when an issue is less ambiguous, we expect that auditors will be more willing to speak up. In such circumstances, auditors are less able to rationalize failing to report the issue because doing so more clearly violates auditing standards. Discovery that an auditor was aware of a relevant and relatively unambiguous audit issue, but did not share it, would result in negative performance assessments.¹⁸ Based on this reasoning, we propose the following hypothesis:

¹⁷ Frank (2017) applies similar reasoning in examining an ethical dilemma in which an audit senior must decide whether to report or ignore an inconsistency in the audit evidence. She finds that auditors involved in the dilemma are less likely to view the potential outcomes of ignoring the inconsistency as harmful to investors than are non-auditors, leading to biased views of the ethicality of their own judgments. Consistent with the motivated reasoning literature, Frank further argues that ambiguity is necessary for this bias to manifest. Concurrent work also specifically identifies ambiguity as one of several contextual factors that reduces speaking up (Clor-Proell et al. 2018). This suggests that testing the effects of intrinsic motivational orientation at different levels of ambiguity enriches our understanding not only of ambiguity, but of when having an intrinsic orientation is most important.

¹⁸ Prior auditing research provides a counterpoint, in that it indicates that more ambiguous information prompts auditors to exhibit higher due diligence and care when performing audit procedures (Zimbelman and Waller 1999; Bigus 2012). For example, Zimbelman and Waller (1999) found that auditors choose larger sample sizes under more ambiguous circumstances. Applied to the information-sharing context that we explore, these findings point to auditors raising potentially important issues when faced with issue ambiguity. However, there are important differences between the contexts of prior studies and ours. Zimbelman and Waller (1999) studied a strategic interaction between an auditor and client in a lab setting with explicit incentives for correct identification of a misstatement. The study did not incorporate the supervision and evaluation aspects of hierarchical audit teams that can encourage lower-level auditors to withhold or distort audit issues such that audit leaders never learn of them (Rich et al. 1997; Gold et al. 2014; Nelson et al. 2016).

HYPOTHESIS 3. *Auditors are more willing to speak up to leaders about potentially important audit issues when the issues are less ambiguous versus more ambiguous.*

Voice, ambiguity, and leadership

While we expect that the audit leadership's emphasis of intrinsic goals will cause auditors to be more likely to speak up about a potential audit issue (i.e., Hypothesis 2), we expect this difference to be particularly prominent when the issue is more ambiguous. Prior research indicates that leaders take on a more important role and have more influence as uncertainty and ambiguity increase (Hollander 1961; Shamir and Howell 1999; Waldman et al. 2001; Pescosolido 2002; Howell and Shamir 2005). For example, group members are more likely to look to leaders to decide which emotional displays are appropriate under ambiguous versus unambiguous circumstances (Pescosolido 2002). While auditors are likely to take cues about valued behaviors from their leaders in all circumstances (Nelson and Proell 2018), we expect that leadership cues increase in importance when the issue under consideration is more ambiguous because what constitutes appropriate behavior depends on how the ambiguity is resolved. Further, when an issue is relatively unambiguous, leaders should play a diminished role in determining auditors' willingness to raise issues because failing to raise an unambiguous issue more clearly violates audit standards. Thus, auditors' ability to rationalize not speaking up is diminished as ambiguity is reduced. Accordingly, we hypothesize that an audit leader's motivational emphasis interacts with issue ambiguity on auditor voice. Stated formally:

HYPOTHESIS 4. *Auditors are more willing to speak up about potentially important audit issues when their leaders emphasize intrinsic versus extrinsic goals, and this difference will be larger when the audit issue is more ambiguous than when it is less ambiguous.*

Study 3: Joint effect of audit leadership emphasis and issue ambiguity on auditors' willingness to speak up

We conduct Study 3 to test whether leaders can use the main results of Studies 1 and 2 to

increase speaking up (Hypothesis 2) and also to test our ambiguity and interaction hypotheses (Hypotheses 3 and 4). We expect that audit leadership can increase auditors' willingness to speak up by emphasizing intrinsic versus extrinsic goals, and that the effect will be larger for more versus less ambiguous issues.

Method

Overview and participants. Study 3 employs a 2 (issue ambiguity: higher versus lower) \times 2 (leadership emphasis: intrinsic versus extrinsic goals) within-participants experimental design. We manipulate *issue ambiguity* by varying whether the source of the new information that auditors learned during the audit is unreliable (i.e., higher ambiguity) or reliable (i.e., lower ambiguity). We manipulate *leadership emphasis* by varying whether the senior in charge of the audit emphasizes personal and professional growth (intrinsic goal) or career success (extrinsic goal). We focus on the senior because immediate supervisors tend to have more influence on staff behavior than more distal supervision (e.g., Pickerd et al. 2015; Northhouse 2016). In Study 4, we test whether our inferences extend to a more distal source of the leadership emphasis.

One hundred seventeen staff auditors from two audit firms with an average of 11.6 months of audit work experience completed the study. Participants from one firm completed the experiment on paper during a firm-sponsored training session, and participants from the other firm completed the materials on-line.¹⁹

Procedure and task. The procedure and task were identical to that of Study 1, except as otherwise noted. We conducted both manipulations within participants, such that each participant responded to four scenarios. We counterbalanced the presentation order of the scenarios, and participants were randomly assigned to one of 24 different scenario orders. We included a

¹⁹ There were no significant differences in responses of the groups, so we report the combined results.

manipulation check for the ambiguity manipulation in place of the comprehension check in Study 1.

Independent variables. We manipulate *issue ambiguity* by varying the reliability of the source of the new information that auditors learned during the audit and explicitly linking it to ambiguity. We chose to manipulate issue ambiguity via source reliability because source reliability is a driver of ambiguity (Einhorn and Hogarth 1985). We manipulate *leadership emphasis* at two levels. In the intrinsic goal condition, participants are told that the senior in charge of the audit emphasizes personal growth, including learning, curiosity, and self-improvement, while participants in the extrinsic goal condition are told that the senior emphasizes career success, including rewards and promotion. The aspects that are emphasized in the intrinsic condition (i.e., learning, curiosity, and self-improvement) are associated with an individual's intrinsic motivation, whereas the aspects that are emphasized in the extrinsic condition (i.e., rewards and promotion) are associated with an individual's extrinsic motivation (Lepper and Henderlong 2000; Ryan and Deci 2000). We held the senior's concern for the budget constant across the leadership goal conditions. The wording of both manipulations is presented in online Appendix B.

Dependent variable. Our primary dependent measure asks participants to "... rate, on a scale from 0 (Not at all) to 100 (Very), how comfortable you think a typical staff auditor in this circumstance would be suggesting to the described senior that additional procedures may be needed to investigate the employee's information and inventory sampling might need to be increased, increasing audit cost but also potentially increasing audit quality." Because speaking up and related behaviors are thought to be risky (MacNab and Worthley 2008), we measure "comfort in speaking up" rather than "willingness to speak up." Psychological

comfort is linked to behavioral action (Elliot and Devine 1994), and assessing comfort increases measurement sensitivity to treatment differences (Nelson et al. 2016).

Results

Manipulation checks. Participants assessed the ambiguity of the “new audit information and potential implications” on a 101-point scale, ranging from 0 (not at all ambiguous) to 100 (extremely ambiguous) after reading the case materials and before assessing the dependent measure. The issue ambiguity manipulation was successful. Participants assessed ambiguity significantly higher in the higher ambiguity conditions ($M = 74.04$, $SD = 20.73$) than in the lower ambiguity conditions ($M = 18.23$, $SD = 20.92$, $p < 0.01$). Leadership emphasis did not influence ratings of ambiguity ($p = 0.74$).

Participants also indicated whether the senior in the case emphasized that the staff auditor should focus on “improving themselves as auditors” or “getting promoted and increasing their salary.” Of the 117 participants, 16 participants did not answer this question correctly in all four scenarios (of 468 possible responses, 95 percent were correct). Excluding these participants does not change any reported inferences, so we include all observations in our analyses.

Tests of hypotheses. Table 3, panel A provides descriptive statistics for auditors’ assessments of the staff auditor’s comfort in speaking up in the case by condition, and Figure 1 shows the results graphically. We base our tests of hypotheses on a repeated measures ANOVA model with issue ambiguity and leadership emphasis as repeated measures.²⁰ Table 3, panel B provides the repeated measures ANOVA.

[Insert Table 3 and Figure 1 here]

²⁰ Including the order of scenarios in the model and allowing it to interact with our manipulations does not affect inferences, so we report results based on the simpler model.

Consistent with Hypothesis 2, participants assess significantly higher comfort speaking up to a leader who emphasizes intrinsic goals than to a leader who emphasizes extrinsic goals ($M = 64.26$ and 45.10 , respectively, $p < 0.01$). Consistent with Hypothesis 3, auditors are significantly more willing to speak up to leaders about potentially important audit issues when the issue is less versus more ambiguous ($M = 59.80$ and 49.56 , $p < 0.01$).²¹

Hypothesis 4 predicts that issue ambiguity and leadership emphasis interact such that the auditors are more willing to speak up to leaders who emphasize intrinsic versus extrinsic goals and that this difference is larger when the issue is more versus less ambiguous. Table 3, panel B demonstrates that the disordinal interaction between leadership emphasis and issue ambiguity is not significant, and a review of the graphed cell means (Figure 1) confirms a pattern consistent with two main effects, but no interaction. We conclude that Hypothesis 4 is not supported. Instead, we find that auditors are more likely to speak up when audit issues are less versus more ambiguous, and that leadership emphasizing intrinsic goals is more likely to encourage speaking up than is leadership emphasizing extrinsic goals, regardless of the ambiguity of the audit issue.

²¹ We conducted two follow-up studies to assess the robustness of the Study 3, Hypothesis 3 result. First, we conducted a 1×2 (issue ambiguity: higher versus lower) between-participants experiment with a more comprehensive manipulation of ambiguity (including reliability and information conflict). Fifty-one accounting alumni with 11.8 months of audit experience, on average, completed the study on-line. In support of Hypothesis 3, participants in the lower ambiguity condition assessed the staff auditor as more comfortable speaking up ($n = 26$; $M = 68.65$; $SD = 22.66$) than did those in the higher ambiguity condition ($n = 25$; $M = 53.64$; $SD = 26.10$) ($t_{49} = 2.20$, $p = 0.03$) (results not tabulated). Consistent inferences across this study and Study 3 suggest the Study 3 results are not driven by demand effects and bolsters the idea that ambiguity, rather than simply the reliability of the information source, is the causal construct. Second, we conducted another 1×2 (higher and lower issue ambiguity) follow-up study with 45 staff auditors using the Study 3 materials, except that we changed the dependent variable such that it assessed auditors' own willingness to speak up and we only collected the two conditions with leaders emphasizing extrinsic goals. We again found that auditors are more willing to speak up when the audit issue is less ambiguous ($M = 84.27$) than when it is more ambiguous ($M = 72.04$, $p < 0.01$). Notably, the grand mean for these two cells in Study 3 is 39.52, while it is 78.16 in this second follow-up study. This is consistent with the idea that social desirability bias inflates reports of speaking up, potentially obscuring significant differences with ceiling effects. This consistency of results across dependent measures bolsters the assertion that our studies are capturing our constructs of interest (i.e., voice and ambiguity). Finally, we note inferences about the effect of ambiguity on voice are consistent across Study 3, these two follow-up studies, as well as Study 4.

While the lack of an interaction is unexpected, this result is particularly important because it confirms the powerful role that audit leadership plays in shaping speaking up behavior across a range of contexts.

Study 4: Replication of joint effect of audit leadership emphasis and issue ambiguity on auditors' willingness to speak up

In Study 3, we manipulated issue ambiguity (higher versus lower) and leadership emphasis (intrinsic versus extrinsic) to test their main and interactive effects on willingness to speak up. The setting we used was one in which the source of the issue to be reported or not was left vague, and there was some possibility that the auditor asked about speaking up could be blamed for the issue. It is possible that auditors' willingness to speak up is affected by whether they perceive themselves as self-reporting an error, so, in Study 4, we extend our tests to a setting in which the audit issue is clearly attributable to the senior's error.

Study 4 also extends Study 3 by examining whether the source of leadership emphasis on intrinsic or extrinsic goals is the senior or firm culture. We manipulated leadership emphasis in Study 3 by having the senior emphasize intrinsic or extrinsic goals. We did so because immediate supervisors tend to be more influential than more distal supervisors (e.g., Pickerd et al. 2015; Northhouse 2016). However, multiple levels of leadership have been linked to increased voice, in part due to leaders' influence on organizational culture (Detert and Trevino 2010). Because regulators focus on the more distal "tone at the top" (PCAOB 2012), it is useful to understand whether the benefits of leadership emphasizing intrinsic goals extend beyond immediate supervisors. Study 4 addresses these questions.

Method

Overview and participants. Study 4 employs a 2 (issue ambiguity: higher versus lower)

× 2 (leadership emphasis: intrinsic versus extrinsic goals) × 2 (leadership source: audit senior versus culture/partner) mixed design, with *issue ambiguity* and *leadership emphasis* manipulated within participants (mirroring Study 3) and *source of leadership* emphasis manipulated between participants.²² Participants are 60 masters of accounting students who had completed at least one audit internship. Of the 60 participants, 49 (82 percent) had been offered a full-time audit position and 43 (72 percent) had accepted a full-time audit position with an accounting firm.²³

Procedure and task

The procedure and task were identical to that of Study 3, except as otherwise noted. One change from Study 3 is that the new information that the staff auditor receives clearly indicates a potential error by the in-charge senior. Thus, the auditor considering raising the issue is not self-reporting an error. Participants completed the study on-line.

Independent variables. We manipulated *issue ambiguity* and *leadership emphasis* within participants as in Study 3, except that we modified the issue ambiguity manipulation so that it mentioned ambiguity directly and did not mention underlying causes of ambiguity (i.e., source reliability). The complete manipulations are provided in online Appendix B. We also manipulated *leadership source* between participants at two levels. In the audit senior source condition, “the senior in charge of the audit” emphasizes either the intrinsic or extrinsic goals, whereas in the culture/partner source condition, “the firm culture, which this engagement partner stresses” does so.

²² As in Study 3, we randomly assigned participants to one of 24 scenario orders. Including scenario order in the model and allowing it to interact with our manipulations does not change inferences, so we report the simpler model.

²³ Reported inferences hold if we limit our analyses to those who had been offered a full-time audit position, accepted a full-time audit position, or accepted a full-time audit position with a “Big 4” firm (42 participants). In addition, 63 percent of the participants completed their internship during busy season. Inferences are identical for the busy season and non-busy season subsamples.

Dependent variable. In Study 3, we asked participants about the comfort level of the described auditor. In Study 4, our primary dependent measure asks participants to “... rate, on a scale from 0 (Not at all) to 100 (Very), how willing you think a typical staff auditor in this circumstance would be suggesting to the described senior that additional inventory sampling needs to be increased, increasing audit cost but also potentially increasing audit quality.”

Results

Table 4 provides descriptive statistics for auditors’ willingness to speak up (panel A) and a repeated measures ANOVA model (panel B). The results of Study 4 replicate what we observed in Study 3. Participants assessed the staff auditor to be more willing to speak up to leaders who emphasize intrinsic versus extrinsic goals ($M = 68.36$ and 53.29 , respectively, $p < 0.01$), supporting Hypothesis 2. They assessed the staff auditor as more willing to speak up in the lower versus higher ambiguity condition ($M = 68.88$ and 52.78 , respectively, $p < 0.01$), supporting Hypothesis 3. Consistent with Study 3’s results, the interaction between leadership emphasis and issue ambiguity predicted by Hypothesis 4 is not significant, and a visual examination of the cell means confirms patterns consistent with two main effects. Again, we find that leadership emphasizing intrinsic goals is more likely to encourage speaking up than is leadership emphasizing extrinsic goals regardless of the ambiguity of the audit issue. Importantly, inferences are identical across leadership source conditions (i.e., we do not see a three-way interaction ($p = 0.51$), only main effects supporting Hypothesis 2 and Hypothesis 3). We find that an intrinsic leadership emphasis encourages auditors to speak up regardless of whether that emphasis is communicated by auditors’ immediate superiors that they interact with on a daily basis or through the “tone at the top” set by senior firm leadership.

[Insert Table 4 here]

Study 5: Test of whether audit leaders emphasizing intrinsic versus extrinsic goals induces intrinsic and extrinsic orientations

Studies 3 and 4 demonstrate consistent effects of issue ambiguity and leader emphasis of intrinsic goals on speaking up behavior across different measures of the dependent variable, across settings varying in where blame might be placed for the issue, and regardless of whether motivational emphasis is emphasized by the immediate supervisor or “tone at the top.” The Hypothesis 2 finding that leader emphasis of intrinsic goals increases speaking up was predicted based on the findings of Studies 1 and 2, which demonstrate that when auditors are oriented to their intrinsic motivation, they speak up more.

A remaining issue is whether the relationship between increased speaking up and audit leaders stressing intrinsic goals is caused by our hypothesized route (i.e., leaders prompt intrinsic motivation) or whether such leaders are simply communicating to auditors what types of behaviors are valued. If leaders are simply communicating that auditors are expected to “satisfy their curiosity,” auditors might do so expecting leaders to reward curiosity satisfaction (i.e., an extrinsic goal focused on demonstrating “curiosity”). While the end result is the same (i.e., auditors speak up more), orienting auditors towards their intrinsic motivation may bring additional benefits to the firm, such as improved audit judgments in complex audit tasks (i.e., Kadous and Zhou 2018). We expected that leaders stressing intrinsic or extrinsic goals prompt these motivations because leaders who set intrinsic/extrinsic goals or exhibit intrinsic/extrinsic behaviors have been shown to temporarily induce these motivational orientations in followers (e.g., Oldham and Cummings 1996; Vansteenkiste et al. 2004; Vansteenkiste et al. 2005; Friedman et al. 2010). Study 5 provides additional evidence on this issue.

Method

Overview and predictions. Study 5 employs a 2 (audit risk: low (making audit efficiency a priority) versus high (making quality a priority)) \times 2 (leadership emphasis: intrinsic versus extrinsic goals) between-participants experimental design. If leaders emphasizing intrinsic goals were simply inducing a different type of extrinsically focused motivation (i.e., extrinsic focus on satisfying curiosity) and participants were simply responding to extrinsic rewards, participants in both the intrinsic and extrinsic goal cells should be more cognizant of (and respond to) *external* rewards/penalties (i.e., increased awareness of budget constraints *and* of other conditions making speaking up more versus less likely to be rewarded). If this were the case, we would expect to observe a main effect of audit risk (i.e., participants speaking up more about a quality issue when there is a focus on quality versus efficiency) and either no difference between the extrinsic and intrinsic conditions or a main effect that reflects a differential concern for the budget (i.e., satisfying curiosity may imply more time to complete tasks and might translate to lower budget concerns), but no interaction.

However, consistent with our theory for Studies 3 and 4, we predict that leaders emphasizing intrinsic and extrinsic goals orient auditors towards their own intrinsic and extrinsic motivations. This implies an interaction of leadership emphasis and audit risk. Specifically, auditors in the extrinsic goal conditions will pay attention to whether or not the audit is high or low risk (i.e., effectiveness or efficiency focused), and their willingness to speak up will vary accordingly because speaking up about a potential quality issue will be externally rewarded more when there is a quality focus versus an efficiency focus (Nelson and Proell 2018). However, we expect that the speaking up behavior of participants in the intrinsic goal conditions will be relatively high (consistent with Studies 1-4) and less sensitive to audit risk because intrinsically oriented auditors are interested in learning and are relatively unconcerned about external rewards

and penalties for speaking up.

Participants, procedure, and task. Participants are 120 masters of accounting students recruited from three universities in the United States. Of the 120 participants, 52 (43 percent) had completed at least one audit internship and 58 (48 percent) had accepted a full-time audit position. The procedure and task were identical to that of Study 4, except as otherwise noted. As in Study 4, the party that could potentially be blamed for not identifying the potential audit issue earlier was the in-charge senior, and participants completed the study on-line.

Independent variables. We conducted both manipulations between participants. We manipulated *audit risk* between participants by varying whether “The client is low risk, and keeping audit costs low is a priority” (low risk) or “The client is high risk, and keeping audit quality high is a priority” (high risk). We manipulated *leadership emphasis* at two levels (intrinsic or extrinsic goals) using the same wording as in Study 3 and in the relevant Study 4 conditions. Ambiguity was not manipulated or mentioned.

Dependent variable. Because we sought to determine whether the leadership emphasis manipulation oriented auditors to their own intrinsic or extrinsic motivations, we used a between-participants design and our dependent variable did not ask what participants thought a typical staff auditor would do (as in Studies 1, 3, and 4). Instead, our primary dependent measure asks participants to “... rate, on a scale from 0 (Not at all) to 100 (Very), how willing you would be in this circumstance suggesting to the described senior that additional inventory sampling needs to be increased, increasing audit cost but also potentially increasing audit quality.”

Results

Table 5 provides descriptive statistics for auditors’ willingness to speak up (panel A), an ANOVA model (panel B), and a custom contrast test of our prediction (panel C). Figure 2 graphs

the cell means. The ANOVA model shows that on average, auditors are more willing to speak up when their senior emphasizes intrinsic rather than extrinsic goals ($p < 0.01$). The effect of audit risk is marginally significant ($p = 0.07$). The model also shows a significant interaction between leadership emphasis and audit risk ($p = 0.05$).²⁴ A contrast test confirms that the interaction predicted by theory is significant ($p < 0.01$, Table 4, panel C): auditors whose leaders emphasize intrinsic goals are willing to speak up regardless of the level of audit risk, whereas auditors whose leaders emphasize extrinsic goals are more willing to speak up when the audit risk is high than when it is low.²⁵ We interpret these results as suggesting that leaders emphasizing intrinsic goals orient participants to their own intrinsic motivation, consistent with prior research. In a post-test, participants further indicated that they would enjoy working for the senior who emphasizes intrinsic goals more than they would enjoy working for the senior who emphasizes extrinsic goals ($p < 0.01$). Expression of enjoyment is an indicator of whether motivation is extrinsically or intrinsically activated (Amabile 1993, 1999). Thus, our results suggests that leadership emphasizing intrinsic goals helps orient auditors towards their own intrinsic motivation for their work, which, in turn, prompts auditors to speak up about potential audit issues even when the environment does not encourage doing so (e.g., when the audit risk is low and keeping audit cost low is priority).

[Insert Table 5 and Figure 2 here]

²⁴ We include all participants in the analysis because if we consider only participants who have had an audit internship, cell sizes are small (as low as 10 participants). When only participants with an audit internship are considered the p -value for the interaction improves, suggesting that including participants without audit internship experience biases against the predicted results. In addition, the type of firms (“Big 4” versus “non-Big 4”) that participants had accepted a full-time position with is not significantly associated with the dependent variable. The interaction remains significant ($p < 0.01$) if we include the type of firms as a control variable in the firm.

²⁵ We apply weights of +1 for the Low Risk/Intrinsic Goal condition, +1 for the High Risk/Intrinsic Goal condition, -3 for the Low Risk/Extrinsic Goal condition, and +1 for the High Risk/Extrinsic Goal condition. The residual between-cells variance test is not significant ($p = 0.47$). This result is robust to whether the participants had previously completed an audit internship ($p < 0.01$) or not ($p = 0.09$).

4. Discussion

Most audit evidence is gathered by low-level audit team members, making upward communication of potential audit issues critical to effective and efficient audits (Bennett and Hatfield 2013). Accordingly, it is important to understand factors that inhibit and promote staff auditors' willingness to speak up about potentially important audit issues. Our Studies 1 and 2 provide evidence that an auditor's intrinsic motivational orientation is associated with higher willingness to speak up about potential audit issues. Our work further shows firms can leverage this result to increase speaking up. Studies 3, 4, and 5 show that leadership emphasis of intrinsic goals leads to increased speaking up. That higher levels of voice do not depend on the source of the motivational orientation (i.e., whether the source is the senior supervising the auditor, the firm's tone at the top, or the auditor's disposition) provides *convergent evidence* that intrinsic motivational orientation drives auditors' willingness to speak up. We also demonstrate that a leader's emphasis of intrinsic goals effectively increases speaking up regardless of the level of ambiguity in an audit issue. Our study thus offers substantive new solutions to the problem of compromised audit quality due to underreporting of audit issues.

We also provide evidence across two studies (Studies 3 and 4) that auditors are more likely to speak up when the audit issue is less ambiguous than when it is more ambiguous. While it is encouraging that auditors are more willing to speak up when it is clearer that the issue impacts audit quality, we note two inter-related concerns. First, relatively inexperienced auditors do the bulk of audit fieldwork, and so they are in the best position to learn of new audit issues (for example, in conversation with client employees). However, because of their lack of knowledge and experience, they are more likely to be unsure of the implications of potential audit issues that arise than are other auditors. Our study indicates that if they overestimate the

ambiguity in audit issues, they are less likely to report them to their superiors, potentially threatening audit quality. Second, we observe substantial unwillingness to speak up even when the issue is relatively unambiguous. This implies that important issues threatening audit quality are likely to go unreported, even when they are fairly clear.

A common limitation of experiments is that they often use one manipulation of an independent variable (i.e., they suffer from mono-operation bias) and one dependent measure (i.e., they suffer from mono-method bias), creating the possibility that the observed results apply only to the particular variables used in the study and do not generalize to the constructs of interest (e.g., Kerlinger and Lee 2000). A solution to this problem is to use multiple versions of the independent construct and multiple measures of the dependent construct (Trochim et al. 2016). We make a methodological contribution in demonstrating the value of this approach. As noted above, we obtain consistent results across studies using three different operationalizations of intrinsic motivational orientation, providing convergent evidence that intrinsic motivational orientation is the causal factor that increases speaking up. We similarly obtain consistent results across studies employing four different measures of our dependent construct, providing strong evidence that we are capturing the “voice” construct in our studies. In addition, the use of multiple studies allows us to perform conceptual replications of our tests for two types of audit issues, increasing confidence in these results. Table 6 summarizes the evidence we collected in this process.

[Insert Table 6 here]

Our paper makes several additional contributions. First, while prior research indicates that auditors do not always speak up to share information (e.g., Gold et al. 2014; Nelson et al. 2016; Gissel and Johnstone 2017), there are relatively few studies examining informal upward

communication. Our research contributes to this line of research by examining two important environmental determinants of information sharing. It specifically answers the call by Nelson et al. (2016) to investigate the impact of issue ambiguity, a common feature of the auditing environment. Along these lines, our research suggests the possibility that staff auditors' reluctance to speak up about ambiguous issues may result in less effective audit procedures. Accordingly, ambiguity may indeed lead to lower audit quality than previously recognized.

Second, while we expected that leadership emphasis would be associated with speaking up when the issue is more ambiguous, we observe the same result when the issue is relatively unambiguous. PCAOB AS 1201 clearly states that auditors should raise potentially important issues, so we expected high reporting of the less ambiguous issue regardless of leadership emphasis. That we did not find this, highlights that failing to speak up is problematic and it corroborates the PCAOB's assertions that audit firm management practices, including "tone at the top," affect audit quality (PCAOB 2012). That is, even when faced with relatively unambiguous information that indicates a change to audit procedures may be required, audit staff continue to factor in leadership emphasis when deciding whether to speak up. Moreover, it is not just partner or manager leadership that matters—we demonstrate that audit team leadership by seniors (i.e., "tone at the middle") matters. This is consistent with prior research showing that immediate supervisors have more impact on auditor decisions than more distal leadership (e.g., Pickerd et al. 2015). Accordingly, our results suggest that regulators look beyond issues of technical training when evaluating how lower level supervisors can enhance audit quality.

Finally, we provide evidence that firms can improve audit quality and compliance with PCAOB AS 1201 by paying attention to which goals leaders emphasize. Although the supervision and evaluation inherent in hierarchical audit teams can suppress upward audit

communication (Nelson et al. 2016), audit leadership can increase upward communication by eliciting audit team members' intrinsic motivations.²⁶ Accordingly, we provide a complementary and inexpensive tool to the regulatory penalties currently in use and the financial rewards suggested by Peecher et al. (2013) for increasing audit quality and compliance with audit standards.

Limitations and future research opportunities

Our studies are subject to limitations that represent opportunities for future research. Ambiguity is a multi-dimensional construct that arises from information insufficiency and is influenced by the amount, type, reliability, and degree of conflict in available information, among other factors (Ellsberg 1961; Einhorn and Hogarth 1985). We explore auditor reactions to audit issue ambiguity, but we do not examine whether those reactions depend on the source of ambiguity. Future research could explore this issue. For example, conflicting information from two influential and highly reliable sources might lead auditors to speak up more, rather than less, because of the importance of the high-level conflict.

Further, we predicted that leader behaviors would be less important when audit issues are relatively unambiguous (i.e., an interaction between leadership emphasis and issue ambiguity), but we did not find support for this hypothesis despite varying the independent variable operationalizations and dependent variable measurements. We interpret this result as indicating that leader behaviors are more important than we hypothesized, at least when leaders

²⁶ Results of Study 5 indicate that conditions designated *ex ante* as “high risk” prompt speaking up at higher levels, regardless of leader emphasis. This implies that speaking up may be less problematic for engagements that are obviously of high risk, and, as a result, leader emphasis of intrinsic goals may be less needed. We note, however, that issues that arise during the audit are, by definition, unanticipated, and so they are unknown when audit risk assessments are initially made. Thus, audits designated as “low risk” may in reality be high risk audits were the issue known. This is the logic behind the requirement to encourage speaking up in PCAOB AS 1201.

are providing motivational goals. We acknowledge, however, that it is possible that higher levels of trust in team members, psychological safety, or team commitment than is represented in our scenarios could increase speaking up about unambiguous issues. Similarly, auditors may develop stronger professional identities as they gain experience, and this may increase their reliance on standards' requirement to raise unambiguous issues, relative to leaders' goals. Future research could investigate these possibilities.

It is also important to point out that our studies represent a first step to establishing a relationship between leader emphasis of intrinsic goals and speaking up. We have neither studied the underlying relationship between intrinsic and extrinsic motivational orientations nor the precise mechanism through which leader goals operate. Theory, convergent evidence linking intrinsic motivational orientation (Studies 1 and 2) and leader emphasis of intrinsic goals (Studies 3-5) to the same behavior, as well as additional indicators of task enjoyment captured in Study 5 allow for strong inferences that intrinsic motivational orientation drives the increased speaking up behavior we observe from leader emphasis of intrinsic goals. Nonetheless, future work can more closely examine the mechanism(s) by which leader emphasis of intrinsic goals operates and can examine whether extrinsic motivations are affected by our goal manipulations.²⁷

Regarding leadership motivational goals, our studies held constant the manner in which leaders emphasize intrinsic and extrinsic goals. Leaders have a variety of tools available for emphasizing goals, including priming goals and modeling intrinsically or extrinsically oriented behavior (Vansteenkiste et al. 2004; Vansteenkiste et al. 2005; Friedman et al. 2010). Prior

²⁷ Evidence from Studies 1 and 2 that extrinsic motivational orientation is not associated with speaking up in our context suggests that it is very unlikely that changes in extrinsic motivational orientation are responsible for the results of Studies 3 – 5.

research indicates that to the extent a leader's emphasis of intrinsic goals is viewed as coercive (versus autonomy supportive), motivational effects may be diminished (Vansteenkiste et al. 2004). Future research could examine which leader practices support or undermine staff intrinsic motivational orientations, how leaders can most effectively employ those practices, and what contextual boundaries moderate the effectiveness of those practices.

Conclusion

The PCAOB's vision states, "Using *innovative and cost-effective tools* [emphasis added], the PCAOB aims to improve audit quality, reduce the risks of audit failures in the U.S. public securities market and promote public trust in both the financial reporting process and auditing profession" (PCAOB 2018). To illustrate, PCAOB AS 2110 requires key members of the audit team, including the partner, to brainstorm about how and where the company's financial statements may be materially misstated due to fraud, to consider external and internal factors that might create incentives for company management to commit fraud, etc. (PCAOB 2010b), in an attempt to improve audit outcomes. Similarly, PCAOB AS 1201 requires audit leadership to encourage team members to speak up in an effort to improve audit outcomes. Unfortunately, evidence suggests that staff auditors frequently fail to speak up (e.g., Brazel et al. 2016; Clor-Proell et al. 2018) and such failure is difficult to detect in PCAOB inspections.

Our findings illustrate an innovative and cost-effective tool—prompting an intrinsic orientation in subordinate team members—that can significantly improve compliance with PCAOB AS 1201 by increasing staff auditors' willingness to speak up. This improvement occurs in relatively ambiguous settings where an auditor can more easily rationalize not bringing the issue to the supervisor's attention, but also in relatively unambiguous settings where it would appear that failure to speak up clearly violates regulations.

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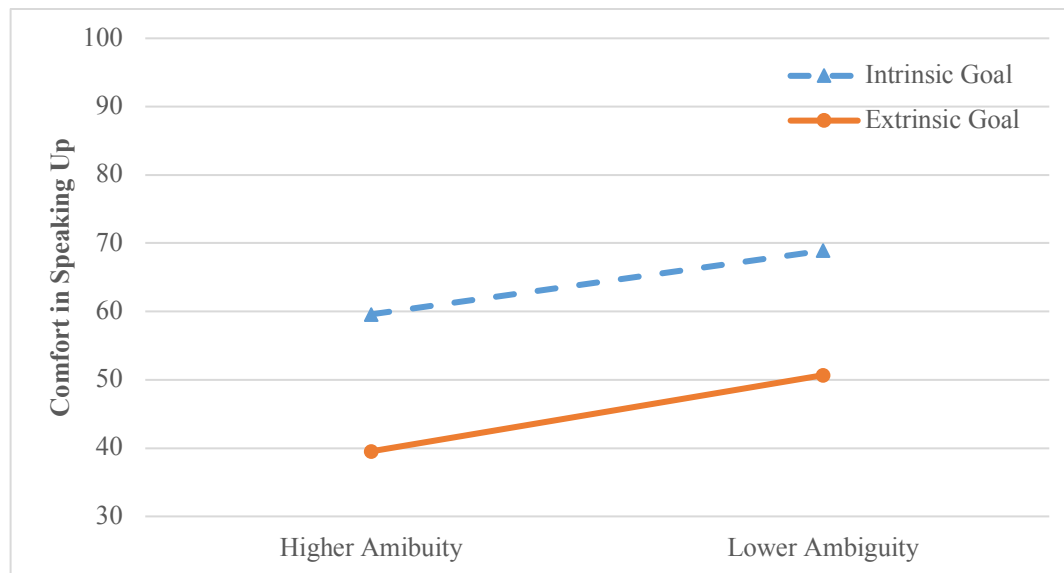
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Figure 1 Joint effects of issue ambiguity and leadership emphasis on auditors' comfort in speaking up about the audit issue (Study 3)

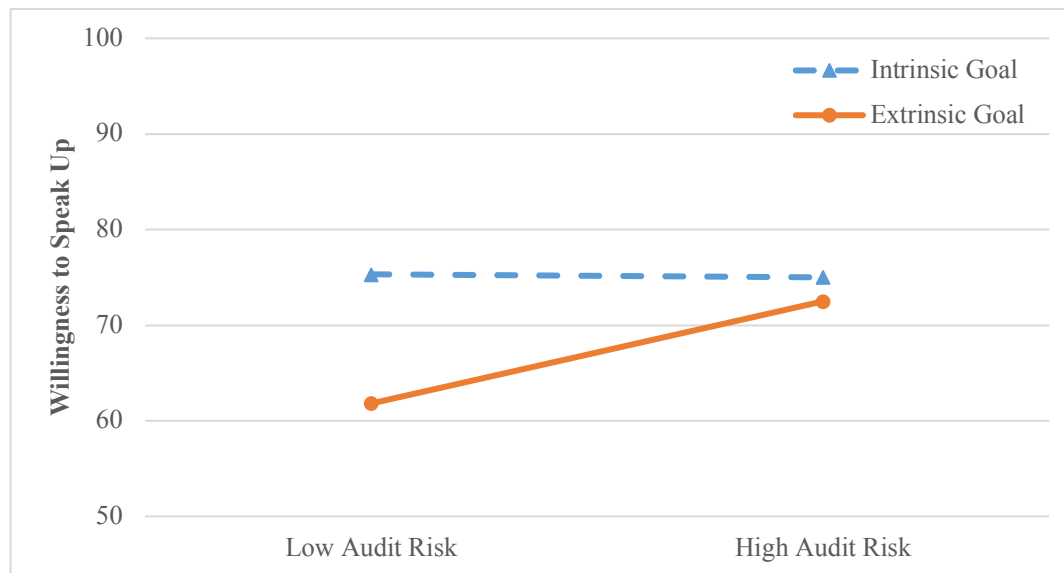


Notes:

The dependent measure asks participants to rate, on a scale from 0 (Not at all) to 100 (Very), “how comfortable you think a typical staff auditor in this circumstance would be suggesting to the described senior that additional procedures may be needed to investigate the employee’s information and inventory sampling might need to be increased, increasing audit cost but also potentially increasing audit quality.”

In the higher issue ambiguity conditions, the information source was described as unreliable. In the lower issue ambiguity conditions, the information source was described as reliable. In the intrinsic goal leadership emphasis condition, the leader emphasizes personal and professional growth. In the extrinsic goal leadership emphasis condition, the leader emphasizes career success. See online Appendix B for the wording of the manipulations. Both manipulations were conducted within participants.

Figure 2 Joint effects of audit risk and leadership emphasis on auditors' willingness to speak up about the audit issue (Study 5)



Notes:

The dependent measure asks participants to rate, on a scale from 0 (Not at all) to 100 (Very), “how willing you would be in this circumstance suggesting to the described senior that additional inventory sampling needs to be increased, increasing audit cost but also potentially increasing audit quality.”

In the low audit risk conditions, the client was described as “low risk, and keeping audit costs low is priority.” In the high audit risk conditions, the client was described as “high risk, and keeping audit quality high is a priority.” In the intrinsic goal leadership emphasis condition, the leader emphasizes personal and professional growth. In the extrinsic goal leadership emphasis condition, the leader emphasizes career success. See online Appendix B for the wording of the manipulations. Both manipulations were conducted between participants.

TABLE 1

Effects of staff auditor's motivational orientation on assessed willingness to speak up about an audit issue (Study 1)

Panel A: Mean (Standard Deviation of) assessment of the staff auditor's willingness to speak up

Staff Auditor's Motivational Orientation	Willingness to Speak Up
Intrinsic	67.54 (16.75) n = 93
Extrinsic	41.16 (21.82) n = 93
Control	44.12 (17.30) n = 93

Panel B: Contrasts based on repeated measures ANOVA for assessments of the staff auditor's willingness to speak up

	<i>df</i>	Sum of Squares	<i>F</i>	<i>p</i> -value
<i>Intrinsic vs. Control (H1)</i>	1	25,504	90.25	<0.01
<i>Extrinsic vs. Control</i>	1	407	1.44	0.23
<i>Intrinsic vs. Extrinsic</i>	1	32,351	114.48	<0.01
Error	184	51,995		

Notes:

This table reports descriptive statistics (panel A) and contrasts based on a repeated measures ANOVA model (panel B) for Study 1.

The dependent measure asks participants to assess, on a scale from 0 (not at all willing) to 100 (very willing), "how willing you think the staff auditor described in this circumstance would be suggesting that additional procedures may be needed to investigate the employee's information and inventory sampling might need to be increased, increasing audit cost but also potentially increasing audit quality."

The staff auditor's motivational orientation was manipulated at three levels: intrinsic, extrinsic, or control. In the intrinsic condition, the staff auditor was described as having "always been motivated through personal and professional growth by focusing on learning and improving himself." In the extrinsic condition, the staff auditor was described as having "always been motivated through career success by focusing on rewards and career advancement for himself." The control condition made no mention staff auditor motivation.

TABLE 2

Regression of speaking up measure on trait-level motivational orientations and self-reported speaking up behavior (Study 2)

Independent Variables	Predicted Sign	Speak Up ^a
Intrinsic Motivational Orientation (H1)	+	1.00*** (0.26)
Extrinsic Motivational Orientation		0.04 (0.26)
Audit work experience		0.02** (0.01)
Adjusted R-square		23.2%
Sample size		65

Notes:

The dependent variable, speaking up behavior, is a latent variable based on factor analysis of the seven measures listed online in Appendix A.

Intrinsic Motivational Orientation and Extrinsic Motivational Orientation are measured using the Work Preference Inventory (WPI) (Amabile et al. 1994). The WPI separately measures intrinsic and extrinsic motivational orientations with 15 items for each construct. The WPI assesses stable individual differences in the extent to which individuals view themselves as intrinsically and extrinsically motivated.

^a This column reports coefficients for each independent variable and its related standard error (in parentheses).

*** and ** indicates two-tailed significance level at less than 1 percent and 5 percent, respectively.

TABLE 3

Effects of issue ambiguity and leadership emphasis on assessments of the staff auditor's comfort in speaking up about the audit issue (Study 3)

Panel A: Mean (Standard Deviation of) assessments of comfort

	Intrinsic Goal Leadership Emphasis	Extrinsic Goal Leadership Emphasis	Row Means
Higher Issue Ambiguity	59.59 (22.41) n = 117	39.53 (24.10) n = 117	49.56 (25.30) n = 234
Lower Issue Ambiguity	68.92 (23.63) n = 117	50.68 (26.56) n = 117	59.80 (26.70) n = 234
Column Means	64.26 (23.45) n = 234	45.10 (25.91) n = 234	54.68 (26.48) n = 468

Panel B: Results of repeated measure ANOVA examining effects of information ambiguity and leadership emphasis

	<i>df</i>	Sum of Squares	<i>F</i>	<i>p</i> -value
Leadership Emphasis (H2) (within-participant)	1	42,924	134.24	<0.01
Ambiguity (H3) (within-participant)	1	12,267	38.36	<0.01
Leadership Emphasis × Ambiguity (H4)	1	96	0.30	0.58
Residual	348	111,277		

Notes:

This table reports descriptive statistics (panel A) and a repeated measures ANOVA model (panel B) for Study 3.

The dependent measure asks participants to rate, on a scale from 0 (Not at all) to 100 (Very), “how comfortable you think a typical staff auditor in this circumstance would be suggesting to the described senior that additional procedures may be needed to investigate the employee’s information and inventory sampling might need to be increased, increasing audit cost but also potentially increasing audit quality.”

In the higher issue ambiguity conditions, the information source was described as unreliable. In the lower issue ambiguity conditions, the information source was described as reliable. In the intrinsic goal leadership emphasis condition, the leader emphasizes personal and professional growth. In the extrinsic goal leadership emphasis condition, the leader emphasizes career success. See online Appendix B for the wording of the manipulations. Both manipulations were conducted within participants.

TABLE 4

Effects of issue ambiguity and leadership emphasis on auditor's willingness to speak up about the audit issue (Study 4)

Panel A: Mean (Standard Deviation) of the staff auditor's willingness to speak up

	Audit Senior Source		Culture/Partner Source		All Participants	
	Leadership Emphasis		Leadership Emphasis		Leadership Emphasis	
	Intrinsic	Extrinsic	Intrinsic	Extrinsic	Intrinsic	Extrinsic
Higher Issue Ambiguity	60.31 (21.71) n = 29	46.83 (21.56) n = 29	58.68 (24.91) n = 31	45.38 (26.15) n = 31	59.46 (23.24) n = 60	46.08 (23.85) n = 60
Lower Issue Ambiguity	79.72 (18.79) n = 29	58.93 (30.78) n = 29	74.94 (19.66) n = 31	61.97 (25.13) n = 31	77.25 (19.23) n = 60	60.5 (27.80) n = 60

Panel B: Results of repeated measure ANOVA examining effects of information ambiguity and leadership emphasis

	<i>df</i>	Sum of Squares	<i>F</i>	<i>p</i> -value
Leadership Emphasis (H2) (within-participant)	1	13,726	27.86	<0.01
Ambiguity (H3) (within-participant)	1	15,514	31.49	< 0.01
Leadership Emphasis × Ambiguity (H4)	1	183	0.37	0.54
Leadership Source (between-participant)	1	87	0.11	0.74
Leadership Source × Leadership Emphasis	1	241	0.49	0.49
Leadership Source × Ambiguity	1	7	0.01	0.91
Leadership Source × Leadership Emphasis × Ambiguity	1	218	0.44	0.51
Residual	174	85,736		

Notes:

This table reports descriptive statistics (panel A) and a repeated measures ANOVA model (panel B) for Study 4.

The dependent measure asks participants to rate, on a scale from 0 (Not at all) to 100 (Very), “how willing you would be in this circumstance suggesting to the described senior that additional inventory sampling needs to be increased, increasing audit cost but also potentially increasing audit quality.”

In the higher issue ambiguity conditions, the information was described as highly ambiguous. In the lower issue ambiguity conditions, the information was described as not at all ambiguous. In the intrinsic goal leadership emphasis condition, the leader emphasizes personal and professional growth. In the extrinsic goal leadership emphasis condition, the leader emphasizes career success. In the audit senior condition, it is “the senior in charge of the audit” who always emphasizes either the intrinsic or extrinsic motivation; whereas in the culture/partner source condition, it is “the firm culture, which this engagement partner stresses” who always emphasizes either the intrinsic or extrinsic motivation. Issue ambiguity and leadership goal were manipulated within participants. Leadership goal source was manipulated between participants.

TABLE 5

Effects of audit risk and leadership emphasis on auditor's willingness to speak up about the audit issue (Study 5)

Panel A: Mean (Standard Deviation) of willingness to speaking up

	Intrinsic Goal Leadership Emphasis	Extrinsic Goal Leadership Emphasis	Row Means
Low Audit Risk	75.32 (15.19) n = 34	61.81 (17.55) n = 27	69.34 (17.50) n = 61
High Audit Risk	75.00 (13.99) n = 31	72.50 (14.62) n = 28	73.81 (14.23) n = 59
Column Means	75.17 (14.52) n = 65	67.25 (16.86) n = 55	71.54 (16.06) n = 120

Panel B: ANOVA for willingness to speak up

	<i>df</i>	Sum of Squares	<i>F</i>	<i>p</i> -value
Audit Risk	1	798.7	3.40	0.07
Leadership Emphasis	1	1,906.5	8.11	<0.01
Audit Risk × Leadership Emphasis	1	901.6	3.83	0.05
Residual	116	27,274.5		

Panel C: Test of interaction using custom contrast

	<i>df</i>	Sum of Squares	<i>F</i>	<i>p</i> -value
Contrast (+1, +1, +1, -3)	1	3,244.7	13.80	<0.01
Residual between-cells effects	2	362.1	0.77	0.47

Notes:

This table reports descriptive statistics (panel A), an ANOVA model (panel B), and custom contrast test (panel C) for Study 5.

The dependent measure asks participants to rate, on a scale from 0 (Not at all) to 100 (Very), “how willing you would be in this circumstance suggesting to the described senior that additional inventory sampling needs to be increased, increasing audit cost but also potentially increasing audit quality.”

In the low audit risk conditions, the client was described as “low risk, and keeping audit costs low is priority.” In the high audit risk conditions, the client was described as “high risk, and keeping audit quality high is a priority.” In the intrinsic goal leadership emphasis condition, the leader emphasizes personal and professional growth. In the extrinsic goal leadership emphasis condition, the leader emphasizes career success. Both manipulations were conducted between participants.

The contrast test in panel C assigns contrast weights of +1 to the High Audit Risk/Intrinsic Goal Leadership Emphasis condition, Low Audit risk/Intrinsic Goal Leadership Emphasis condition, and the High Audit Risk/Extrinsic Goal Leadership Emphasis condition and -3 to the Low Audit Risk/Extrinsic Goal Leadership Emphasis condition.

TABLE 6
Summary of evidence from all studies

	Independent Variables			Dependent Variable	Participants	Results
	Ambiguity	Leadership Emphasis/ Motivational Orientation	Other			
Study 1 (n=93)	Held constant at high ambiguity	Manipulated within participants as staff motivational orientation (Intrinsic, Extrinsic, None Mentioned)	N/A	How willing the described staff auditor would be to speak up	Accounting students with at least one audit internship	Staff described as focusing on their intrinsic motivation are more likely to report issues than staff focusing on their extrinsic motivation or staff whose motivation is not described (H1 supported).
Study 2 (n=65)	N/A	Measured Intrinsic and Extrinsic Motivational Orientations (WPI)	N/A	Own speaking up behaviors at work (survey with 7 items)	Staff auditors	Trait-level intrinsic motivational orientation is positively associated with speaking up behaviors, but trait-level extrinsic motivational orientation is not (H1 supported).
FN 21 (n=51)	Manipulated between participants as source reliability, information consistency (More, Less)	N/A	N/A	How comfortable a typical staff auditor would be to speak up	Accounting alums with at least one internship (most currently in practice as staff)	More ambiguous issues are less likely to be reported up than less ambiguous issues (H3 supported).

FN 21 (n = 45)	Manipulated within participants as source credibility (More, Less)	Held constant as Extrinsic	N/A	How willing you would be to speak up	Staff auditors from multiple firms	More ambiguous issues are less likely to be reported up than less ambiguous issues (H3 supported).
Study 3 (n=117)	Manipulated within participants as source reliability (More, Less)	Manipulated within participants as leadership emphasis (Intrinsic goal, Extrinsic goal)	N/A	How comfortable a typical staff auditor would be to speak up.	Staff auditors from two firms	Issues are more likely to be reported to a leader who emphasize intrinsic versus extrinsic goals (H2 supported). Less ambiguous issues are more likely to be reported than more ambiguous issues (H3 supported). The two independent variables do not interact (H4 not supported).
Study 4 (n=60)	Manipulated within participants (Highly ambiguous, Not at all ambiguous)	Manipulated within participants as leadership emphasis (Intrinsic goal, Extrinsic goal)	Manipulated between participants source of leadership emphasis (Audit senior, Firm culture)	How willing a typical staff auditor would be to speak up	Accounting students with at least one audit internship	Identical results as reported for Study 3. Source of leadership is not significant and does not interact with other variables.
Study 5 (n=120)	N/A	Manipulated between participants as leadership emphasis (Intrinsic goal, Extrinsic goal)	Manipulated between participants audit risk (High risk, Low risk)	How willing you would be to speak up	Masters of accounting students	Staff with seniors emphasizing intrinsic goals are not affected by audit risk and speak up more than staff with seniors emphasizing extrinsic goals. The latter speak up more when risk is high versus low.

Notes:

This table summarizes the evidence collected for our hypotheses across the five main studies and two additional studies reported in footnotes. It details how the independent and dependent variables were operationalized, the participant group, and the main results for each study.