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Management's Communication Style When Disclosing Material Weaknesses in Internal Control

Joseph F. Brazel
North Carolina State University

Matthew Starliper
Texas A&M University–Corpus Christi

Yao Yu
University of Massachusetts Amherst

SYNOPSIS: Section 404 of the Sarbanes-Oxley Act requires management of publicly traded companies to assess and disclose the effectiveness of their internal controls over financial reporting (ICFR). In our analysis of 200 actual ICFR reports disclosing material weaknesses in internal control, we observe that the most common communication style in our sample is, among other characteristics, a more defensive version of the "reasonable assurance" argument combined with the use of first-person pronouns. In an experiment where we vary management's communication style with respect to material weakness disclosures, we find that nonprofessional investors are more willing to invest in a company when management uses a version of the "reasonable assurance" argument with fewer characteristics of defensive communication and does not use first-person pronouns. Our findings show a sharp contrast between the communication styles management chooses to use in actual ICFR reports and what we observe experimentally as the most effective communication style.

Data Availability: Data are available from the authors upon request.

JEL Classifications: M40; M41.

Keywords: defensive communication; first-person pronouns; investor judgment and decision-making; material weakness in internal controls.

I. SYNOPSIS AND CONTRIBUTION TO PRACTICE

Section 404 of the Sarbanes-Oxley Act (U.S. House of Representatives 2002) requires that management of publicly traded companies assess and disclose the effectiveness of their internal controls over financial reporting (ICFR). Management reports describing material weaknesses occur frequently. Audit Analytics notes that the number of

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Joseph F. Brazel, North Carolina State University, Poole College of Management, Department of Accounting, Raleigh, NC, USA; Matthew Starliper, Texas A&M University–Corpus Christi, College of Business, Department of Accounting, Finance & Business Law, Corpus Christi, TX, USA; Yao Yu, University of Massachusetts Amherst, Isenberg School of Management, Department of Accounting, Amherst, MA, USA.

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management-provided ICFR reports communicating a material weakness numbered 1,595, or 23.7 percent of all reports filed with the Securities and Exchange Commission in 2021.[1]

Since the regulation does not provide specific guidance regarding the communication style management should use in their ICFR disclosures, managers have options when communicating with investors about the existence of material weaknesses in ICFR. An important variation in management's communication style in ICFR disclosures is how to state the "reasonable assurance" argument. "Reasonable assurance" is a feature of internal control systems (SEC 2007; COSO 2013).[2] However, managers could choose to use this argument strategically to fend off their responsibilities for material weaknesses in ICFR. Our analysis of 200 actual ICFR reports with material weakness disclosures reveals that 68 percent of the reports contain the "reasonable assurance" argument. We find that companies use different versions of the "reasonable assurance" argument. In one version, management expresses the "reasonable assurance" argument with some characteristics of more defensive communication, and in the other version, management expresses the argument with characteristics of less defensive communication. Among the reports that include the "reasonable assurance" argument, 55 percent (45 percent) of the reports used the more (less) defensive version of the argument.

Our analysis also shows that most of the reports (96.5 percent) use a first-person plural pronoun (e.g., we, our, us), whereas only 3.5 percent of the reports do *not* use any first-person pronouns (these reports use "management" or similar terms).[3] Our analysis further demonstrates that the most common management communication style is a version of the "reasonable assurance" argument with more characteristics of defensiveness combined with the use of personal pronouns. Prior research demonstrates that ICFR reports influence investors' judgments and decisions (J. Rose, Norman, and A. Rose 2010; Tan and Yu 2018). However, it is unclear whether and how these two specific aspects of management's communication style might impact investors' judgments of material weakness disclosures.

Although our archival analysis shows that the more defensive version of the "reasonable assurance" argument is commonly used by management, communication research suggests that a defensive tone may hurt the quality of communication (Gibb 1961; Gordon 1988; Rosenfeld 1983; Becker, Ellevold, and Stamp 2008). In addition, the prevalence of using first-person pronouns contrasts with prior research suggesting that using first-person pronouns may cause negative reactions to a message that conveys an adverse event. Specifically, prior research shows that the use of first-person pronouns strengthens the association between the *sender* and the *message* (Hyland 2001; Pennebaker 2011; Cohn, Mehl, and Pennebaker 2004; Asay, Libby, and Rennekamp 2018b). As such, the use of first-person pronouns may associate management with the ICFR failure. In sum, the most common communication style we observe in actual ICFR reports (i.e., use of a more defensive tone/personal pronouns) may adversely affect investor reactions.

To examine this possibility, we conduct an experiment to investigate how investors react to the different versions of the "reasonable assurance" argument and the use of personal pronouns in a company's ICFR report disclosing a material weakness. We employ a 2×2 between-participants design with *Version* and *Pronoun* as the independent variables. We manipulate *Version* by providing participants with the two different versions of the "reasonable assurance" argument we observe in our archival sample. These two versions vary, among other potential characteristics, in the characteristics of defensiveness.

Important to note is that our *Version* manipulation emulates the verbiage used in actual ICFR reports. As such, *Version* is likely a "compound" manipulation that manipulates other factors beyond defensiveness (e.g., management pessimism, investment risk). We manipulate *Pronoun* by varying the presence (using "we") and absence (using "management") of personal pronouns in the ICFR report. Participants are 96 Master of Business Administration (M.B.A.) students, assuming the role of investors. The participants read the company's background information and ICFR report and then make investment decisions.

We find that *Version* and *Pronoun* interact to affect investors' willingness to invest in the company. Specifically, investment willingness is highest when management uses the version of the "reasonable assurance" argument with fewer characteristics of defensiveness *and* does not use first-person pronouns, compared to when management uses the more defensive version of the "reasonable assurance" argument *or* uses first-person pronouns. In additional analyses, we illustrate that the effect of *Version* on investment willingness is mediated by the perceived adequacy of management's explanation for the material weakness and the effort that investors believe management will put into remediating the material

[1] See https://www.auditanalytics.com/doc/SOX_404_Disclosures_An_Eighteen-Year_Review.pdf. Management of both accelerated and nonaccelerated filers are required to report on the effectiveness of ICFR. However, only accelerated filers are required to have their auditor also report on the effectiveness of ICFR. In 2021, the top three most common material weaknesses in ICFR were related to accounting personnel resources, segregation of duties, and inadequate disclosure controls.

[2] For example, the Committee of Sponsoring Organizations of the Treadway Commission (COSO) framework states that "the term 'reasonable assurance' rather than 'absolute assurance' acknowledges that limitations exist in all systems of internal control, and that uncertainties and risks may exist, which no one can confidently predict with precision. Absolute assurance is not possible" (COSO 2013, 4).

[3] We examine the effect of only first-person *plural* pronouns, instead of singular ones ("I" and "me"), because we do not observe any companies using first-person singular pronouns in our analysis of 200 actual ICFR reports.

weakness (see Appendix C). These findings suggest that when communicating material weaknesses in ICFR to investors, management is likely to achieve a better investor response by adopting the version of the "reasonable assurance" argument with fewer characteristics of defensiveness and avoiding first-person pronouns.

Our experimental approach complements our archival findings in two important ways. First, it is challenging for an archival approach to examine an extremely unevenly distributed sample (96.5 percent versus 3.5 percent for with versus without personal pronoun conditions), whereas an experiment allows us to examine the effects of the infrequent condition. Second, it is challenging for an archival approach to isolate the effects of our variables of interest on investor reactions from other concurrent events/factors associated with the disclosure of the ICFR reports, whereas an experiment allows us to control all other concurrent events/factors and focus on the effects of our variables of interest. Although an experiment also has the advantage of examining the mechanisms of a certain effect, we *do not* employ this advantage in this study. This is because the purpose of our study is *not* to examine how the construct of perceived defensiveness *alone* affects investor reactions; rather, we aim to examine how the two most prevalent versions of the "reasonable assurance" argument in actual ICFR disclosures affect investors' decisions.

As such, our findings should be interpreted with caution. Although our manipulation of *Version* closely matches the ICFR disclosures in our archival sample, it is likely a compound manipulation, and aspects other than perceived defensiveness may vary between our *Version* conditions (e.g., management's locus of control). To address this issue, we conduct an additional experiment where we keep the language in the *Less* versus *More Defensive* versions as similar as possible and vary only the words and phrases that suggest different levels of defensiveness (Gibb 1961). Under these two conditions, we *do not* find differences in investor willingness to invest in the company. As such, we are unable to identify the specific mechanism(s) driving our results. Future research can be performed to gain a fuller understanding of how specific characteristics vary between ICFR reports and their role in influencing investor reactions to those reports.

Our study has important practical implications for managers and those charged with investor relations. Our experimental results contrast sharply with the communication styles we find in our sample of 200 actual ICFR reports. This discrepancy should be informative to corporate managers and those charged with investor relations in terms of actions they can take to improve their communications with investors. Although it might be tempting for management to employ the "reasonable assurance" argument to defend themselves, our study suggests that management is likely to achieve a better communication outcome when they use the "reasonable assurance" argument with fewer characteristics of defensiveness. Further, our study should raise managers' awareness of their tendency to be defensive, among other factors, when disclosing material weaknesses. Managers may not even realize that their communication could be perceived by external parties as defensive or in other ways (e.g., pessimistic). Our study also cautions managers about using first-person pronouns when trying to communicate with investors about an adverse event. Finally, our study informs investors regarding how their judgments and decisions can be influenced by management communication styles.

Our research also makes several significant contributions to the literature. First, we contribute to research on investors' reactions to management ICFR reports by demonstrating that management's chosen communication style influences investor judgments and decisions. Second, our study extends prior research related to management's use of personal pronouns in disclosures to investors (e.g., Asay, Libby, and Rennekamp 2018a; Chen and Loftus 2019). We illustrate that the effect of personal pronouns on investors can depend on other qualities of management's communication style.

II. THE USE OF THE "REASONABLE ASSURANCE" ARGUMENT AND PRONOUNS IN ACTUAL ICFR REPORTS

Our study is motivated by our observation that management's communication styles vary in ICFR reports with material weaknesses. Specifically, in our reading of various management-provided ICFR reports, we find two specific variations in communication style: (1) whether management discusses the reasonable assurance associated with ICFR with more or fewer characteristics of defensive communication; and (2) whether or not management uses the first-person plural pronoun (i.e., "we") to identify itself.

Defensiveness in communication occurs when an individual "perceives threat or anticipates threat in the group" (Gibb 1961, 141) and protects his/her own view when he/she is confronted with a different point of view (Baker 1980). Gibb's (1961) seminal work summarizes six characteristics that describe a defensive communication style. Appendix A presents these characteristics with brief explanations for each. In a defensive communication style, the speaker evaluates the listener (Evaluation); tries to influence the listener's attitude and behavior (Control); hides the true motivation and manipulates the listener (Strategy); detaches from the listener (Neutrality); feels superior compared to the listener (Superiority); and believes that he/she knows the answers, requires no additional information, and is not open for discussion (Certainty).

In the setting of internal control disclosure, management can be defensive when it discusses the failure of the internal control system, as investors tend to hold management responsible for material weaknesses in internal control (Tan and Yu 2018).

Management likely expresses its defensiveness through the "reasonable assurance" argument in the ICFR report.[4] When an ICFR report discloses a material weakness, management usually provides a paragraph discussing the "reasonable assurance" that an internal control system can provide. In the "reasonable assurance" argument, management typically implies that the presence of a material weakness in internal controls is defensible because it is impossible to completely eliminate that risk. Investors may find management's "reasonable assurance" argument defensive when such an argument shows the characteristics that contribute to the defensive communication style, as described by Gibb (1961).

Three out of Gibb's (1961) six characteristics are most likely to apply to the setting of an internal control disclosure: (1) Control, (2) Strategy, and (3) Certainty. First, investors may perceive management's use of the "reasonable assurance" argument as a means of controlling investors: to change their attitudes toward the internal control failure and control any subsequent investment decisions (Control). Second, investors may feel as though they are deceived and manipulated as management strategically uses "reasonable assurance" to deflect the problem from themselves (Strategy). Third, many companies use the version of the report written directly by COSO (2013, 4), which contains words that express certainty, such as "limitations exist in all systems," "no one can confidently predict with precision," and "absolute assurance is not possible" (Certainty). However, not all companies that include the "reasonable assurance" argument in their reports state it with a defensive tone. Some companies use softer/nondefensive tones to convey a similar message. Appendix B presents actual examples of companies' ICFR reports that state the "reasonable assurance" argument with more or fewer characteristics of defensive communication. Also, note in Appendix B that some companies choose to use first-person personal pronouns like "our," whereas other companies choose to employ terms like "management" instead of personal pronouns.

To know more precisely *how* such communication styles vary in practice, we examine the following research question via an analysis of actual ICFR reports:

Research Question: In actual ICFR reports disclosing material weaknesses, what are the frequencies by which management uses a more versus less defensive version of the reasonable assurance argument, along with employing or not employing first-person plural pronouns?

To answer this research question, we code actual management ICFR reports examining whether and how the reports vary in terms of defensiveness contained in the "reasonable assurance" argument (*Version*) and the use of personal pronouns (*Pronoun*). We randomly select 200 ICFR reports disclosing material weaknesses between 2017 and 2018 from the Audit Analytics database.[5] Two research assistants independently code these reports. Inter-rater agreement is 97.3 percent, and discrepancies are resolved through discussion.

The *Version* variable is coded at three levels ("more defensive," "less defensive," or "not applicable"). If the "reasonable assurance" argument is stated in a more/less defensive manner, we code *Version* as "more defensive" or "less defensive." If the report does not include the "reasonable assurance" argument at all, we code *Version* as "not applicable." The *Pronoun* variable is coded at two levels ("pronoun absent" or "pronoun present"). We code *Pronoun* as "pronoun absent" if it does not include any first-person pronouns (e.g., the report uses "management" instead of "we"). We code *Pronoun* as "pronoun present" if it uses personal pronouns (e.g., we, us, and/or our).

Table 1, Panel A reports the number of observations and their percentages for each coding category. Regarding the *Version* variable, 37.5 percent of the reports in our sample are coded as "more defensive," 30.5 percent are coded as "less defensive," and 32.0 percent of the reports do not contain the "reasonable assurance" argument and, thus, are coded as "not applicable." Regarding the *Pronoun* variable, 96.5 percent of the reports use a first-person pronoun (e.g., we, our, and/or us). Combining both variables, the *most common combination* is "more defensive/pronoun present," which encompasses 36.0 percent of all the reports in our sample.

As we discuss below, prior research would suggest that when a material weakness is disclosed by management, either a more defensive version of the reasonable assurance argument or the use of personal pronouns will cause negative investor reactions. In fact, communication theory suggests that investors' reactions will be *most positive* when management chooses to *not use* the more defensive version of the reasonable assurance argument or personal pronouns. However, as illustrated in Table 1, Panel A, only 1.0 percent of the reports in our sample were coded as "less defensive/

[4] Based on our analysis of 200 actual ICFR reports disclosing a material weakness, we observe that 68 percent of the ICFR reports include the "reasonable assurance" paragraph in the ICFR report contained in the 10-K filing (Table 1, Panel A). However, we cannot observe what drives management's decision regarding whether to include this argument in their report. We leave this question to future research.

[5] We first access the Audit Analytics database and download all ICFR reports disclosing a material weakness for fiscal years 2017 and 2018. Next, we assign each report a number and use a random number generator to select 100 reports for each year. Overall, there were 6,860 and 6,648 management ICFR reports filed in 2017 and 2018, respectively. Among those, 1,501 and 1,500 of the management reports indicated ineffective ICFR in 2017 and 2018, respectively. Therefore, our sample of 100 ineffective ICFR reports each year represents approximately 6.7 percent of the ineffective ICFR reports in each year and 1.5 percent of the total number of ICFR reports for each year.

TABLE 1

Coding of Actual ICFR Reports

Panel A: Number of Observations for Each Category (Percentage of the Full Sample)

	Version			
Pronoun	**More Defensive**	**Less Defensive**	**Not Applicable**	**Total**
Absent	3 (1.5%)	2 (1.0%)	2 (1.0%)	7 (3.5%)
Present	72 (36.0%)	59 (29.5%)	62 (31.0%)	193 (96.5%)
Total	75 (37.5%)	61 (30.5%)	64 (32.0%)	200 (100.0%)

Panel B: Number of Observations Similar to Our Experimental Manipulation of Version

	More Defensive	**Less Defensive**
a. Number of observations in the archival sample (i.e., the "total" row in Panel A)	75	61
b. Number of observations in the archival sample that are similar to the wording used in our experimental manipulation of *Version*	61	60
Percentage (row (b)/row (a)) (%)	81.3	98.4

Panel A reports the coding results of our actual ICFR reports. We randomly selected 200 ICFR reports disclosing material weaknesses between 2017 and 2018 from the Audit Analytics database. The version of the "reasonable assurance" argument (*Version*) is coded at three levels ("more defensive," "less defensive," or "not applicable"). The use of personal pronouns (*Pronoun*) is coded at two levels ("pronoun absent" or "pronoun present"). We code a report as "pronoun absent" if it does not include any first-person pronouns (e.g., the report uses "management" instead of "we"). We code a report as "pronoun present" if it uses personal pronouns (e.g., we, us, and/or our). See Section V for additional details related to the coding. Panel B reports the number of observations in our archival sample that have the "reasonable assurance" statement that used similar wording as our manipulation of *Version* in the experiment. An independent rater codes the similarity between the "reasonable assurance" arguments in our archival sample (row (a)) and the wording we use in our experimental manipulation of *Version* (1 = similar; 0 = not similar). The number of similar observations from our archival sample are provided in row (b). See Section IV for details related to our manipulation of *Version*.

pronoun absent." To further investigate this discrepancy between practice and theory, we develop a formal hypothesis in the next section, followed by an experiment to test this hypothesis.

III. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Through our analysis of the archival sample, we observe that the most distinctive difference between the two versions of the "reasonable assurance" argument is the level of defensiveness in the argument. We acknowledge that these two versions may also differ in other aspects (e.g., perceived likelihood of material misstatement statement, investors' affective feelings toward the report, perceived management credibility, etc.).[6] However, the purpose of our study is *not* to examine how one single aspect among these differences influences investor reactions; instead, we are interested in the effect of using the different *versions* of the "reasonable assurance" argument that we observe in our archival sample. This approach—taking each version of the "reasonable assurance" argument as a "whole package"—allows us to closely link our experimental design with our archival sample and, thus, provide meaningful implications to practice. In Section IV, we describe how the "reasonable assurance" arguments we observe in our archival sample are similar to our experimental manipulations. Since we believe the most obvious distinction between the two versions of the "reasonable assurance" argument is the level of defensiveness, we draw on communication research related to defensiveness to predict how investors will react to more or less defensive communication styles.[7]

Gibb's (1961) defensive-supportive communication construct has been applied to a wide range of disciplines, including research on communications in organizations and workplaces (Larsen and Folgerø 1993; Becker, Halbesleben, and

[6] We use post-experimental questions to measure these different aspects; most results are insignificant (see more details in footnote 11). Also, our manipulation check described in Section V indicates that perceived defensiveness seems to be the main driver of our experimental results.

[7] In additional experimentation and analyses that follow, we attempt to discern whether "defensiveness" is the specific mechanism driving investment decisions in our setting.

O'Hair 2005; Czech and Forward 2010, 2013; Forward, Czech, and Lee 2011). Although Gibb's (1961) framework is based on his observation of daily conversations, a two-way communicational setting is *not* a prerequisite. Many later studies measure the communication environment of workplaces by requiring participants to assess their supervisors' behavior, attitude, etc. in one-way communications with an employee (Larsen and Folgerø 1993; Czech and Forward 2010, 2013; Forward et al. 2011).[8] Following this approach, we employ Gibb's (1961) framework in our setting where the communication is unidirectional from the message sender (management) to the message receiver (investors) in a written format.

Prior research on communication finds that defensiveness can hurt communication quality. For example, defensive communication creates distance and instability in the relationship between the sender and the receiver of the message (Becker et al. 2008). More defensive communication styles can also cause the receiver to misunderstand the information from the sender (Gibb 1961; Gordon 1988), lead the receiver to develop coping mechanisms to resist the influence of the sender, and even cause the receiver to retaliate against the sender (Rosenfeld 1983). In sum, defensive communication can cause a receiver to reject both the sender and the message (Baker 1980). In the case of management communicating a material weakness in ICFR, the more defensive version of the "reasonable assurance" argument could reduce investors' willingness to invest in the company.

Prior studies also find that, when personal pronouns are used by a sender in relation to some form of event disclosure, the receiver attributes the event specifically to the sender, as opposed to the general environment (e.g., Malle 1999). Asay et al. (2018a) find that investors perceive a closer association between management and the message they convey when management uses first-person pronouns. In an ICFR report, first-person plural pronouns can be employed (e.g., "we," "our," or "us"). On the other hand, such pronouns might not be used in the report (e.g., "the company's management"). Appendix B presents examples of companies' ICFR reports that use and do not use personal pronouns. When management uses first-person pronouns in an ICFR report containing a material weakness, prior research would suggest that investors are more likely to associate management with the negative event and, thus, be less willing to invest in the company.

Given the aforementioned negative effects of using defensive communication and first-person pronouns when disclosing a material weakness in an ICFR, we posit that investors' reactions will be *most positive* when management chooses to use the *less* defensive version of the "reasonable assurance" argument and chooses to *not* use personal pronouns. Again, our analysis of our archival sample indicates that the use of this communication style is very rare in practice (1 percent of our sample in Table 1, Panel A). When a material weakness is disclosed by management, either the more defensive version or the use of personal pronouns will cause negative investor reactions.

Furthermore, since the more defensive version is likely to cause very negative investor reactions to the disclosure, it may overwhelm the effect of first-person pronouns. As such, the negative effect of using first-person pronouns should become smaller when the more defensive version is used. Similarly, using first-person pronouns when disclosing a negative event alone may already cause very negative investor reactions, and, thus, the effect of the more defensive version should be less prominent when first-person pronouns are used. As such, when disclosing a material weakness in internal control, we hypothesize the following ordinal interaction between the version of the argument employed and the use of first-person plural pronouns on investors' willingness to invest in a company:

H1: Investor willingness to invest in a company disclosing a material weakness will be highest when company management uses a less defensive version *and* does not use first-person plural pronouns (versus when management uses either a more defensive version *or* first-person plural pronouns).

IV. RESEARCH DESIGN

Ninety-six M.B.A. students from a public university in the United States serve as participants and complete our experimental study.[9,10] We employ a 2 × 2 between-participants experimental design. Via an online instrument,

[8] These studies employ the Communication Climate Inventory scales (Costigan and Schmeidler 1984) to operationalize Gibb's (1961) factors to assess the defensive-supportive communication within organizations. The scale questions are *not* based on two-way communications. A few examples of the scale include the following questions (1 = almost never; 5 = almost always): "My supervisor tries to describe the situation fairly without labeling them as good or bad;" "My supervisor attempts to explain situations clearly and without personal bias."

[9] Our use of M.B.A. students as proxies for nonprofessional investors is consistent with prior research (e.g., Fanning, Agoglia, and Piercey 2015; Tan, Wang, and Zhou 2015). Participants have an average age of 31.23 years, and 49 percent of them are male. Participants have an average work experience of 9.09 years, with 86 percent currently working. They have taken an average of 4.48 accounting courses. Participants rate their familiarity with firms' ICFR on an 11-point scale (0 = not familiar; 10 = very familiar). The mean rating is 5.53, significantly higher than the midpoint of 5 ($p = 0.014$), indicating that participants are reasonably familiar with the setting of ICFR. All p-values reported in this study are two-tailed unless otherwise stated.

[10] Our study received Institutional Review Board approval.

participants first read general instructions about the study. Participants assume the role of a general investor, evaluating a hypothetical company (Griffin Inc.). Next, participants read a brief introduction of Griffin's business and a summary of its three-year financial data. Participants then read management's ICFR report, which contains our manipulated variables.

Our manipulations are based on the wording used in actual ICFR reports (see Appendix B for examples). The first manipulated variable is *Version* (*More Defensive* versus *Less Defensive*). As noted previously, because our manipulation of *Version* emulates actual ICFR reports, it is likely a compound manipulation that manipulates other factors besides defensiveness (e.g., management pessimism, investment risk). In additional experimentation and analyses that follow, we attempt to discern whether "defensiveness" is the specific mechanism driving any effects of *Version* on investment decisions in our setting.

The *More Defensive* condition adopts the more defensive version of the "reasonable assurance" argument used by many companies in our archival sample:

> A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Additionally, there is no assurance that any design will succeed in achieving its stated objectives under all potential future conditions. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls will become inadequate because of changes in conditions.

We ask an independent rater who is blind to our research question and H1 to code the similarity (1 = similar; 0 = not similar) between the "reasonable assurance" arguments in our archival sample and the wording we use in our experimental manipulation of *Version*. As reported in Table 1, Panel B, 81.3 percent of the "more defensive" ICFR disclosures in our archival sample are similar to the wording in our *More Defensive* condition. Similarly, the *Less Defensive* condition adopts the less defensive version of the "reasonable assurance" argument we find in our archival sample. Our independent coder determines that 98.4 percent (see Table 1, Panel B) of the "less defensive" observations in our archival sample are similar to the following wording we use in our *Less Defensive* condition:

> Because of its inherent limitations, internal control over financial reporting and disclosure controls and procedures may not prevent or detect misstatements. However, these inherent limitations are known features of the financial reporting process, and it is possible to design into the process safeguards to reduce, though not eliminate, this risk.

Our two conditions of *Version* are consistent with Gibb's (1961) categorization of a more versus less defensive communication style. Specifically, the following three features are more salient in the *More Defensive* condition: (1) Control—the "reasonable assurance" argument tries to influence investors' attitudes toward the internal control failure; (2) Strategy—management uses the "reasonable assurance" argument with a purpose and in a strategic way; and (3) Certainty—management uses words that express certainty, such as "no matter," "only," "no assurance," etc. On the other hand, these defensive features are less salient in the *Less Defensive* condition.[11]

The second manipulated variable is *Pronoun* (*Absent* versus *Present*). In the *Pronoun Absent* condition, management refers to themselves as "the Company's management" in the first and last paragraphs of the report, whereas in the *Pronoun Present* condition, management refers to themselves as "we" in the same paragraphs. We keep all other information constant in the ICFR reports across conditions.

After reading the ICFR report, participants then indicate their investment willingness and other assessments of the company and management, followed by manipulation checks, process measures, and demographic questions. We ask two questions to capture investors' investment decisions: (1) how willing they are to invest in Griffin's stock on an 11-point scale (0 = absolutely not willing to invest; 10 = absolutely willing to invest); and (2) what they feel is an

[11] We ask post-experimental questions to measure whether our manipulation of *Version* varies in aspects other than defensiveness. First, we ask participants to rate how much responsibility/blame management should take for the material weakness (0 = no responsibility/blame; 10 = all responsibility/blame). We find no significant main or interactive effects for our manipulated variables on this measure (all p's > 0.283). Second, we ask participants to rate the likelihood of material misstatement in the company's financial reporting (0 = low likelihood; 10 = high likelihood). We find no significant main or interactive effects on this measure (p's > 0.290). Third, we measure participants' feelings by asking participants to rate how happy, angry, worried, satisfied, disappointed, offended, and defensive they felt when they read the company's internal control report, respectively (0 = not at all [feeling]; 10 = very [feeling]). Among these seven questions about feelings, we find significant results only for "happy" and "satisfied" (see Appendix C for detailed results). For all other feeling questions, we do not find significant main or interactive effects for our manipulated variables (all p's > 0.141). Lastly, we measure management credibility by asking participants to rate management's competence, honesty, and trustworthiness (0 = not at all; 10 = very). We use the average of these three questions as the measure of credibility (Cronbach's alpha = 0.887; the highest eigenvalue = 2.447, explaining 81.6 percent of the variance). We find no significant main or interactive effects for our manipulated variables on management credibility (p's > 0.431). We also conduct a follow-up study with two alternative versions of the "reasonable assurance" paragraph and find similar results (see Appendix C).

TABLE 2

Results on Investment Willingness

Panel A: Descriptive Statistics; Mean (Std. Dev.) n = Sample Size

	Version		
Pronoun	**Less Defensive**	**More Defensive**	**Total**
Absent	5.46	4.27	4.86
	(1.90)	(1.48)	(1.79)
	n = 24	n = 24	n = 48
Present	4.60	4.15	4.38
	(1.70)	(1.65)	(1.67)
	n = 24	n = 24	n = 48
Total	5.03	4.21	4.62
	(1.83)	(1.55)	(1.73)
	n = 48	n = 48	n = 96

(continued on next page)

appropriate stock price valuation for Griffin (0 = low valuation; 10 = high valuation). Responses to these two questions are highly correlated ($p < 0.001$) and capture the same underlying construct of willingness to invest (Cronbach's alpha = 0.776; the highest eigenvalue = 1.652, explaining 82.6 percent of the variance). We average the responses to these two questions to measure our key dependent variable of investment willingness.[12]

V. RESULTS

Manipulation Checks

As a manipulation check for *Version*, we ask participants how defensive they perceive management to be in the ICFR report on an 11-point scale (0 = not at all defensive; 10 = extremely defensive). Participants who read the *More Defensive* version rate management to be more defensive than those who read the *Less Defensive* version (means = 5.46 versus 4.73; $p = 0.048$, one-tailed). To check our manipulation of *Pronoun*, we ask participants how Griffin's management is referenced in the ICFR report ("the Company's management" versus "we"). Seventy-four percent of the participants answered this question correctly.[13] We conduct a Chi-square test with a 2 × 2 contingency table where *Pronoun* conditions (*Absent* or *Present*) represent the columns, and the choices participants make ("the Company's management" or "we") represent the rows. We find that participants in the *Pronoun Present* condition choose "we" at a higher rate than participants in the *Pronoun Absent* condition ($\chi^2_1 = 22.28$, $p < 0.001$).

Investment Willingness

H1 predicts that investment willingness will be the highest when management uses a less defensive version *and* does not use first-person pronouns, compared to when management uses a more defensive version *or* first-person pronouns. This prediction suggests an ordinal interaction between *Version* and *Pronoun*. To test this interaction, we conduct a planned contrast with the following weights: +3 for the *Less Defensive*/*Pronoun Absent* condition and −1 for each of the other three conditions. In Table 2, we report the descriptive statistics in Panel A, the ANOVA results in Panel B, and the results of the contrast test in Panel C. We follow the steps recommended by Guggenmos, Piercey, and Agoglia (2018) to conduct the contrast test. First, the results have a good visual fit (i.e., an ordinal interaction is visible) compared to the weights assigned to each cell (see Figure 1). Second, the contrast test in Panel C is significant ($p = 0.003$, one-tailed), with insignificant residual between-cells variance ($p = 0.625$). Finally, the amount of between-cells variance not explained by our contrast weights (q^2) is 10.7 percent, indicating that the contrast weights represent the general pattern of the data well. H1 is supported. Our overall results indicate that a communication style that is very rare in practice

[12] Our results are robust to using each individual question as the dependent variable.
[13] Our results are similar when we exclude those who fail this question.

TABLE 2 (continued)

Panel B: ANOVA Results

Source of Variance	S.S.	df	MS	F	p-value
Pronoun	5.753	1	5.753	2.019	0.159
Version	16.253	1	16.253	5.703	0.019
Version × *Pronoun*	3.190	1	3.190	1.119	0.293
Error	262.177	92	2.850		

Panel C: Contrast Test

Source of Variance	S.S.	df	MS	F	p-value
Contrast	22.501	1	22.501	7.896	0.003*
Residual between-cells variance	2.694	2	1.347	0.473	0.625
Total between-cells variance	25.195	3	8.398	2.947	0.037
Error	262.177	92	2.850		
Total	287.372	95			
Contrast variance residual, q^2	0.107				

Panel D: Simple Effects

Source of Variance	df	t	p-value
More versus *Less Defensive* when *Pronoun* is absent	1	−2.437	0.009*
More versus *Less Defensive* when *Pronoun* is present	1	−0.941	0.349
Effect of *Pronoun* in *Less Defensive* version	1	−1.753	0.042*
Effect of *Pronoun* in *More Defensive* version	1	−0.257	0.798

* One-tailed equivalent given directional predictions.
This table presents results related to *Investment Willingness*. *Investment Willingness* is measured by the average of the responses to the investment willingness and valuation questions, with a higher number indicating higher investment willingness. Panel A presents the descriptive statistics. Panel B presents the ANOVA results. Panel C presents the contrast test results with the following weights: +3 for the *Less Defensive*/*Pronoun Absent* condition and −1 for each of the other three conditions. Panel D presents the simple effects.

(the less defensive version that avoids the use of pronouns, 1 percent of observations in Table 1, Panel A) improves investor responses to reports disclosing a material weakness in an ICFR.

To supplement the contrast test, in Panel D, we also examine the simple effects of *Version* and *Pronoun*. Of particular note, when *Pronoun* is *Absent*, investment willingness is significantly higher when participants read the *Less* versus *More Defensive* version (means = 5.46 versus 4.27; p = 0.009, one-tailed). For companies that already refrain from using pronouns, adopting the less defensive version of the "reasonable assurance" argument can yield a more positive investor response. Also, when participants read the *Less Defensive* version, investment willingness is significantly higher when *Pronoun* is *Absent* than *Present* (means = 5.46 versus 4.60; p = 0.042, one-tailed). If a company is already employing the less defensive version of the reasonable assurance argument, eliminating the use of personal pronouns (e.g., simply stating "management" instead of "we") can improve investor reactions to the disclosure of a material weakness in an ICFR.

Since the purpose of our experimental study is to test investors' reactions to the different versions of the "reasonable assurance" argument in actual ICFR reports, we intentionally align our manipulation of *Version* with the wording used in actual ICFR reports (see Table 1, Panel B). However, this approach may create a confounding issue, as the different versions of ICFR reports naturally involve differences other than defensiveness (e.g., the achievability of adequate controls, management's pessimism/optimism in their ability to mitigate internal control problems, etc.). In short, although emulating practice, our manipulation of *Version* is likely a "compound" manipulation (versus a "tighter" or "cleaner" manipulation of defensiveness).

To address this issue, we conduct an additional experiment where we keep the language in the *Less* versus *More Defensive* versions as similar as possible and vary only the words and phrases that suggest different levels of defensiveness, based on Gibb's (1961) framework. This way, we reduce the variation of confounding variables and attempt to only manipulate the level of defensiveness between the two versions (although this manipulation is less representative of

FIGURE 1
Results for Investment Willingness (H1)

This figure illustrates the experimental results on *Investment Willingness*. *Investment Willingness* is measured by the average of the responses to the investment willingness and valuation questions, with a higher number indicating higher investment willingness. The independent variables are *Version* (less versus more defensive) and *Pronoun* (present versus absent).
(The full-color version is available online.)

actual ICFR reports). All conditions are set in the *Pronoun Absent* condition, where the level of defensiveness affected investment levels in our main experiment (see Table 2, Panel D, row (1)).[14]

Fifty-nine M.B.A. students complete this additional study. We find no significant difference in investment willingness between the *Less* versus *More Defensive* versions (means: 4.27 versus 4.00; $p > 0.999$). In fact, participants do not perceive a significant difference in defensiveness between these two conditions (*Less* versus *More Defensive* means: 5.27 versus 6.06; $p = 0.998$). These results suggest that the language in the actual ICFR reports that we remove to make a "cleaner" design in this additional experiment seems to influence investors' perceptions of defensiveness and their willingness to invest. The manipulation check in the main experiment (as well as the follow-up study in Appendix C) suggests that investors perceive different levels of defensiveness in our original manipulations of *Version*, where we keep the natural language variations to match actual ICFR reports.[15]

In sum, our main experiment with an externally valid manipulation of *Version* leads to significant results with respect to investors' perceived defensiveness and investment decisions. However, these effects disappear when we use a "cleaner" version of the manipulation that removes the natural differences in language between different versions of actual ICFR reports. As such, and to be clear, we are unable to identify the specific mechanism(s) driving our results. We encourage future research to examine how the natural language variations in actual ICFR reports influence

[14] We simultaneously vary three components of defensiveness: Control, Strategy, and Certainty (Gibb 1961). Specifically, we use the following wording in the *Less Defensive* condition: "Because of its inherent limitations, an internal control system may not prevent or detect misstatements. A control system provides reasonable, but not absolute, assurance that the objectives of the control system are met." We use the following wording in the *More Defensive* condition: "Because of the inherent limitations in all control systems, an internal control system, no matter how well conceived and operated, cannot prevent or detect all misstatements. No control systems can provide absolute assurance that misstatements will be detected. Only reasonable assurance can be provided." We also include a control condition that has similar wording to the *Less Defensive* condition of the main experiment. We find similar results between the control condition and the *Less Defensive* condition in this additional experiment.

[15] Related to alternative factors driving our results, in the additional experiment, we added questions asking participants to assess (1) the extent to which they feel that management conveyed that the implementation of an adequate internal control system is achievable (0 = not at all conveyed; 10 = very much conveyed); (2) how pessimistic/optimistic management's assessment of the ability to mitigate the internal control problems (0 = very pessimistic; 10 = very optimistic); and (3) the level of uncontrolled risk (i.e., risks not addressed by the internal control system) related to an investment in the company (0 = very little uncontrolled risk; 10 = a lot of uncontrolled risk). We find significant differences between the more and less defensive conditions for questions (1) and (2), but not for question (3). Specifically, participants believe it's more achievable to implement adequate controls in the less defensive condition than in the more defensive condition ($p = 0.062$), and management sounds more pessimistic in the more defensive condition than in the less defensive condition ($p = 0.034$). However, since we *do not* find a significant difference in investment willingness between the less and more defensive conditions in our additional experiment ($p > 0.999$), the perceived differences in "achievability" (question (1)) and "pessimism" (question (2)) *do not* seem to influence investors' investment decisions in our context.

investors' perceptions of defensiveness and their decisions and whether factors other than defensiveness also influence investors' decisions in this setting.

VI. IMPLICATIONS

Our findings have several implications for practice. First, our study warns managers and those in charge of investor relations that it is not the best communication strategy to employ the most prevalent version of the reasonable assurance argument in practice or use personal pronouns when they communicate with investors about an adverse event. Our analysis of 200 actual ICFR reports with material weaknesses demonstrates that many companies that include the "reasonable assurance" argument state this argument with some characteristics of defensive communication and also choose to use pronouns like "our" and "we." Our study suggests that the combination of a "*less* defensive version/no personal pronouns" style of the "reasonable assurance" argument leads to the most favorable investor reaction. However, as illustrated in Table 1, Panel A, only 1 percent of companies in our sample adopt this more effective communication style in their ICFR reports.

It should also be noted that, although the less prevalent version may be perceived by investors as less defensive, in additional experimentation and analyses, we are unable to identify "defensiveness" as the specific mechanism driving our results. As such, the inability to pinpoint the factor(s) that explain our observed effects for *Version* on investment decisions is a limitation of this study. As stated previously, our main experiment manipulates *Version* based on examples from actual ICFR reports. Although this approach maximizes the external validity of our study, we cannot exclude the possibility that differences other than perceived defensiveness also influence our results (e.g., management pessimism, perceived risk). We caution readers when drawing strong causal inferences between perceived defensiveness and our findings, and we encourage future research to look deeper and disentangle which specific constructs/perceptions drive investor reactions to variations within the "reasonable assurance" argument. Also, examining actual market responses to actual ICFR disclosures, taking management communication style into account, would be a fruitful avenue for future research.

In addition, our mediation model (see Appendix C) illustrates that the effect of *Version* on investment willingness is mediated by investors' perceptions of the adequacy of management's explanation and the effort management will put into remediating the material weakness. This finding suggests that one way to mitigate investors' negative responses to ICFR reports is to complement the ICFR disclosure with information about how management will devote resources to remediate the material weakness. As an SEC director commented, "Companies cannot hide behind disclosures as a way to meet their ICFR obligations. Disclosure of material weaknesses is not enough without meaningful remediation" (SEC 2019, 1). In addition, our study informs investors about how their judgments and decisions related to adverse events can be influenced by management's communication styles. We demonstrate that *how* management delivers the message can cause very different reactions from investors.

Our study also contributes to the literature. First, we complement and extend prior research on management explanations for adverse events by demonstrating the effects of different management communication strategies *vis-à-vis* material weaknesses. Second, we add to prior research in both psychology and accounting by showing that using first-person pronouns can render an excuse less effective.

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APPENDIX A

Characteristics of a Defensive Communication Style

Defensive Communication Style

1. Evaluation
The speaker evaluates or judges the listener.

2. Control
The speaker tries to change an attitude or influence the listener's behavior.

3. Strategy
The speaker hides his true motivation; the listener feels deceived and manipulated.

4. Neutrality
The speaker is clinical and detached from the listener.

5. Superiority
The speaker feels superior in position, power, wealth, intellectual ability, physical characteristics, or other ways.

6. Certainty
The speaker believes that he knows the answer and requires no additional information.

The information above is adapted from Gibb (1961, Table 1). We added descriptions of each characteristic to the original table.

APPENDIX B

Examples of Actual ICFR Reports that Vary in the Version of the "Reasonable Assurance" Argument and the Use of Pronouns

[More Defensive Version] *China Green Agriculture Inc.'s 2017 Fiscal Year 10-K Filing*

> Any system of internal control, no matter how well designed, has inherent limitations, including the possibility that a control can be circumvented or overridden and misstatements due to error or fraud may occur and not be detected in a timely manner. Also, because of changes in conditions, internal control effectiveness may vary over time. Accordingly, even an effective system of internal control will provide only reasonable assurance with respect to financial statement preparation. In addition, the design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures. Therefore, any current evaluation of controls cannot and should not be projected to future periods.

[Less Defensive Version] *Spectrum Brands Holdings Inc.'s 2018 Fiscal 10-K Filing*

> Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. These inherent limitations are an intrinsic part of the financial reporting process. Therefore, although the Company's management is unable to eliminate this risk, it is possible to develop safeguards to reduce it. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

[Personal Pronouns Present] *S&T Bancorp Inc.'s 2017 Fiscal Year 10-K Filing*

> Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Exchange Act Rule 13a-15(f)). Our internal control over financial reporting is a process designed by, or under the supervision of, our CEO and CFO to provide reasonable assurance to our management and Board of Directors regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles.

[Personal Pronouns Absent] *WNC Housing Tax Credit Fund VI LP series 9's 2017 Fiscal Year 10-K Filing*

> The management of Associates is responsible for establishing and maintaining for the Partnership adequate internal control over financial reporting as that term is defined in Securities Exchange Act of 1934 Rules 13a-15(f) and 15d-15(f), and for performing an assessment of the effectiveness of internal control over financial

(continued on next page)

APPENDIX B (continued)

reporting as of March 31, 2017. The internal control process of Associates, as it is applicable to the Partnership, was designed to provide reasonable assurance to Associates regarding the preparation and fair presentation of published financial statements, and includes those policies and procedures that.

APPENDIX C

Supplemental Analyses and Information

Explanation Adequacy and Remediation Effort as Mediators

Prior research in accounting finds that management's explanations affect investor judgments and decisions through the perceived adequacy of management's explanations (Barton and Mercer 2005; Wolfe, Mauldin, and Diaz 2009). In our setting, we further test whether the perceived adequacy of management's explanations affects investors' perceptions of how much effort management will put into remediating the internal control weakness. The likelihood of successful remediation is an important consideration for investors when they evaluate a company's internal control system (Ashbaugh-Skaife, Collins, Kinney, and Lafond 2009). Since our main results demonstrate that different versions of the "reasonable assurance" argument affect investors' investment willingness only when management does *not* use first-person pronouns (see Table 2, Panel D), we explore the mechanism underlying the effect of *Version* on investment willingness only in the situation where first-person pronouns are absent.[16]

We expect that when first-person pronouns are absent, the effect of *Version* on investment willingness is mediated by investors' perceived adequacy of management's explanation for the material weakness (*Adequacy*) and the perceived effort that management will put into remediating the material weakness (*Remediation Effort*). To measure investors' perceived adequacy of management's argument, we ask participants whether they think the explanation provided by the management concerning the material weakness is adequate on an 11-point scale (0 = not at all adequate; 10 = extremely adequate). We ask participants how much effort they believe management will put into remediating the material weakness on an 11-point scale (0 = no effort; 10 = a lot of effort).

We conduct a mediation analysis using the Hayes (2018) PROCESS macro to test this prediction. We estimate the model based on 10,000 bootstrap samples. As shown in Figure C1, Panel A, the model has *Version* as the independent variable, *Adequacy* and *Remediation Effort* as the mediators, and *Investment Willingness* as the dependent variable. We predict a negative link between *Version* (0 = *Low Defensive*; 1 = *High Defensive*) and *Adequacy* (Link 1), as management's defensive argument reduces the perceived adequacy of the argument. We posit a positive link between *Adequacy* and *Remediation Effort* (Link 2), as a more adequate explanation for the material weakness makes investors believe more in management's future efforts to remediate the material weakness. Last, we predict a positive link between *Remediation Effort* and *Investment Willingness* (Link 3), as investors are more willing to invest in the company when they believe that management will put more effort into fixing the material weakness in internal control.

Figure C1, Panel B reports the path coefficients for the mediation path, and Panel C reports the direct and indirect effects of *Version* on *Investment Willingness*. Results confirm our predicted signs for Link 1, Link 2, and Link 3. Specifically, *Version* has a significantly negative effect on *Adequacy* (coefficient $a = -1.458$; $p = 0.007$, one-tailed). *Adequacy* has a significantly positive effect on *Remediation Effort* (coefficient $b = 0.253$; $p = 0.041$, one-tailed). Finally, *Remediation Effort* has a significantly positive effect on *Investment Willingness* (coefficient $c = 0.287$; $p = 0.014$, one-tailed). Further, the direct effect of *Version* on *Investment Willingness* is marginally significant in the presence of the mediating variables (coefficient $d = -0.668$; $p = 0.097$, one-tailed).

To formally test whether *Adequacy* and *Remediation Effort* mediate the effect of *Version* on *Investment Willingness*, we test the significance of the indirect effect of *Version* on *Investment Willingness*. The estimate of the indirect effect is −0.520, with a 90 percent confidence interval between −1.056 and −0.115 (see Panel C). Since zero is not within the confidence interval, we have evidence of a significant mediation effect in the predicted direction. That is, our results suggest that in the pronoun-absent condition, *Version* affects investment willingness through the perceived adequacy of management explanation and perceived management effort in remediating the issue.

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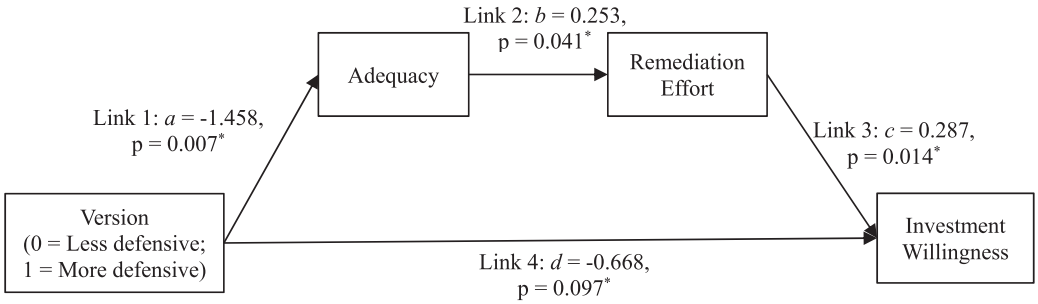
[16] We also test a mediation model with all conditions and the moderated mediation index is not significant. This is likely due to the fact that our main finding is an interaction with an ordinal pattern, and the Hayes PROCESS macro is less powerful in detecting ordinal interactions (Hayes 2018).

APPENDIX C (continued)

FIGURE C1
Mediation Analysis within the Pronoun Absent condition

Panel A: Mediation Model



Panel B: Path Estimates and Coefficients

	Coefficient	t	*p*
Regression 1: DV: *Adequacy*			
Intercept	5.750	14.342	< 0.001
Version (Link 1, *a*)	-1.458	-2.572	0.007*
Regression 2: DV: *Remediation Effort*			
Constant	5.795	6.417	< 0.001
Version	-0.798	-1.366	0.179
Adequacy (Link 2, *b*)	0.253	1.783	0.041*
Regression 3: DV: *Investment Willingness*			
Constant	2.647	2.499	0.016
Version	-0.668	-1.322	0.193
Adequacy	0.126	1.016	0.315
Remediation Effort (Link 3, *c*)	0.287	2.274	0.014*

Panel C: Direct and Indirect Effects

	Effect	t	*p*
Direct Effect of *Version* on *Investment Willingness* (Link 4, *d*)	-0.668	-1.322	0.097*
	Effect	**90% Bootstrapped confidence interval**	
Indirect Effect of *Version* on *Investment Willingness* (Mediation Test)	-0.520	(-1.056, −0.115)	

* One-tailed equivalent given directional predictions.
This figure presents the mediation analysis in the *Pronoun Absent* condition. We estimate the model using Hayes' (2018) PROCESS macro, Model 6, based on 10,000 bootstrap samples with a 90% confidence level. This model has *Version* as the independent variable, *Adequacy* and *Remediation Effort* as the mediators, and *Investment Willingness* as the dependent variable. Panel A presents the mediation model. Panel B reports the path coefficients. Panel C reports the direct and indirect effects of *Version* on *Investment Willingness*. In Panel A we omitted the links from *Version* to *Remediation Effort* and from *Adequacy* to *Investment Willingness* for the purposes of simplicity. These two links are tested in our model, as shown in Panel B, Regressions 2 and 3, respectively.

Since *Adequacy* and *Remediation Effort* are likely to capture the effect of management communication quality, we also perform nontabulated ANOVA analyses on *Adequacy* and *Remediation Effort*, respectively. For *Adequacy*, we find a significant main effect of *Version* such that participants who read the *Less* (versus *More*) *Defensive* version perceive

(continued on next page)

APPENDIX C (continued)

management's explanation for the material weakness to be more adequate (means: 5.73 versus 4.77; p = 0.036). The main effect of *Pronoun* and the interaction between *Version* and *Pronoun* are both not significant (p > 0.269). We also find that the *Version* effect is significant only when *Pronoun* is *Absent* (*Less* versus *More Defensive* means: 5.75 versus 4.29; p = 0.024); the *Version* effect becomes insignificant when *Pronoun* is *Present* (*Less* versus *More Defensive* means: 5.71 versus 5.25; p = 0.474). This result pattern is similar to our results for *Investment Willingness* in Table 2, Panel D.

For *Remediation Effort*, we find a marginally significant interaction between *Version* and *Pronoun* (p = 0.079). Neither main effect is significant (p > 0.252). A further examination of the interaction pattern reveals that when *Pronoun* is *Absent*, participants perceive that management will put greater remediation effort when they read the *Less* (versus *More*) *Defensive* version (means: 7.25 versus 6.08; p = 0.041). In contrast, when *Pronoun* is *Present*, the *Version* effect becomes insignificant (*Less* versus *More Defensive* means: 6.50 versus 6.75; p = 0.658). Again, this result pattern is similar to the pattern we observe for *Investment Willingness* in Table 2, Panel D.

Happy and Satisfied

In post-experiment questions, we measure participants' feelings when they read the company's internal control report (0 = not at all [feeling]; 10 = very [feeling]). Among the seven feeling questions we ask (see footnote 11), we find significant results for "happy" and "satisfied." Specifically, we conduct nontabulated ANOVA tests with our manipulated variables as the independent variables and participants' responses to the "happy" and "satisfied" questions as the dependent variables. For the "happy" question, we find a marginally significant main effect for *Version* such that participants feel happier when they read the *Less Defensive* version than the *More Defensive* version (means: 3.96 versus 3.23; p = 0.092). We also find a marginally significant main effect of *Pronoun* such that participants feel happier when Pronoun is *Absent* than *Present* (means: 4.00 versus 3.19; p = 0.061). The interaction between *Version* and *Pronoun* is not significant (p = 0.227).

For the "satisfied" question, we find a marginally significant interaction between *Version* and *Pronoun* (p = 0.079). We also find a marginally significant main effect for *Pronoun* such that participants feel more satisfied when *Pronoun* is *Absent* than *Present* (means: 3.60 versus 2.90; p = 0.079). The main effect of *Version* is not significant (p = 0.677). A further examination of the interaction pattern reveals that the *Pronoun* effect is significant only in the *Less Defensive* version (*Absent* versus *Present* means: 4.04 versus 2.63; p = 0.014); the *Pronoun* effect is not significant in the *More Defensive* version (*Absent* versus *Present* means: 3.17 versus 3.17; p = 1.000).

Follow-Up Study

We conduct a follow-up study to test whether participants' reactions to our manipulation of *Version* are driven by (1) the verbiage concerning "future conditions" in the *More Defensive* condition and/or (2) the readability difference between the *More* and *Less Defensive* conditions. The follow-up study has the same company background information as that of our main experiment. We remove the verbiage concerning "future conditions" in the *More Defensive* condition and provide equally readable reports by rewording the *More Defensive* Reasonable Assurance paragraph as follows:

> A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within the company have been detected.

The corresponding paragraph in the *Less Defensive* condition is reworded as follows:

> Because of its inherent limitations, there is a risk that material misstatements will not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process, and it is possible to design into the process safeguards to reduce, though not eliminate, this risk.[17]

(continued on next page)

[17] For the follow-up experiment, the reasonable assurance paragraph has a Fog readability index of 20.86 in the *High Defensiveness* condition and a Fog readability index of 20.52 in the *Low Defensiveness* condition.

APPENDIX C (continued)

Since we observe the *Version* effect only in the *Pronoun Absent* condition, we set both the *More* and *Less Defensive* conditions in the *Pronoun Absent* condition. We perform the follow-up study with 83 graduate students in accounting from a public university in the United States. We randomly assign participants to the *More* (n = 43) and *Less* (n = 40) *Defensiveness* conditions. We use the same manipulation check question as in the main experiment to check the manipulation of *Version*. We find that participants perceive management to be more defensive in the *More Defensive* condition (mean = 5.88) than in the *Less Defensive* condition (mean = 4.45; p = 0.018, one-tailed).

Next, we test whether the follow-up study replicates the *Version* effect on investment willingness. Participants indicate their willingness to invest in the firm on an 11-point scale (0 = absolutely not willing to invest; 10 = absolutely willing to invest). We find that participants are significantly more willing to invest in the firm in the *Less Defensive* condition (mean = 4.80) than in the *More Defensive* condition (mean = 4.05; p = 0.032, one-tailed). This result indicates that the *Version* effects that we document in our main experiment are not driven by a reference to "future conditions" in the *More Defensive* condition or readability differences between the *More* and *Less Defensive* conditions.