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HOW DOES THE AUDIT REPORT'S STRUCTURE AFFECT NONPROFESSIONAL  
INVESTORS' ATTENTION TO ITS CONTENT?

A Dissertation  
presented in partial fulfillment of requirements  
for the degree of Doctor of Philosophy  
in the Patterson School of Accountancy  
The University of Mississippi

by

BRIAN MATTHEW GOODSON

August 2015

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## ABSTRACT

This study experimentally examines whether and how two potential changes to the audit report's structure affect the extent to which nonprofessional investors attend to the report's content when evaluating a potential investment, and whether the potential effects differ across levels of investor sophistication. Specifically, I examine the impact of descriptive paragraph headings and the relative location of the opinion paragraph on judgments of financial statement reliability and investment decisions. Results indicate that when the audit report includes descriptive paragraph headings, less sophisticated investors perceive the report to be more readable, which, in turn, leads them to attribute higher levels of reliability to the financial statements and increases their likelihood to invest. I also find that perceptions of processing ease are more important to less sophisticated investors than the degree to which the audit report's actual content is processed. More sophisticated investors appear to be insulated from this heuristic bias. In a second experiment, I examine whether the audit report's structure affects investors' ability to identify departures from the standard unqualified opinion. Specifically, when the audit opinion is adverse, the relative location of the opinion paragraph moderates the effect of headings across levels of investor sophistication. Overall, the results of this study suggest that the audit report's structure significantly influences the extent to which nonprofessional investors' attend to the report's content, and that the audit report's content informs judgments of financial statement reliability and investment decisions.

## LIST OF ABBREVIATIONS AND SYMBOLS

AICPA	American Institute of Certified Public Accountants
ASB	Auditing Standards Board
IAASB	International Auditing and Assurance Board
MTurk	Amazon Mechanical Turk
NYSE	New York Stock Exchange
PCAOB	Public Company Accounting Oversight Board
SAP	Statements on Auditing Procedure
SAS	Statements on Auditing Standards
SEC	Securities and Exchange Commission
US GAAP	United States Generally Accepted Accounting Principles

## ACKNOWLEDGMENTS

This manuscript has benefitted from helpful comments from William Kinney, Marcus Doxey, Jennifer Winchel, Dereck Barr, Brett Cantrell, Rachna Prakash, Sean Peffer, Tyler Williams, Ben Commerford, Curtis Mullis, and workshop participants at the University of Kentucky, University of Cincinnati, University of Denver, Auburn University, and University of Mississippi. I acknowledge the generous financial support of the Patterson School of Accountancy at the University of Mississippi, and the leadership of Mark Wilder. I am especially thankful for the guidance of Morris Stocks, Karl Wang, and John Bentley, who have each uniquely contributed not only to the improvement of this dissertation, but also to my betterment as a human. In addition, I acknowledge Dave Leroy Nichols, a great teacher, counselor, and friend. Finally, I thank my dissertation chair, coauthor, and friend, Kendall Bowlin. Without fail, Kendall directs each of our interactions with his extraordinary balance of intellect, diligence, patience, and humility. I admire his integrity, and appreciate his example.

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## I. INTRODUCTION

This study experimentally investigates whether and how the structure of the information communicated in the audit report influences how nonprofessional investors attend to its content. Specifically, I examine whether the relative placement of the audit opinion and the use of descriptive paragraph headings affect the extent to which investors attend to the actual content of the report. I draw theory from prior psychology (e.g., Alter and Oppenheimer 2009; Lemarie, Lorch, Eyrolle, and Virbel 2008; Schwarz et al. 1991) and accounting (e.g., Rennekamp 2012; Tan, Wang, and Zhou 2015) studies of text processing to develop theoretical predictions and test whether the audit report's structure affects investors' attention allocation and subsequent judgments.

This study is important because the Public Company Accounting Oversight Board (PCAOB), the Auditing Standards Board (ASB) and the International Auditing and Assurance Standards Board (IAASB) have proposed or adopted new auditor reporting standards in an effort to improve the utility of the audit report (AICPA 2013a; IAASB 2013a, IAASB 2014; PCAOB 2013a). The ASB and IAASB have recently adopted standards that require the use of paragraph headings in the auditor's report, and the IAASB's illustrations accompanying the new standard implicitly suggest the Board's preference for relocating the opinion paragraph to the beginning of the report (IAASB 2014). However, despite calls for standard-setters to harmonize their auditor reporting models (IAASB 2011c; 2011d; PCAOB 2013c; 2013e), the PCAOB's proposed

standard neither mandates the use of descriptive headings nor considers the relocation of the opinion paragraph. Proponents of these two structural changes to the audit report argue that they will increase the report's communicative value by enhancing its readability, which has frequently been cited as a limitation of the audit report's usefulness to investors (e.g., AICPA 2013b; Asare and Wright 2012; AQF 2007; Church, Davis, and McCracken 2008; Mock et al. 2013; Simnett and Huggins 2014).

The AICPA's Cohen Commission raised early concern that a standardized audit report structure could lead users to read its actual content less carefully (AICPA 1978). Recent comments to both the IAASB and PCAOB echo this concern (e.g., IAASB 2011b; 2012b; PCAOB 2013b). Evidence from psychology studies of text processing also supports this concern, and suggests that feelings of processing ease are often subconsciously substituted for the actual evaluation of text-based information, which sometimes leads readers to inappropriately rely on information simply because they perceive it to be easier to process (Alter and Oppenheimer 2009). Asare and Wright (2012) examine how different types of audit report users interpret the message of the current standardized form of the report, and conclude that standardization does not ensure uniform interpretation of the message for all stakeholders. Moreover, Gray et al. (2011) document evidence that nonprofessional investors are the least likely to read the audit report among users of financial statements. The broader literature addressing financial disclosures and investor sophistication suggests that nonprofessional investors lack the resources, cognitive and otherwise, necessary to process the audit report's information. Moreover, standard-setters have long maintained that financial reporting and auditing standards should serve those users who have limited authority, ability, and resources to obtain information (AICPA 1973). Therefore, it is also important to examine whether the

potential effects of the audit report's structure on nonprofessional investors' judgments depends on the level of investor sophistication.<sup>1</sup>

While a number of concurrent studies address potential changes to the audit report (e.g., Backof, Bowlin, and Goodson 2014; Brasel, Doxey, Grenier, and Reffett 2015; Brown, Majors, and Peecher 2014; Christensen, Glover, and Wolfe 2014; Kachelmeier, Schmidt, and Valentine 2014), these studies focus on potential changes to the report's *content* rather than its structure. In this study, I hold the information content of the audit report constant across experimental conditions to isolate the potential effects of its structure on how nonprofessional investors' process the report's message. Specifically, I conduct a 2 x 2 x 2 (opinion location x headings x investor sophistication) between-subjects experiment to examine whether and how relocating the opinion paragraph and using descriptive headings in the audit report influences nonprofessional investors' judgments and decisions, and whether the potential influence depends on the level of investor sophistication.<sup>2</sup>

In a second experiment, I again manipulate headings and the location of the audit opinion in a 2 x 2 between-subjects design. However, instead of the report communicating an unqualified opinion, as in experiment one, I explore the potential influence of audit report structure when the auditors issue an adverse opinion.<sup>3</sup> Given that the audit opinion is generally accepted as the most important information communicated by the audit report (Gray et al. 2011), the second experiment provides an additional, and important, opportunity to observe whether the audit report's structure does affect how investors' allocate their attention when the opinion

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<sup>1</sup> Additionally, nonprofessional investors comprise a significant portion of the capital markets with approximately 41 million individuals investing directly in the stock markets (Coram 2010) and owning nearly 34% of all shares outstanding (Koonce and Lipe 2010), which further motivates my study of this subset of audit report users.

<sup>2</sup> As described in detail in a subsequent section, the two levels of sophistication are based on participants' demographic information. Therefore, investor sophistication serves as a grouping variable, and not a manipulated factor.

<sup>3</sup> Data for both experiments was collected simultaneously and under *ceteris paribus* conditions. I treat them as separate experiments for expository purposes and simplification of analyses.

communicates negative information. In a review of the auditor reporting literature, Church et al. (2008, 69) state that “the current form and wording of the audit report are such that users can easily distinguish a standard unqualified opinion from a nonstandard opinion.” In my design of both experiments, I hold the non-opinion content of the audit report constant to isolate and test whether the structure (i.e., the form) of the report does in fact allow users to distinguish the opinion type.<sup>4</sup>

In both experiments, I recruit participants through Amazon Mechanical Turk. Participants assume the role of nonprofessional investors evaluating the financial reporting quality and investment worthiness of a hypothetical company in the technology hardware industry. I provide each participant with background information about the company, a set of financial statements, and the auditor’s report. After examining these materials, participants form judgments about the reliability of the financial statements and make an investment decision.

Overall, results indicate that the audit report’s structure significantly influences investors’ judgments of financial statement reliability, but the influence is stronger for less sophisticated investors. Specifically, when the audit report includes descriptive headings, less sophisticated investors perceive the report to be more readable, which, in turn, leads them to attribute higher levels of reliability to the financial statements, and increases their likelihood of investment. Interestingly, results also suggest that perceptions of processing ease are more important to less sophisticated investors than the degree to which the audit report’s actual content is processed. Neither headings nor the location of the audit opinion meaningfully affects how more sophisticated investors use the audit report when the opinion is unqualified. Regardless of

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<sup>4</sup> When an adverse opinion is issued, auditing standards require inclusion of an additional paragraph in the audit report that explains the reasons for not issuing an unqualified opinion. Exploiting the advantages of experimentation, I omit this paragraph from my design to prevent participants from inferring the opinion from the structure of the report, that is, counting the number of paragraphs, to ascertain the opinion type.

investor sophistication level, the impact of opinion location appears to depend on the type of opinion issued. When the opinion is unqualified, investors find the audit report more useful when the opinion paragraph last rather than first. However, this preference reverses when the audit opinion is adverse, such that the influence of the audit report's structure on investment decisions is strongest when the opinion is presented at the report's beginning and headings are present, and this effect serially operates through perceptions of the report's readability to judgments of financial statement reliability. Taken together, the results of both experiments indicate that the audit report's structure does influence investors' attention to its content, and, subsequently their judgments and decisions.

The results of this study inform auditing standard-setters as they evaluate recent changes or consider additional changes to the structure of the audit report. Specifically, I provide evidence that two seemingly innocuous formatting features, descriptive headings and opinion paragraph location, significantly influence how nonprofessional investors allocate attention to the report's content when making judgments regarding the reliability of financial statements. Relative to proposed changes to the audit report's content, such as adding critical audit matter paragraphs, these structural features would be far less costly to implement. I also contribute to the text signaling literature by considering how individual text signals trigger heuristic processing through an underlying psychological mechanism previously not considered in this line of research. Prior research of text signaling effects calls for future studies to explore how simultaneous inclusion of two signaling devices potentially interact (e.g., Lemarie et al. 2008). My study answers these calls by focusing on two specific structural aspects of readability, the use of headings and placement of the opinion paragraph. My findings also extend those of two recent experimental accounting studies (e.g., Rennekamp 2012; Tan et al. 2015). In those



studies, the linguistic and structural aspects of readability were simultaneously manipulated, and the authors explicitly call for future work to examine how individual features influence investor judgments. Finally, my results enhance our understanding of how an important subset of users, nonprofessional investors, perceive and use the audit report.

The remainder of this paper proceeds as follows. Chapter II explains the standard-setting background and develops theory and my hypotheses. Next, Chapter III describes the experimental design and methodology for my two experiments. I describe my results in Chapter IV, and provide concluding comments in Chapter V.

## **II. BACKGROUND AND THEORETICAL DEVELOPMENT**

The SEC's Office of Investor Education and Advocacy describes the audit report as a key part of understanding the 10-K (SEC 2011a), and emphasizes its usefulness in understanding the financial statements (SEC 2011b). However, many argue that investors generally ignore the audit report (e.g., Gray et al. 2011), contributing to standard-setters' recent proposals to enhance the report's standard content and form. For nearly as long as the standardized model of auditor reporting has existed, critics have questioned whether standardization actually enhances the audit report's informational value (AICPA 1978).

### **Evolution of the Standardized Audit Report**

The standardization of the audit report's content and form began after the stock market crash of 1929 when the New York Stock Exchange (NYSE) mandated that registered firms file an audit report that included a standardized scope and opinion paragraph along with their annual reports (Carmichael 1974; Geiger 1993).<sup>5</sup> The intent of the mandated wording of the opinion paragraph was to allow users to easily differentiate clean reports (i.e., reports issuing unqualified opinions) from deficient reports (Geiger 1993). Subsequent standards addressed the nature and classification of deficient audit reports. For example, Statements on Auditing Procedure (SAP) No. 23 defined and prescribed the use of qualified and disclaimed opinions in 1947, and in 1961 adverse opinions were introduced with the issuance of SAP No. 31. The standard form of the auditor's report remained largely unchanged for the next few decades until

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<sup>5</sup> The standardized wording of these two paragraphs is largely consistent with the current auditor reporting model. Carmichael (1974, 83-84) notes that the opinion paragraph stated the following: "In our opinion... the financial statements fairly present, in accordance with accepted principles of accounting consistently maintained by the company during the year under review, its position at December 31, 1933, and its results of operations for the year."

1988 when the ASB issued SAS No. 58, *Reports on Audited Financial Statements*. Most notably, SAS No. 58, mandated that the audit report explicitly state that the financial statements are the responsibility of management, and that the auditor's responsibility is to express an opinion on the financial statements based on the audit (AU §508.08).

### ***Prior Research of Market Reaction to Audit Report Content***

A number of prior studies focus on whether the market reacts to a report that differs from the wording of a standard unqualified opinion. However, evidence from these studies is mixed. For example, Firth (1978) and Chow and Rice (1982) note a negative market reaction when a qualified audit opinion is issued. Other studies, however, (e.g., Elliott 1982; Dodd, Dopuch, Holthausen, and Leftwich 1984; Dopuch, Holthausen, and Leftwich 1986) find evidence that the market reacts before the audit report is issued, which suggests that the market responds to the underlying economic event(s) that lead to a qualified opinion, and not the actual disclosure of the opinion.

Loudder et al. (1992) extend these findings by examining the market's response to a qualified opinion when the media reports news of the underlying negative economic event before the auditor issues an opinion, and conclude that the market's expectations regarding the audit opinion dictate its response. In other words, if the market expects a qualified opinion, it reacts prior to the issuance of the audit report. In contrast, the market negatively responds to the issuance of an unexpected qualified opinion.

Strawser (1991) reviews this literature, and concludes that the market reacts to the audit report's content in one of three ways: (1) no reaction when audit report content confirms expectations, (2) small reaction when audit report content provides incremental information regarding disclosures previously made by management, or (3) large reaction when the audit

report is the initial source of information. However, the inherent limitations of archival data make it difficult to disentangle and understand these effects (Bailey, Bylinski, and Shields 1983). For example, despite methodological improvements since the earlier studies<sup>6</sup>, more recent studies of the market's reaction to going-concern opinions also yield conflicting results (e.g., Taffler, Lu, and Kausar 2004; Ogneva and Subramanyam 2007). Furthermore, the extent to which researchers can understand the market's reaction to departures from the standardized wording of an unqualified opinion is constrained by not only the data's inherent noise, but also its availability. The SEC's Rule 2-02 of Regulation S-X essentially prohibits qualified or adverse opinions for publicly traded firms in the U.S. (Butler, Leone, and Willenborg 2004). Therefore, departures from standard unqualified opinions are exceedingly rare.

### **Current Standard Setting Projects**

The PCAOB and IAASB have recently undertaken major initiatives to improve the report's utility and communicative value to users of audited financial statements (IAASB 2013a; PCAOB 2013a). A number of reforms to the report's content and form were adopted in the IAASB's revised standard, and many similar reforms are also being considered by the PCAOB as it moves toward its own updated standard. Specific to the structure of the audit report, potential reforms include changing the relative placement of the audit opinion and the use of standard headings.

While the audit opinion has traditionally been located at the end of the audit report, some argue that presenting it at the report's beginning would enhance the opinion's prominence (IAASB 2011a; Simnett and Huggins 2014). A more prominently displayed opinion would improve investors' ability to access what is generally considered the most relevant information

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<sup>6</sup> Specifically, technological advances led to richer databases, which allowed subsequent studies to observe the specific publication dates of audit reports and other information sources with more precision.

communicated in the audit report (e.g., McEnroe and Martens 2001), which, in turn, should enhance the report's usefulness in understanding the financial statements (AQF 2007; Chong and Pflugrath 2008; IAASB 2012b - c, e - i; PCAOB 2013e, f). Others have expressed concern that presenting the opinion first might encourage users to ignore other important information (e.g., management's responsibility for the financial statements, the auditor's responsibilities, and the basis for the auditor's opinion) communicated in the report, and, therefore, limit their ability to evaluate the opinion within its proper context (IAASB 2011e; 2011f; 2012d).

Consistent with the ASB's auditor reporting standard, the PCAOB's proposal would allow auditors to use discretion as to the location of required reporting elements, including the opinion (PCAOB 2013a). While the IAASB's standard also allows auditor's discretion, illustrations of the revised audit report provided by the Board prominently display the opinion at the beginning rather than the report's end (IAASB 2014). Some critics of a relocated opinion paragraph explicitly cite the lack of evidence that supports whether a mandated order of information presentation would improve the audit report's communicative value to investors. On the other hand, proponents state that a prominently placed audit opinion will help users readily determine the type of opinion issued (e.g., PCAOB 2013e).

While commenters' feedback regarding the potential impact of relocating the audit opinion has been mixed, broader support exists for mandating the use of descriptive headings for each of the paragraphs within the audit report (PCAOB 2013c-d, g-i). Proponents of standard headings cite the current report's lack of readability and argue that section headings would make the report more understandable by providing a clear map to the information most relevant to users.

The readability of the audit report is often cited as a limitation of its usefulness to investors (e.g., AQF 2007; IAASB 2011a; Pound 1981; Simnett and Huggins 2014; Vanestraelen, Scheleman, Meuwissen, and Hofmann 2012), and the emphasis on the audit report's readability is consistent with the increasing focus of regulators and academics on the importance of disclosure readability in the broader context of financial reporting. For example, in 1998, the Securities and Exchange Commission (SEC) passed The Plain English Rule 421 (d), which requires registered issuers to adhere to "plain English principles" in the construction of firm prospectuses. In conjunction with the Plain English Rule's passage, the SEC published the *Plain English Handbook* (SEC 1998), which outlines specific linguistic and formatting principles that are to guide communications of financial information. Specifically, the SEC's linguistic recommendations include the use of short sentences, active voice and positive tone. The formatting recommendations include the use of a hierarchy-based structure, clear headings, and tabular presentation or bullet lists for complex material whenever possible.

Recent accounting studies have used the *Handbook's* principles to examine the influence of the SEC's definition of readability on investor behavior. For example, Miller (2010) develops a measure of 10-K readability following the handbook's linguistic recommendations, and finds that more readable disclosures are associated with higher trading volume among small investors. Recent experimental studies (e.g., Rennekamp 2012; Tan et al. 2015) also find that the readability of earnings guidance, as defined by the *Plain English Handbook's* guidelines, impacts nonprofessional investors' judgments and decisions. These studies examine the simultaneous impact of the SEC's linguistic and structural recommendations. Therefore, it remains unclear whether manipulating text structure in isolation would activate similar effects. I hold the

linguistic and semantical aspects of readability constant in this study to isolate the impact of the audit report's structure on how the report is used.

Despite calls for improvements to the audit report's readability, academic research has not addressed whether the report's readability actually affects investors' judgments and decisions. Furthermore, while some argue that the use of headings and a more prominently located opinion would make the report more readable (e.g., PCAOB 2013e; 2013h), it remains unclear whether these two specific aspects of readability in isolation would affect how the report is used or perceived by investors (IAASB 2011f).

### **Text-Based Signaling Devices and Effects**

Research in the psychology literature demonstrates that various aspects of a text's structure serve as informational signals of processing instruction to readers (Meyer 1975, 1999; Loman and Mayer 1983; Ritchey, Schuster, and Allen 2008; Wyer, Hung, and Jiang 2008).<sup>7</sup> This literature provides several examples of text-based signals and their effects, including improved recall and comprehension of text content (e.g., Lorch and Lorch 1985; Grant and Davey 1991; Surber and Schroeder 2007), and information search strategies (e.g., Klusewitz and Lorch 2000; Sanchez, Lorch, and Lorch 2001). Meyer (1975; 1984) proposed that readers rely on mental topic structure representations (i.e., mental maps) when synthesizing text and drawing inferences. His work provided early evidence that the presence of signals, such as headings and selective location of information, improves readers' ability to form mental maps of text structure and content, and, consequently, facilitates effective processing. Essentially, the mental map of a text serves as a schematic that directs the reader's allocation of attention (Kools, Ruiter, van de Wiel, and Kok 2008). Subsequent studies demonstrated that readers' proficiency and prior

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<sup>7</sup> Studies of text signaling generally adopt Lorch's (1989) definition of a text-based signal, which assumes that text content and signaling devices are independent such that a signal can be deleted without compromising text content.

domain knowledge can moderate the influence of text signals (e.g., Klusewitz and Lorch 2000; Surber and Schroeder 2007). However, these studies generally conclude that signals promote more accurate mental mapping and facilitate efficient processing of text-based information (Loman and Mayer 1983; Ritchey, Schuster, and Allen 2008).

While these studies provide ample evidence indicating that text-based signals facilitate text processing, the question of how these effects occur largely remains unanswered in this stream of literature. Moreover, incorporation and systematic testing of cognitive theories of information processing have only recently begun in the text signaling research.<sup>8</sup> One frequently offered explanation within these studies is that signals (e.g., headings, information location) serve as visual cues that evoke the spatial attribute of memory, and inform judgments with prior knowledge (Underwood 1969). Specifically, readers encode pieces of information based on the physical space in which the information appears. In this sense, information location serves as a cue, as does the space surrounding the information. Some have proposed that spacing, say, between paragraphs or surrounding headings, provides optical relief for readers, and thereby, facilitates ease of processing (e.g., Grant and Davey 1991).

Overall, the text signaling literature motivates my study of whether mandating headings and relocating the audit opinion within the audit report affects investors' attention to the report's content as they form judgments regarding a hypothetical company's financial statements. Specifically, Lemarie, Lorch, Eyrolle, and Virbel (2008) explicitly calls for future research to examine how various signaling techniques interact with each other, and to explore whether signaling implications generalize to other genres of textual information. My study addresses their call, and extends the text signaling literature by jointly considering an underlying

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<sup>8</sup> See Lemarie, Lorch, Eyrolle, and Virbel (2008) for a review.



psychological mechanism that is activated by text-based signals under certain conditions, and leads to heuristic, rather than systematic, information processing.

The tasks required of experimental participants in these studies typically focus only on the text in which signals are manipulated, which does not reflect the myriad sources and types of information that investors use when making decision. Additionally, the outcome of interest is generally some sort of recall or comprehension measure. Investors base judgments of financial statement reliability and investment decisions on evaluation of both quantitative and qualitative financial information from multiple sources, which is more cognitively demanding than recall and comprehension tasks related to evaluation of textual information alone. Moreover, the judgments on which individuals base investment decisions are inevitably made with some degree of uncertainty, and uncertainty leads individuals to seek simplifying heuristics to aid their decision-making processes (Tversky and Kahneman 1974).

### **Heuristic Processing and Theories of Fluency**

Daniel, Hirshleifer, and Teoh (2002) review the prior literature that addresses how investors' judgments are affected by heuristic, rather than systematic, processing of financial information, and note that the salience of financial information is most often employed as a heuristic to compensate for investors' limited attention. Prior psychology research demonstrates that even minor changes in presentation format can affect the salience of information, and, thereby, affect the ease with which information is processed (e.g., Einhorn and Hogarth 1981; Kleinmuntz and Schkade 1993), and similar results have been found in accounting studies (e.g., Clor-Proell, Proell and Warfield 2014; Hirshleifer and Teoh 2003; Maines and McDaniel 2000;). As the text signaling literature suggests (e.g., Lemarie et al. 2008), prominent relocation of the opinion paragraph and use of descriptive headers would increase the salience of the most

important elements of the audit report, which, in turn, should improve the cognitive ease with which the information is processed.

Processing fluency is the “subjective experience of ease with which people process information”, and plays an important role in human judgment across a broad range of social dimensions (Alter and Oppenheimer 2009, 219). Importantly, processing fluency is the *perception* of processing ease, rather than actual ease of processing. Prior studies of processing fluency have demonstrated that aspects of text format, such as headings and the order in which information is presented, evoke feelings of processing fluency, which, in turn, induce positive affective reactions towards the message and/or the messenger (e.g., Alter, Oppenheimer, Epley, and Eyre 2007; Maun 2006; Reber, Schwarz, and Winkielman 2004). The affect-fluency link<sup>9</sup> is based on the general assumption that affective feedback is an important way in which individuals monitor changes in their cognitive processing and organization (Winkielman and Cacioppo (2001). The two primary reasons for this assumption also introduce the potential for sub-optimal judgments. First, individuals often misinterpret their perceptions of processing ease as an indication of good progress toward the goal of successful acquisition of the target information (Fernandez-Duque, Baird, and Posner 2000). Thus, if an individual misjudges their progress towards acquisition and accurate interpretation of the target information, they will be less likely to sufficiently process the text. Second, perceived processing ease might be a pleasurable experience because it indicates, sometimes incorrectly, the availability of appropriate knowledge structures for the assigned task (Bless and Fielder 1995).

Overall, these studies suggest that when evaluating text, individuals substitute their feelings of processing fluency for information content to compensate for a lack of available

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<sup>9</sup> This link refers to the relationship between processing fluency and positive affect described above. See Winkielman, Schwarz, Fazendeiro, and Reber (2003) for a comprehensive review.

cognitive resources. This contradicts the effects predicted by the text-signaling literature, which suggests that signals, such as headings and information location, facilitate processing of information content, but is consistent with the findings of Schwarz et al. (1991), who showed that fluency influences judgment independently of the retrieved content that accompanies the experience of fluency.

Despite the scarcity of existing accounting research that draws on processing fluency theory, its effects are likely pervasive across accounting settings and might be useful in explaining the results of some prior studies (Rennekamp 2012). For example, Hopkins (1996) manipulates the accessibility of category-relevant information related to hybrid financial instruments through the presentation format of the balance sheet, and finds that analysts make more positive valuation judgments when the information is presented in a more accessible location. Elliott (2006) demonstrates that investors' unintentionally rely on more prominently disclosed earnings metrics in their judgments even when the more prominent metric is, objectively, less relevant. Similarly, Maines and McDaniel (2000) find that the presentation format of comprehensive income affects how individual investors determine what information is relevant for a judgment task, but not whether the information is actually used. Processing fluency studies predict that more accessible information is perceived as more relevant not because of its content, but because of the ease with which it is accessed (e.g., Knoblockh, Zillmann, Gibson, and Karrh 2002; Schwarz et al. 1991; Shah and Oppenheimer 2007), which is consistent with the findings in Hopkins (1996), Elliott (2006)<sup>10</sup>, and Maines and McDaniel (2000).

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<sup>10</sup> Elliott's findings are corroborated by archival evidence (e.g., Bowen, Davis, and Matsumoto 2005; Allee, Bhattacharya, Black, and Christensen 2007), and the results of these studies are consistent with processing fluency theory.

Two recent experimental studies in accounting examine how the readability of management disclosures affects investors' judgments. Both experiments use the *Plain English Handbook's* recommendations to manipulate the readability, and find that higher readability evokes stronger feelings of processing fluency, leads to higher assessments of management's credibility, greater willingness to rely on the disclosure, and more positive performance judgments of the firm (Rennekamp 2012; Tan et al. 2015).

### ***Audit Report Structure and Judgments of Financial Statement Reliability***

The text-signaling literature shows that headings and prominent presentation of important information enhance actual processing ease, while the processing fluency literature demonstrates that they also strengthen perceptions of processing ease. Prior studies have shown that feelings of processing fluency are associated with aspects of a financial disclosure's readability.

Specifically, enhanced readability strengthens feelings of processing fluency, which, in turn, leads investors to assess higher levels of the disclosure's reliability and positive evaluations of the information's source (Rennekamp 2012; Tan et al. 2015). The positive affective reactions associated with feelings of processing fluency overwhelms the systematic processing of the target content, and is interpreted by users as actual information, which drives the subsequent favorable evaluations of the information and its source (Reber et al. 2004; Winkielman and Cacioppo 2001).

Therefore, I predict that investors will assess higher levels of financial statement reliability when the accompanying audit report includes descriptive headings, and that this effect will operate through heightened feelings of processing fluency. Following the same logic, I also expect that investors will experience higher levels of processing fluency when the audit opinion is located at the beginning of the audit report because the enhanced accessibility of what most

consider the most relevant information communicated in the report will increase the perceived cognitive ease associated with the judgment task. The stronger feelings of processing fluency, in turn, will lead to more favorable judgments of financial statement reliability. Formally stated, I test the following:

**H1a:** Investors' judgments of financial statement reliability will be positively impacted by the presence of descriptive headings in the audit report, and this effect will operate through perceptions of the report's processing fluency such that higher levels of processing fluency will lead to higher assessments of financial statement reliability.

**H1b:** Investors' judgments of financial statement reliability will be positively impacted when the opinion paragraph is relocated to the beginning of the report, rather than at the report's end, and this effect will operate through perceptions of the report's processing fluency such that higher levels of processing fluency will lead to higher assessments of financial statement reliability.

### ***Investor Sophistication: Audit Report Familiarity and Processing Fluency***

Existing psychology research of how individuals process text-based information indicates that the effects of text structure on judgments interact with an individual's prior knowledge and expertise (Lemarie et al. 2008). For example, text-signaling studies (e.g., Klusewitz and Lorch 2000; Surber and Schroeder 2007) find that the benefit of text signals on information processing is greater for individuals who have relevant prior knowledge than for those who lack such knowledge. Klusewitz and Lorch (2000) observe that this is because individuals choose different search strategies based on their familiarity with a given text and task. Specifically, individuals who lack relevant prior knowledge are more likely to employ a rote search strategy (i.e., sentence

by sentence, paragraph by paragraph, page by page) because they have not previously established a mental topic structure representation, which Meyer (1975) argues is necessary for information processing and comprehension. On the other hand, individuals with relevant prior knowledge are likely to employ a more selective strategy based on their previously established mental topic structure representation.<sup>11</sup> Thus, text signals that confirm a previously established topic representation enhance the efficiency of more knowledgeable readers' search.

A large literature documents how individuals use decision heuristics to compensate for limited cognitive resources. This literature also provides evidence that individuals with task-specific expertise are less likely to employ heuristic processing of information than those who lack such expertise (Payne, Bettman, and Johnson 1993; Petty, Schumann, Richman, and Strathman 1993). This provides a theoretical explanation for the findings from the text-signaling literature that indicate interactive effects between text signals and prior knowledge (e.g., Klusewitz and Lorch 2000; Surber and Schroeder 2007). In the parlance of text-signaling researchers, individuals lacking a previously established topic representation employ a rote reading strategy, which demands significant cognitive resources, and, thereby, leads individuals to employ heuristic processing to compensate for the high cognitive costs.

Accounting research demonstrates that these findings generalize across a number of accounting settings, and suggests that less sophisticated investors are more likely to rely on heuristic shortcuts when evaluating financial information for potential investment (Anderson 1988; Bouwman 1984; Coram 2010; Victoravich 2010). Other studies provide evidence specifically indicating that the judgments of less sophisticated investors are more susceptible to various presentation formats of financial information than those of more sophisticated investors

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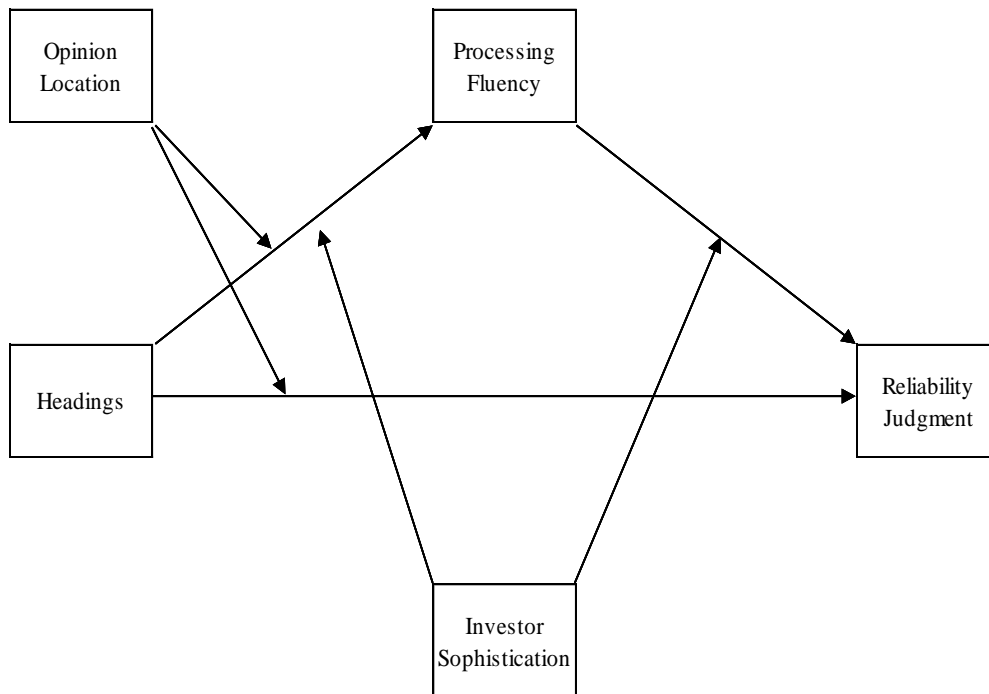
<sup>11</sup> The selective search strategies of experienced readers observed by Klusewitz and Lorch (2000) generally include more frequent page advances and skipping. Experienced readers were more likely to begin their searches at the middle or end of the text, rather than at the beginning.

(Allee, Bhattacharya, Black, and Christensen 2007; Libby, Bloomfield, and Nelson 2002; Libby and Ernett 2014; Libby and Luft 1993), which is particularly relevant to my study.

In this study, I examine how two specific aspects of the audit report's structure, descriptive headings and the location of the opinion paragraph, influence investors' investment decision-making processes. Given that more sophisticated investors have more investing experience than less sophisticated investors, it follows that they also are more familiar with the structure and content of the audit report. I expect that the lack of familiarity among less sophisticated investors will limit their capacity to unwind alternative structural presentations of the audit report's content, which, in turn, will cause them to rely on their feelings of processing fluency to inform their judgments of financial statement reliability. Figure 1 illustrates the conceptual model, which I describe formally as follows:

**H2:** Investor sophistication will moderate the indirect effect of audit report structure through processing fluency on judgments of financial statement reliability such that the mediating effect of processing fluency on judgments of financial statement reliability will be stronger for less sophisticated investors than for more sophisticated investors.

Figure 1  
Conceptual Model of H2



***Less Sophisticated Investors: Actual vs. Perceived Processing***

The audit opinion is generally considered to be the most important information communicated in the audit report (Mock, Gray, and Coram 2009; IAASB 2011a; 2012a) and some suggest that presenting the opinion paragraph at the beginning of the report would enhance the opinion’s prominence, and, therefore, improve the communicative value of the audit report. However, the audit report also provides information regarding management’s responsibilities for the financial statements, the auditor’s responsibilities for the audit, and the auditor’s basis for the



issued opinion.<sup>12</sup> Commenters have expressed concern that audit report users already ignore the majority of this information and that relocating the opinion paragraph to the beginning of the report would encourage further neglect the remainder of the report's content (e.g., IAASB 2011e; 2011f; 2012d). Some argue further that the non-opinion information helps align users' expectations regarding the level of assurance the audit provides with what auditing standards require (Asare and Wright 2012; McEnroe and Martens 2001; Vanestraelen, Scheleman, Meuwissen, and Hofmann 2012). Others suggest that a more standardized structure would enhance users' understanding of its entire content, which, in turn, would facilitate evaluation of the audit opinion in its appropriate context (e.g., Mock et al. 2009; PCAOB 2013d).

In H2, I predict that it is probable that less sophisticated investors heuristically rely on processing fluency to a greater extent than more sophisticated investors when evaluating a potential investment. However, it is also possible that the influence of audit report structure on less sophisticated investors' understanding of the content better explains their judgments than their feelings of processing fluency. Prior studies examining the respective roles of processing fluency and understanding in investors' evaluations of financial disclosures yield mixed results. Rennekamp (2012) shows that the effect of disclosure readability on investors' valuation adjustments operates through feelings of processing fluency rather than improved understanding. Tan et al. (2015) extend Rennekamp's (2012) findings by manipulating the consistency of the message disclosed, and find that understanding, and not processing fluency, mediates investors' performance judgments. Importantly, however, both studies do not consider whether the impact of either mediating mechanism differs across levels of investor sophistication. Moreover, the ongoing debate among standard-setters regarding the importance of non-opinion content in the

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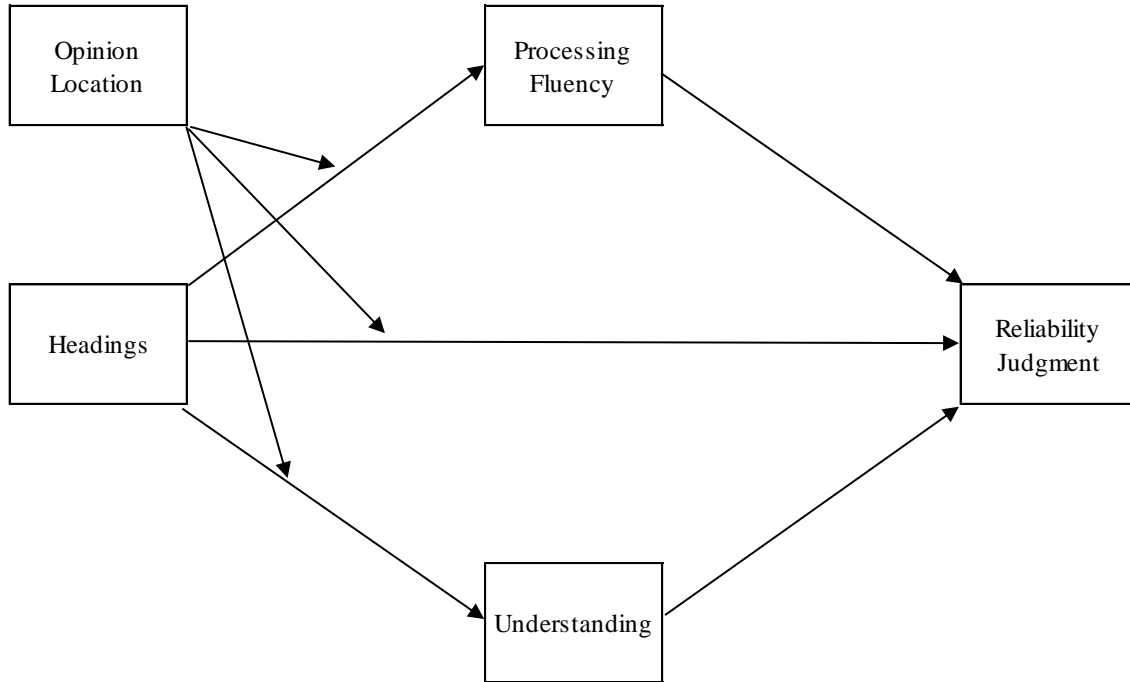
<sup>12</sup> In addition to the audit opinion, this information represents the basic elements of the audit report, and its inclusion is mandatory across standard-setting bodies, including the ASB, IAASB, and PCAOB.

audit report motivates a more direct test of whether the influence of the audit report's structure does promote or inhibit the degree to which investors attend to such information, and this is particularly true for the least-informed subset of audit report users. Following the logic underlying H2, I predict that the mediating effect of audit report structure through processing fluency will be stronger than the effect operating through less sophisticated investors' understanding. Figure 2 illustrates the conceptual model, which is formally stated as follows:

**H3:** The effect of headings conditioned on the relative location of the audit opinion in the audit report on less sophisticated investors' judgments of financial statement reliability will be more strongly mediated by processing fluency than by understanding of the audit report's content.

Figure 2

Conceptual Model of H3



### ***Processing Fluency, Reliability Judgments, and Investment Decisions***

Thus far, I focus my theoretical predictions on how the audit report's structure affects judgments of financial statement reliability. Such judgments are important in their own right (Clor-Proell et al, 2014). Regulators and standard-setters agree that the audit report should enhance confidence in the reliability of financial statements (Baumann 2014; Haddrill 2011). However, it is also important to examine whether the potential implications of the audit report's structure on reliability judgments ultimately affect investment decisions. Prior studies have shown that higher (lower) perceptions of reliability lead to more positive (negative) valuation judgments and increase (decrease) investors' willingness to invest. Elliott, Rennekamp, and White (2012) do not observe participants' judgments of financial statement reliability, but, instead provide evidence that the effects of heightened feelings of processing fluency take a more

direct path to investment decisions. Therefore, I predict that the path of audit report structure's indirect effect on investment decisions will first flow through investors' feelings of processing fluency, and then to their judgments of financial statement reliability. I also expect that higher levels of confidence in the reliability of the financial statements will be associated with larger investments. Formally stated, I test the following:

**H4a:** Feelings of processing fluency and judgments of financial statement reliability will mediate, in serial, the impact of headings in the audit report on investors' investment decisions.

**H4b:** Feelings of processing fluency and judgments of financial statement reliability will mediate, in serial, the impact of the relative location of the audit opinion in the audit report on investors' investment decisions.

### ***Audit Report Structure and Adverse Opinions***

The vast majority of audit opinions issued for SEC registrant firms are unqualified (Butler et al. 2004). Per Regulation S-X, the SEC will not accept a registrant's financial statements that have received anything other than an unqualified opinion. Some argue that the constraint imposed by regulators on auditor's ability to issue qualified or adverse opinions contributes to the lack of meaning market participants infer from the audit report (McEnroe and Martens 1998). However, the regulations also limit the availability of archival data for researchers to examine whether investors perceive differential information content across opinion types, leading to calls for experimental studies of investors' reactions to unclear audit opinions (e.g., Church et al. 2008).

It is important to examine the implications of audit report structure when the opinion is something other than unqualified for a number of reasons. For example, one of the stated purposes of the proposed changes to the report's structure is to improve the accessibility of the most relevant information communicated by the audit report – the opinion (PCAOB 2011). The audit report, and, more specifically, the auditor's opinion, provides assurance to investors that the financial statements are reliable (SEC 2011a). Therefore, when investors derive little confidence from the opinion, they will be less likely to invest in a company's securities (SEC 2011b). As stated in a comment letter submitted to the PCAOB, an audit report that more prominently displays the audit opinion “will help investors readily determine the type of opinion issued,” (PCAOB 2013e).<sup>13</sup> Thus, it is necessary to test whether the proposed changes affect investors' ability to identify departures from the standard unqualified opinion, which motivates my examination of the effects of audit report structure on investors' judgments when the opinion is adverse in experiment two.

Given the rarity of adverse opinions, it is unlikely that investors expect anything other than an unqualified opinion. Therefore, when the opinion is located at the end of the report and headings are absent, I expect that investors will not easily identify a departure from the standard wording of an unqualified opinion. Moreover, the rarity of adverse opinions also makes it less likely that investors will sufficiently understand the implications of an adverse opinion, even when a departure from the standard wording is identified.

As described in theoretical development of experiment one, feelings of processing fluency are generally interpreted positively. However, prior studies have shown that when fluently disclosed information is negatively valenced, such as disclosure of an adverse audit

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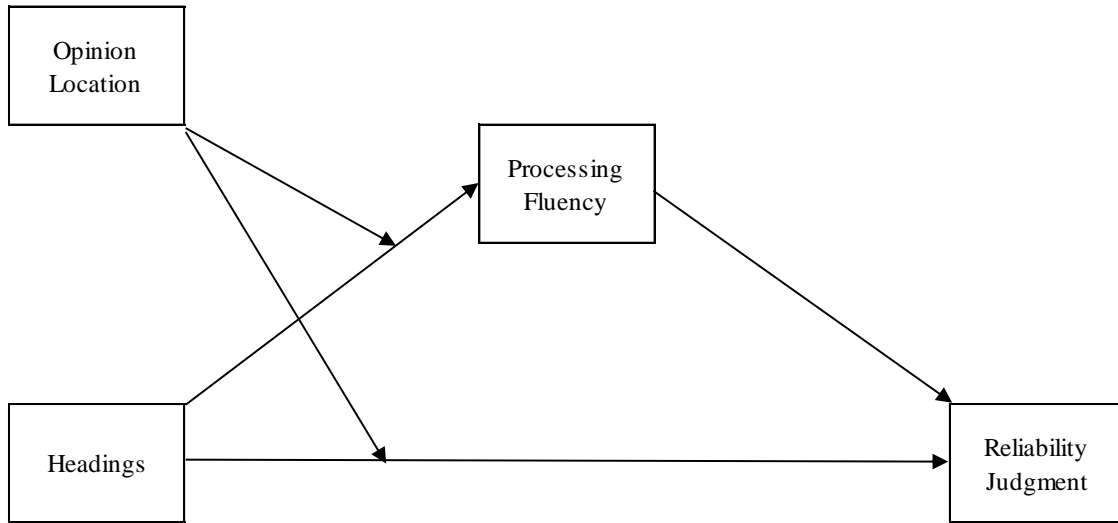
<sup>13</sup> Other commenters to both the PCAOB and IAASB who are not cited in this paper expressed similar sentiment regarding the importance of the audit report structure for identifying the type of opinion issued.

opinion, amplify negative reactions to the disclosure and its source in the same way that positively valenced information amplifies positive reactions (Brinol, Petty, and Tormala 2006). Additionally, the heading required by auditing standards for adverse opinions is “Adverse Opinion”, which I adopt for the headings condition in experiment two. In contrast, the heading related to unqualified opinions is simply “Opinion”. This suggests that when the opinion is adverse, the heading likely sends a richer signal, which increases the salience of the negatively valenced information communicated by the opinion paragraph. Therefore, I expect that the effect of headings that clearly identify the type of opinion and its location will lead to stronger feelings of processing fluency, and, consequently, result in more negative assessments of financial statement reliability. I also expect that the effect of headings will interact with the relative location of the opinion paragraph such that when headings are present, participants will experience stronger feelings of processing fluency when the opinion is located at the report’s beginning rather than end. Thus, negative reactions to the adverse opinion will be strongest when headings are present and the opinion is relocated to the beginning of the report. The conceptual model is illustrated in Figure 3, and formally stated as follows:

**H5:** When the audit opinion is adverse, the presence of headings in the audit report will negatively affect investors’ judgments of financial statement reliability, and this effect will be moderated by the relative location of the audit opinion such that investors will judge the financial statements to be less reliable when the audit opinion is presented at the beginning of the report compared to when the opinion is presented at the report’s end.

Figure 3

Conceptual Model of H5



### **III. EXPERIMENTAL DESIGN AND METHODOLOGY**

I test my hypotheses with two experiments using a 2 (headings) x 2 (opinion location) between-subjects design. The factorial design for experiment one also includes two levels of investor sophistication based on participants' demographic information, which I describe in detail below. The design and procedure of my second experiment is similar to that of the first experiment, but with a few exceptions. First, my formal predictions focus on a single mediator, processing fluency. The second, and most important, difference relates to the type of opinion issued in the audit report. In experiment two, all manipulated audit reports issue an adverse opinion, rather than the unqualified opinion issued in experiment one. This particular difference has implications for my manipulation of headings, which I describe further in a subsequent section.

For both experiments, I recruit participants through Amazon Mechanical Turk. Amazon Mechanical Turk (MTurk) is an online labor market in which "workers" (participants) are paid to complete "Human Intelligence Tasks" (HITs). Since its launch in 2005, MTurk has become an increasingly popular source of experimental participants for social science researchers (Brandon, Long, Lorass, Mueller-Phillips, and Vansant 2014; Burhmester, Kwang, and Gosling 2011; Chandler, Mueller, and Paolacci 2014; Farrell, Grenier, and Leiby 2014; Goodman, Cryder, and Cheema 2013; Mason and Suri 2012; Paolacci, Chandler, and Ipeirotis 2010).

In a recent exploratory study, Krische (2014) examines the validity of MTurk workers as surrogates for individual or nonprofessional investors by assessing whether the results of four experiments across three extant accounting research experiments (Elliott, Hodge, Kennedy, and



Pronk 2007; Kadous, Koonce, and Towry 2005; Nelson and Rupaar 2015)<sup>14</sup> replicate with a sample of MTurk participants. Krische's (2014) results were consistent with those of the original experiments, but, importantly, only among MTurk participants who report previous investment experience. Following the approach of Krische (2014), Koonce, Miller, and Winchel (2015) use a sample of MTurk workers to replicate an earlier accounting research experiment from Koonce et al. (2008) who had used M.B.A. students as proxies for nonprofessional investors. The 2014 study required the MTurk workers to have completed at least two accounting and/or finance classes and have experience in reading financial statements. Based on those two screens, Koonce et al. (2015) validated the findings of Koonce et al. (2008) with the MTurk sample, suggesting that the MTurk participant pool is appropriate for studies examining nonprofessional investors' judgments and decisions.<sup>15</sup> Following Koonce et al. (2015), I require that participants have completed at least two accounting and/or finance courses and that they have experience evaluating financial statements. I also collect extensive demographic data in order to ensure that participant demographics are reasonable and consistent with prior studies.

## **Procedure**

In both experiments, I provide participants with background information for a company operating in the technology hardware industry that they are to evaluate as a potential investment. After receiving information about the company's background, participants receive the company's comparative balance sheet, income statement, and statement of cash flows. In addition to the financial statements, participants also receive one of eight randomly assigned manipulated versions of the independent auditor's report. I then ask participants a series of

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<sup>14</sup> All studies replicated by Krische (2014) used nonprofessional investors (Elliott et al. 2007) or M.B.A. students as surrogates for nonprofessional investors (Elliott et al. 2007; Kadous et al. 2005; Nelson and Rupaar 2015).

<sup>15</sup> Other recent accounting studies that use MTurk for nonprofessional investors include Rennekamp (2012) and Rennekamp et al. (2014).

questions regarding their perceptions of the company's financial reporting quality, the audit report, and their investment decision-making process. Finally, participants respond to a number of demographic questions, and are compensated \$1.50 for their participation. On average, participants complete the materials in approximately 20 minutes. See Appendix A for an illustration of all experimental materials and questions.

## **Experimental Manipulations**

### ***Experiment One***

I manipulate headings by including (excluding) the following descriptive headings in the audit report: "Introduction", "Responsibilities of Management for the Financial Statements", "Auditor's Responsibilities for the Audit of the Financial Statements", "Basis of Opinion", and "Opinion".<sup>16</sup> I manipulate the relative location of the opinion paragraph within the body of the audit report by either placing the opinion at the beginning of the report, or at the report's end immediately following the basis of opinion subsection. The former experimental manipulation is consistent with illustrative examples from the IAASB's auditor reporting standard (IAASB 2013), while the latter is consistent with the illustrative examples from the PCAOB's proposed standard (PCAOB 2013).

### ***Investor Sophistication Level***

Following the technique employed by Tan, Wang and Zhou (2014), I use several demographic characteristics to measure investor sophistication level. Specifically, I conduct a principal components analysis with a varimax rotation on participants' level of education, total

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<sup>16</sup> The ASB's recently revised auditor reporting standard AU-C §700, *Forming an Opinion and Reporting on Financial Statements* requires the following headings for each respective element of the report: "Management's Responsibility for the Financial Statements"; "Auditor's Responsibility"; and "Opinion" (AU-C §700, AICPA 2013a). The IAASB's standard would mandate inclusion of the following additional elements and headings within the report: "Basis of Opinion"; "Key Audit Matters"; "Going Concern" and "Other Information" (ISA 700).

accounting courses completed, total finance courses completed, years of work experience, experience investing in stocks, experience investing in mutual funds mutual funds, and experience using financial statements and audit reports in investment decisions. The analysis extracts three factors. Frequency of reading financial statements and audit reports load heavily onto component 1 with factor loadings of 0.88 and 0.87 for component 1, 0.02 and 0.06 for component 2, and 0.14 and 0.05 for component 3, respectively. Investing experience in stocks and mutual funds load heavily onto component 2 with factor loadings are 0.80 and 0.83 for component 2, 0.14 and 0.13 for component 1, and 0.04 and 0.09 for component 3, respectively. Accounting and finance courses load heavily onto component 3 with factor loadings are 0.75 and 0.75 for component 3, 0.08 and 0.08 for component 1, and 0.01 and 0.09 for component 2, respectively. Consistent with the findings documented in Elliott et al. (2007) and Tan, Wang, and Zhou (2014), the factor loadings for years of work experience are low, and fall below the benchmark of 0.70 for inclusion recommended by Carmines and Zeller (1979). Therefore, I exclude work experience from my calculation of investor sophistication scores.

Next, I calculate a sophistication score for each participant by summing the standardized values of the demographic variables included in the principal components analysis.<sup>17</sup> Sophistication scores range from -9.93 to 8.82, have a mean value of 0.00, and median of 0.07. I then split participants into more and less sophisticated investor groups based on the median sophistication score. Among the more sophisticated investors, 35% had completed at least some postgraduate study, and 46% had taken at least three accounting courses. Specifically, 18.9% reported that they had completed three accounting courses, 22% between four and ten courses, and 5% more than ten courses. In contrast, among less sophisticated investors, only 11% had

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<sup>17</sup> The use of standardized values is necessary due to the differential scales among the demographic questions used to calculation investors' sophistication level.

completed at least some postgraduate study, and 16% had taken at least three accounting courses. Additionally, 72% of the more sophisticated investors reported that when they are evaluating a company's stock as a potential investment, they read the company's financial statements, and 24% stated that they also refer to the audit report. For less sophisticated investors, only 24% consistently read the financial statements, and 7% refer to the audit report.

### ***Experiment Two***

My respective manipulations of headings and the relative location of the opinion paragraph in the audit report are consistent with those described in experiment one with two exceptions. Given that the opinion is adverse, rather than unqualified, I modify the first line of the opinion paragraph as follows: "the accompanying financial statements do not present fairly". Additionally, the opinion paragraph's heading reads "Adverse Opinion", rather than simply "Opinion". Both the modification to the opinion paragraph's first line and heading are consistent with ASB auditing standards (AU-C §705, *Modifications to the Opinion in the Independent Auditor's Report*). However, the standards also require that basis of the adverse opinion be described in a separate paragraph in the report, which I omit from the experimental audit reports to prevent participants from inferring the type of opinion strictly from the number of paragraphs the report contains. The primary purpose of my second experiment is to determine whether manipulating the audit report's structure affects users' ability to identify a departure from the standard unqualified opinion. Therefore, I do not alter any other aspect of the content or form of the report in experiment two other than what I previously describe. This design choice makes for a subtle manipulation, particularly in the absence of headings. Thus, evidence that suggests that relocating the opinion paragraph affects users' ability to identify the type of opinion would be particularly compelling.

## **Participants**

### ***Experiment One***

In total, 550 participants are recruited through Amazon's Mechanical Turk online platform for experiment one, of which 282 are immediately screened based on the requisite number of accounting and finance courses and experience evaluating financial statements previously described. 268 participants complete the experimental materials, of which 191 are male and 77 are female. 45% of participants are between 26 and 34 years old, and 30% are between 35 and 54 years old. Participants reported an average of 12 years full time work experience, 49% have completed a bachelor's degree, and 23% have completed at least some postgraduate work.

Oppenheimer, Meyvis, and Davidenko (2009) recommend use of rigorous attention check questions to further ensure the validity of responses when using MTurk. I adapt the attention check question used by Oppenheimer et al. (2009) in my study<sup>18</sup>, and exclude 26 participants who failed to answer the question correctly from all reported analyses, leaving a final sample of 242.<sup>19</sup>

### ***Experiment Two***

Of the 521 participants recruited for experiment two, 267 do not meet the requirements for number of accounting and/or finance courses completed and prior experience using financial statements, leaving 254 eligible to complete the study. Demographic characteristics are similar to participants in experiment 1. 156 are male and 98 are female, 47% of participants are between

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<sup>18</sup> Specifically, participants read and respond to the following: "What do you think this study was about? Research in decision-making shows that people, when making decisions and answering questions, prefer not to pay attention and minimize their effort as much as possible. Some studies show that over 50% of people don't carefully read questions. If you are reading this question and have read all the other questions, please select the box labeled 'other'. Thank you for participating and taking the time to read through the questions." Potential responses are as follows: "Good decision-making", "Financial decision making", "Understanding financial statements", "Understanding audit reports", and "Other". Only participants who selected "Other" were included in my analyses.

<sup>19</sup> Inclusion of these 26 participants does not substantively alter my results.

26 and 34 years old, and 34% are between 35 and 54 years old. Average full time work experience is 12 years, 52% have completed a bachelor's degree, and 21% have completed at least some postgraduate work. 13 participants incorrectly responded to the attention check question. As in experiment one, I exclude these from all analyses, leaving a final sample of 241 participants for experiment two.<sup>20</sup>

## **Dependent Variables**

### ***Financial Statement Reliability Judgment***

I adapt my measure of participants' judgments of financial statement reliability from those used by prior experimental studies (e.g., Lowe and Pany 1995) by asking: "How much confidence do you have in the reliability and accuracy of the values reported in the Company's financial statements in general?" (0 = Not at all confident and 10 = Very confident).

### ***Investment Decision***

To measure the amount participants are willing to invest in the hypothetical company after reviewing the financial statements and audit report, I ask the following: "Assume that you have \$50,000 in a checking account to invest in Connected, Inc., or to save. Having reviewed Connected, Inc.'s financial statements, and the audit firm's report on those financial statements, indicate below how much of the \$50,000 will be either invested in Connected, Inc. or saved. The amounts designated for each option must sum to \$50,000." To stabilize the variance in this measure, I perform a natural log transformation of participants' investment decisions, and use the transformed values in all analyses.

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<sup>20</sup> As in experiment one, inclusion of these 13 participants does not substantively alter the results of experiment two.

## **Mediator Variables**

### ***Processing Fluency***

I adapt my measure of processing fluency from those commonly employed in the processing fluency literature (e.g., Oppenheimer 2006) by asking participants “How difficult was it to read the auditor’s report?” (0 = Not at all difficult and 10 = Very difficult). Thus, lower values reflect higher levels of processing fluency.

### ***Understanding Scores***

Psychology studies of text processing often assess ‘understanding’ with multiple choice questions that test the correctness of participants’ interpretation of the message read (e.g., Melby-Lervag and Lervag 2013; Miele and Molden 2010), and have also been employed in accounting studies of the effects of processing fluency (e.g., Tan et al. 2015). Rupp, Ferne, and Choi (2006) recommend inclusion of at least one question per major content area, and one that assesses the interrelationships among all content areas. Thus, I form a composite understanding score based on responses to four separate questions. The first three relate to three of the four required reporting elements: the audit opinion, management’s responsibility, and the basis of the opinion, respectively. The fourth question relates to the presentation order of each major section in the audit report. My rationale for this question is grounded on the assumption that a mental representation of the text’s structure is necessary for thorough comprehension of content (Meyer 1975). Correct identification of the audit report’s structure would provide some indication that such a mental representation has been constructed.

The four questions and related answer choices are as follows: (*Question 1*) “Which of the following best describes Connected Inc.’s financial statements?” Participants may choose from the following three options: (1) “The financial statements present fairly, in all material

respects, the financial position of the Company, the results of operations and its cash flows,” (2) “The financial statements do not present fairly, in all material respects, the financial position of the Company, the results of operations and its cash flows,” or (3) “Neither”. (*Question 2*)

“Which of the following best describes management’s responsibility for the preparation and fair presentation of the financial statements?” (1) Management is solely responsible for the preparation and fair presentation of the financial statements,” (2) Management shares responsibility with the auditors for the preparation and fair presentation of the financial statements,” or (3) “Neither”. (*Question 3*)

“Which of the following best describes the basis of the auditor’s opinion?” (1) The audit standards require that the auditors plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud,” (2) The audit standards require that the auditors plan and perform the audit to obtain absolute assurance about whether the financial statements are free of material misstatement, whether due to error or fraud,” or (3) “Neither.” (*Question 4*)

“Which of the following choices best describes the presentation order of the information in the audit report?” (1) “Opinion, Management’s Responsibility, Auditor’s Responsibility, Basis of Opinion,” (2) Management’s Responsibility, Auditor’s Responsibility, Basis of Opinion, Opinion,” (3) Opinion, Auditor’s Responsibility, Management’s Responsibility, Basis of Opinion,” or (4) Auditor’s Responsibility, Management’s Responsibility, Basis of Opinion, Opinion.”

For each of the four questions, I randomize the order in which answer choices appear. I also randomize the presentation order of the actual questions themselves. Randomization of question order and answer choices mitigates the risk of invalid responses (Rupp et al. 2006). Participants were restricted from reviewing the financial statements and audit report while



responding to questions. For the first three questions, participants receive one point for each correct answer and zero points for incorrect answers. For the fourth question, participants receive one point for correctly identifying the actual presentation order. However, participants receive zero points if they select an incorrect answer, but at least identify the correct location of the audit opinion. They receive a negative one for the fourth question if they select an incorrect answer that specifically misplaces the opinion's location. Participants' therefore can receive a composite understanding score as high as four, and as low as negative one.<sup>21</sup>

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<sup>21</sup> Alternative weighting of the four questions on which my composite understanding score is based (e.g., standardized weighting across all questions) does not affect results.

## IV. RESULTS

### Manipulation Checks

#### *Experiment One*

As a check on my manipulation of headings, I ask participants to respond to the following true or false question: “The audit report used descriptive headings to identify separate topics throughout the report.” 83.3% of participants answered correctly. To assess my manipulation of opinion location, I ask participants to identify the correct presentation order of the audit report’s information among four choices. 68% of participants correctly identified the location of the opinion paragraph. Results of my primary analyses are qualitatively similar when I exclude participants who failed the manipulation check questions.

#### *Experiment Two*

While results of the opinion location check were similar to those in experiment one, with 68% correctly identify the opinion’s location in the audit report, only 60% correctly answered the true/false question regarding the presence of headings. However, results of my primary analyses persist even when I exclude participants who failed the manipulation check. Prior studies of text characteristics and processing fluency describe potential problems with assessments of successful manipulation (e.g., Miele and Molden 2010). Specifically, processing fluency affects judgment preattentively (Winkielman et al. 2012). Therefore, the fact that a larger proportion of my sample in experiment two failed one of my manipulation check questions than in experiment one might not necessarily indicate unsuccessful manipulation.

## Tests of H1

In H1, I predict that participants will perceive the financial statements to be more reliable when the audit report includes descriptive headings (H1a) and when the audit opinion is placed at the beginning of the report, rather than at the report's end (H1b). H1 also predicts that processing fluency will mediate the effects of audit report structure. Figure 4 illustrates the directional impact of my manipulations on judgments of financial statement reliability. Table 1 presents descriptive statistics (Panel A) and the ANOVA model (Panel B) of participants' financial statement reliability judgements. As predicted, participants perceive the financial statements to be more reliable when headings are present (mean = 8.87 vs. 8.47), and this effect is statistically significant ( $F_{1,238} = 4.14; p = 0.02$ ). However, I do not find support for predicted main effect of opinion location ( $F_{1,238} = 2.02; p = 0.08$ ). In fact, mean values reported in Panel A of Table 1 suggest that relocating the opinion paragraph to the beginning of the audit report might actually decrease, rather than increase, perceived levels of financial statement reliability (mean = 8.53 vs. 8.80).

Figure 4

Mean Plots: Financial Statement Reliability

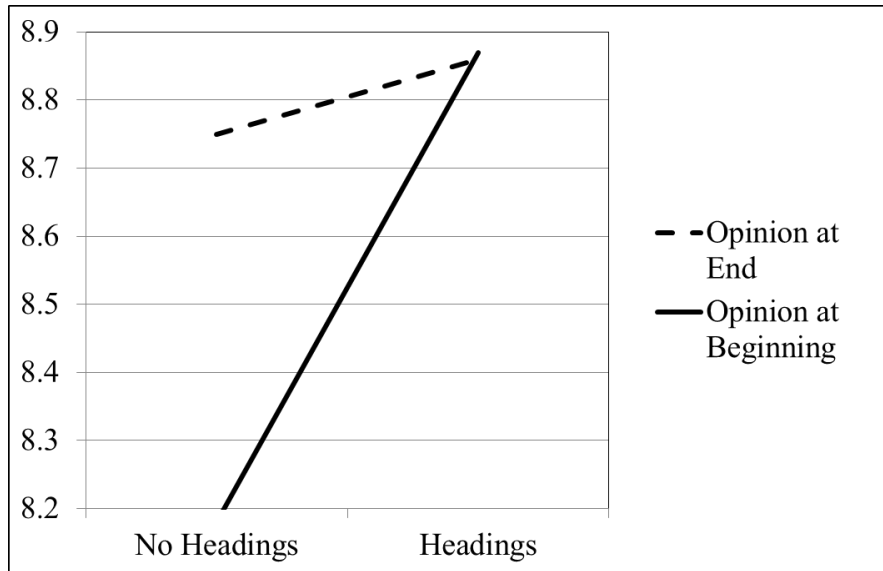


Table 1  
ANOVA: Financial Statement Reliability Judgments (H1)<sup>a</sup>

Panel A: Descriptive Statistics: Mean, (SD), [n]<sup>b</sup>

	Headings	No Headings	
Opinion at Beginning	8.87 (1.59) [60]	8.18 (1.98) [60]	8.53 (1.82) [120]
Opinion at End	8.86 (1.12) [59]	8.75 (1.31) [63]	8.80 (1.22) [122]
	8.87 (1.37) [119]	8.47 (1.69) [123]	

Panel B: Two-way ANOVA Tests of Between-Subjects Effects<sup>c</sup>

Source	Type III S.S.	<i>df</i>	M.S.	<i>F</i> -stat	<i>p</i> -value
Headings	9.72	1	9.72	4.14	0.02
Location	4.75	1	4.75	2.02	0.08
Headings x Location	4.83	1	4.83	2.06	0.08
Error	558.77	238	2.35		

NOTES:

a. Financial Statement Reliability: "How much confidence do you have in the reliability and accuracy of the values reported in the Company's financial statements?" (0=Not at all confident, and 10=Very confident).

b. Panel A presents means, standard deviations (SD), and number of participants per experimental condition [n]

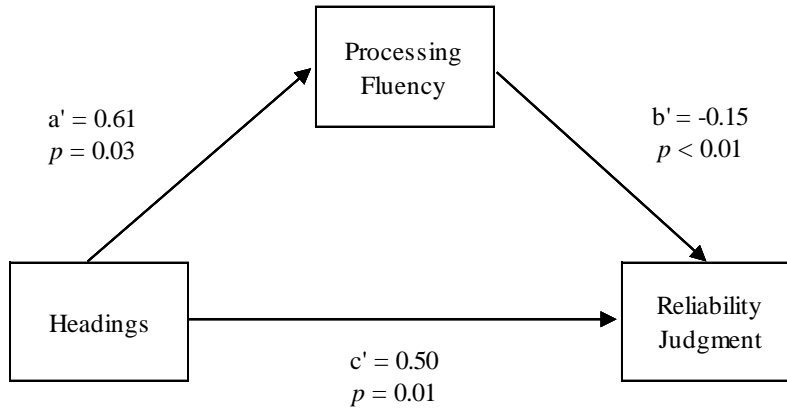
c. Panel B presents results of the two-way ANOVA model for the two experimentally manipulated variables. Headings is manipulated at two levels: headings are present (Headings = 1) or are absent (Headings = 0) in the audit report. Location is manipulated at two levels: the audit opinion is presented at the beginning (Location = 1) or at the end (Location = 0) of the audit report.

Table 2 presents results of two separately estimated simple mediation models using ordinary least squares path analysis to test for the respective indirect effects of headings (H1a) and opinion location (H1b) through processing fluency, and I illustrate the estimated models in Figure 5. Processing fluency is measured by asking participants' how difficult it was to read the audit report (0 = Not at all difficult and 10 = Very difficult). Therefore, lower values reflect higher levels of processing fluency. Panel B of Table 2 indicates that processing fluency reliably predicts judgments of financial statement reliability ( $p < 0.01$ ), and the negative coefficient (-0.15) confirms that the statistically significant relationship is positive, as predicted. Bias-corrected bootstrap confidence intervals based on 10,000 bootstrap samples (Hayes 2013) were entirely below zero for the indirect effect of headings (LLCI = -0.199, ULCI = -0.017), which indicates that the effect of headings on financial statement reliability judgments is significantly mediated by processing fluency. As with the predicted main effect of opinion location, I do not find statistical support for the mediation of the relationship between opinion location and financial statement reliability judgments. Thus, test results support H1a, but not H1b.

Figure 5

Indirect Effects of Headings and Opinion Location

Panel A: Indirect Effect of Headings



Panel B: Indirect Effect of Opinion Location

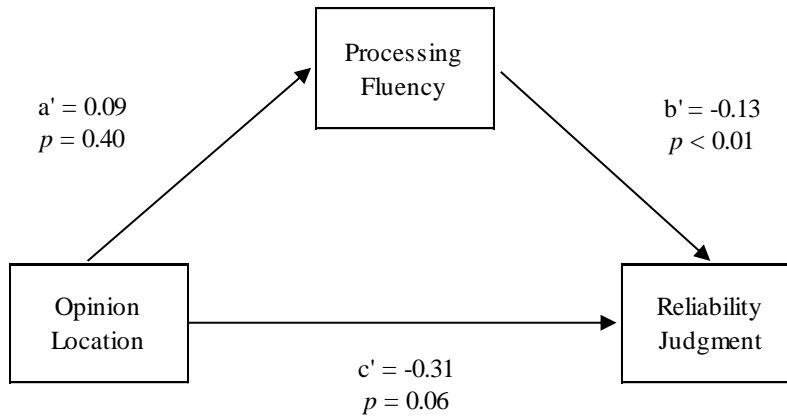


Table 2

Financial Statement Reliability Judgments  
and Processing Fluency (H1)<sup>a</sup>

Panel A: Regression Model of Processing Fluency <sup>b</sup>				
	Coefficient	SE	<i>t</i> -stat	<i>p</i> -value
Headings	0.61	0.33	1.83	0.03
Location	-0.09	0.12	0.27	0.40
Panel B: Regression Model of Financial Statement Reliability Judgments <sup>c</sup>				
	Coefficient	SE	<i>t</i> -stat	<i>p</i> -value
Fluency	-0.15	0.04	-3.73	<0.01
Headings	0.50	0.20	2.52	0.01
Location	-0.31	0.20	-1.57	0.06
Panel C: Indirect Effect(s) through Processing Fluency <sup>d</sup>				
	Effect	Boot SE	LLCI	ULCI
Headings	-0.09	0.05	-0.199	-0.017
Location	0.01	0.05	-0.093	0.061

## NOTES:

a. Table 2 presents results of two separately estimated mediation models based on OLS regression path analysis for the effects of headings and opinion location, respectively, in the audit report on judgments of financial statement reliability. All reported *p*-values are one-tailed unless otherwise noted.

b. Panel A presents the results of the OLS regression model of processing fluency. Processing fluency was measured by asking participants "How difficult was it to read the audit report?" (0 = Not at all difficult and 10 = Very difficult). Thus, lower values reflect higher levels of processing fluency.

c. Panel B presents the results of the OLS regression model of financial statement reliability judgments. Financial statement reliability was measured by asking participants "How much confidence do you have in the reliability and accuracy of the values reported in the Company's financial statements?" (0=Not at all confident, and 10=Very confident).

d. Panel C presents reports 95% bias-corrected bootstrap confidence intervals based on 10,000 bootstrap samples for the indirect effects of headings and opinion location, respectively, on judgments of financial statement reliability. Bootstrap samples for each indirect effect were seeded by a common number to ensure that each respective confidence interval was based on the same 10,000 bootstrap samples (Hayes 2013).

Given the results of H1b, I also test whether the indirect effect of headings through processing fluency on judgments of financial statement reliability is moderated by the relative location of the opinion paragraph. Untabulated results indicate that the relationship between



headings and judgments of financials statement reliability is significantly mediated when the audit opinion is presented at the end of the audit report (LLCI = -0.261, ULCI = -0.009), but not when the audit opinion is presented at the beginning (LLCI = -0.124, ULCI = 0.105). A formal test of whether the indirect effects of headings across the two levels of opinion location are equal does not allow me to conclude that the difference is statistically reliable (LLCI = -0.043, ULCI = 0.306). However, these results might suggest a preference, or possibly an expectation, for the traditional location of the opinion paragraph, and I discuss this possibility further in subsequent sections.

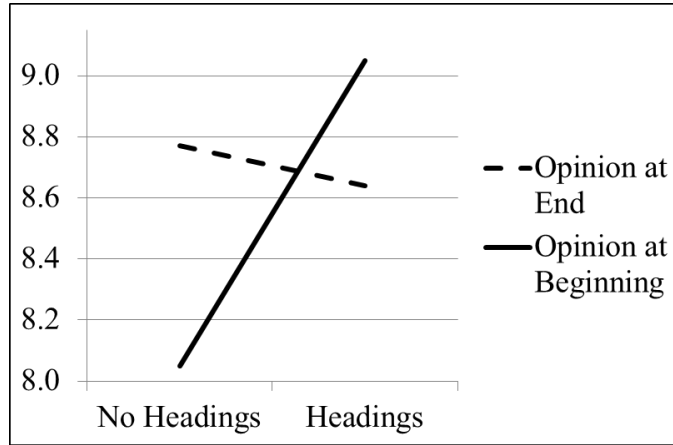
## **Tests of H2**

In H2, I predict that the effects of headings and the relative location of the audit opinion in the audit report on judgments of financial statement reliability vary across levels of investor sophistication. Specifically, I predict that the indirect effect through processing fluency will be stronger for less sophisticated investors than for more sophisticated investors. Panel B of Table 3 reveals a significant three-way interaction between headings, opinion location, and investor sophistication ( $F_{1,234} = 4.42; p = 0.02$ ), and a marginally significant interaction of headings and opinion location ( $F_{1,234} = 3.42; p = 0.06$ ). I probe the three-way interaction by estimating the simple two-way interactions for both more and less sophisticated investors, respectively (See Figure 6). As reported in Panel C, the simple main effect of the interaction between headings and opinion location for less sophisticated investors is also statistically significant ( $F_{1,234} = 3.96; p = 0.05$ ), but not for more sophisticated investors ( $F_{1,234} = 0.01; p = 0.93$ ).

Figure 6

Financial Statement Reliability Means across Levels of Investor Sophistication

Panel A: Less Sophisticated Investors



Panel B: More Sophisticated Investors

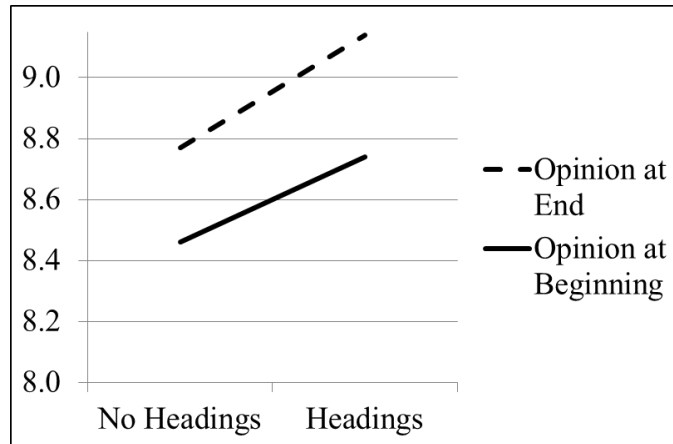


Table 3

Three-Way ANOVA:  
Audit Report Structure and Investor Sophistication (H2)<sup>a</sup>

Panel A: Descriptive Statistics: Mean, (SD), [n]<sup>b</sup>

	Less Sophisticated		More Sophisticated			
	Headings	No Headings		Headings	No Headings	
Opinion at Beginning	9.00 (1.35) [34]	8.00 (1.19) [33]	8.51 (1.75) [67]	8.69 (1.87) [26]	8.41 (1.99) [27]	8.55 (1.92) [53]
Opinion at End	8.59 (1.19) [27]	8.72 (1.17) [25]	8.65 (1.17) [52]	9.09 (1.03) [32]	8.72 (1.17) [25]	8.91 (1.25) [70]
	8.82 (1.28) [61]	8.31 (1.71) [58]		8.91 (1.47) [58]	8.62 (1.47) [58]	

Panel B: Three-way ANOVA Tests of Between-Subjects Effects<sup>c</sup>

Source	Type III S.S.	<i>df</i>	M.S.	<i>F</i> -stat	<i>p</i> -value
Headings	2.76	1	2.76	1.18	0.15
Location	5.67	1	5.67	2.42	0.07
Sophistication	0.74	1	0.74	0.31	0.30
Headings x Location	8.03	1	8.03	3.42	0.06
Headings x Sophistication	0.05	1	0.05	0.02	0.44
Location x Sophistication	0.33	1	0.33	0.14	0.36
Headings x Location x Sophistication	10.38	1	10.38	4.42	0.02
Error	549.12	234	2.35		

Table 3 cont.

Panel C: Simple Two-Way Interactions of Headings and Location<sup>d</sup>

Sophistication	Type III S.S.	<i>df</i>	M.S.	<i>F</i> -stat	<i>p</i> -value
Less	9.30	1, 234	9.30	3.96	0.05
More	0.02	1, 234	0.02	0.01	0.93

NOTES:

a. The measure of investor sophistication is based on standardized scores of participants' demographic data. I classify participants as either more or less sophisticated based on the median value of calculated sophistication scores. Financial statement reliability: "How much confidence do you have in the reliability and accuracy of the values reported in the Company's financial statements?" (0=Not at all confident, and 10=Very confident).

b. Panel A presents means, standard deviations (SD), and number of participants per experimental condition [n].

c. Panel B presents results of the three-way ANOVA for the three independent variables, headings, location, and sophistication. Headings is manipulated at two levels: headings are present (Headings = 1) or are absent (Headings = 0) in the audit report. Location is manipulated at two levels: the audit opinion is presented at the beginning (Location = 1) or at the end (Location = 0) of the audit report. Sophistication is manipulated at two levels: More Sophisticated (Sophistication = 1) and Less Sophisticated (Sophistication = 0). All reported *p*-values are two-tailed.

d. Panel C presents results of the simple two-way interactions of headings and opinion location at each level of investor sophistication. *F*-statistics were calculated based on the degrees of freedom and residual mean square value from the three-way ANOVA model reported in Panel B.

Figure 7 presents the statistical diagram of the moderated mediation analysis performed to test H2, and Table 4 reports results. Path  $c_2'$  indicates that when controlling for headings and investor sophistication, relocating the opinion paragraph to the beginning of the report significantly affects judgments of financial statement reliability ( $t = -2.20$ ;  $p = 0.02$ ), and the negative coefficient (-0.61) is consistent with the directional change in mean values reported in Panel A of Table 1 in the test of H1b. Moreover, the results reported in Panel C indicate that a direct effect of headings exists only when the opinion is located at the beginning of the audit report ( $t = 2.85$ ;  $p = 0.01$ ) and not at the report's end ( $t = 0.69$ ;  $p = 0.49$ ).

While the conditional direct effects are of some interest, they are not the primary focus of H2, which is whether headings and the location of the audit opinion in the audit report indirectly

influence judgments of financial statement reliability, and whether the indirect effect(s) vary across investor sophistication levels. Panel A of Table 4 reports the results of the OLS regression model of processing fluency. Note that, as predicted, the interaction of headings and sophistication (depicted as path  $a_4$  in Figure 7) is statistically significant ( $t = -2.51; p < 0.01$ ), which suggests that less sophisticated investors experience a different level of processing fluency when the audit report includes headings than is experienced by more sophisticated investors.

Panel D of Table 4 reports the 95% bias-corrected bootstrap confidence intervals based on 10,000 bootstrap samples for the indirect effect (s) of including headings in the audit report conditioned on investors' level of sophistication, and the relative location of the audit opinion in the audit report. The lower- and upper-limits of the confidence intervals for less sophisticated investors across both levels of opinion location are entirely below zero (opinion at beginning LLCI = -0.330, ULCI = -0.019; opinion at end LLCI = -0.449, ULCI = -0.043), indicating a statistically significant indirect effect of headings through processing fluency, regardless of opinion location. However, there is no evidence of mediation for more sophisticated investors at either level of opinion location. In two separately conducted tests (untabulated), I directly examine whether the indirect effects of headings, and opinion location, respectively, for more sophisticated investors differs from that experienced by less sophisticated investors. The results of these two sets of analyses indicate that a statistically significant difference exists between more and less sophisticated investors for the indirect effect of headings through processing fluency (95% bootstrap confidence intervals LLCI = 0.061, ULCI = 0.447), but not for the indirect of opinion location (LLCI = -0.144, ULCI = 0.215).

Figure 7

Statistical Diagram of H2 Results

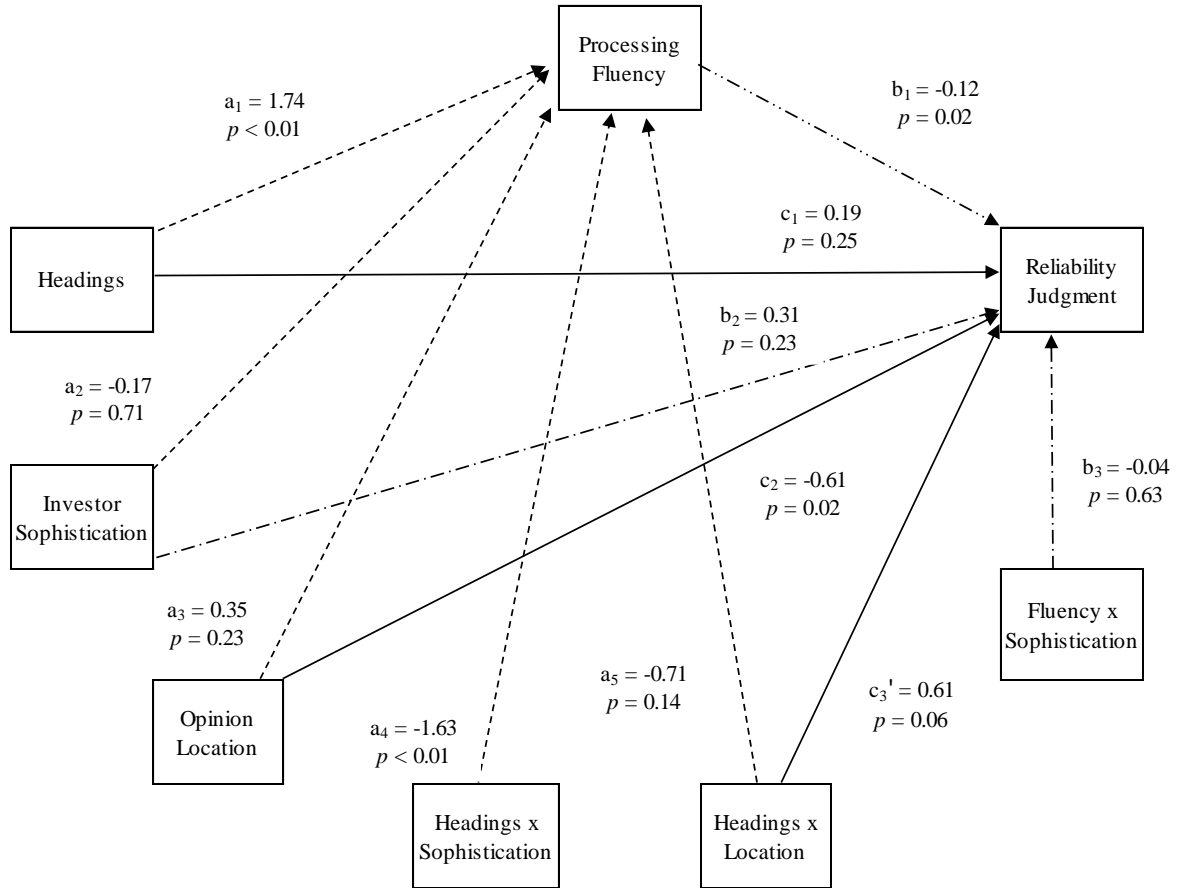


Table 4  
Moderating Role of Investor Sophistication (H2)<sup>a</sup>

Panel A: Regression Model of Processing Fluency <sup>b</sup>					
	*	Coefficient	SE	<i>t</i> -stat	<i>p</i> -value
Headings	a <sub>1</sub>	1.74	0.58	2.99	<0.01
Location	a <sub>3</sub>	0.35	0.46	0.75	0.23
Sophistication	a <sub>2</sub>	-0.17	0.46	-0.37	0.71
Headings x Location	a <sub>5</sub>	-0.71	0.65	-1.10	0.14
Headings x Sophistication	a <sub>4</sub>	-1.63	0.65	-2.51	<0.01

Panel B: Regression Model of Financial Statement Reliability Judgments <sup>c</sup>					
	*	Coefficient	SE	<i>t</i> -stat	<i>p</i> -value
Fluency	b <sub>1</sub>	-0.12	0.06	-1.99	0.02
Headings	c <sub>1</sub> '	0.19	0.28	0.69	0.25
Location	c <sub>2</sub> '	-0.61	0.28	-2.20	0.02
Sophistication	b <sub>2</sub>	0.31	0.41	0.75	0.23
Headings x Location	c <sub>3</sub> '	0.61	0.39	1.56	0.06
Fluency x Sophistication	b <sub>3</sub>	-0.04	0.08	-0.48	0.63

Panel C: Conditional Direct Effect(s) <sup>d</sup>					
	Location	Effect	SE	<i>t</i> -stat	<i>p</i> -value
	Beginning	0.81	0.28	2.85	0.01
	End	0.19	0.28	0.69	0.49

Panel D: Conditional Indirect Effect(s) <sup>e</sup>					
Sophistication	Location	Effect	SE	LLCI	ULCI
Less	Beginning	-0.12	0.09	-0.330	-0.019
Less	End	-0.20	0.12	-0.449	-0.043
More	Beginning	0.09	0.10	-0.032	0.310
More	End	-0.02	0.09	-0.174	0.124

NOTES:

a. Table 4 presents results of analyses of moderated mediation based on OLS regression path analysis for effects of headings conditioned on audit opinion location through processing fluency, conditioned on investor sophistication, on judgments of financial statement reliability. All *p*-values are one-tailed unless otherwise noted.

b. Panel A presents results of the OLS regression model of processing fluency. DV: "How difficult was it to read the audit report" (0 = Not at all difficult and 10 = Very difficult).

Table 4 cont.

c. Panel B presents results of the OLS regression model of financial statement reliability judgments. DV: "How much confidence do you have in the reliability and accuracy of the values reported in the Company's financial statements?" (0=Not at all confident, and 10=Very confident).

d. Panel C reports the direct effect(s) of including headings in the audit report on judgments of financial statement reliability, conditioned on the relative location of the audit opinion.

e. Panel D reports 95% bias-corrected bootstrap confidence intervals based on 10,000 bootstrap samples for indirect effect(s) of headings conditioned on location of the audit opinion and investor sophistication.

\* Correspond to conceptual model paths illustrated in Figure 7.

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Taken together, the results of the estimated three-way ANOVA model reported in Table 3, and the moderated mediation model reported in Table 4 support my predictions in H2.

### **Tests of H3**

In H3, I predict that for less sophisticated investors, the indirect effect of headings, conditioned on the relative location of the audit opinion, through processing fluency will be stronger than the indirect effect through understanding on judgments of financial statement reliability. Results of OLS based path analysis are presented in Table 5 and illustrated in Figure 8. The path linking understanding scores to financial statement reliability judgments ( $b_2$ ) is statistically insignificant ( $t = 1.39$ ;  $p = 0.17$ ). In contrast, the path linking processing fluency to financial statement reliability judgments ( $b_1$ ) is significant ( $t = -1.99$ ;  $p = 0.03$ ). Additionally, 95% bias-corrected bootstrap confidence intervals for the indirect effects of headings, conditioned on the relative location of the audit opinion, as reported in Panel E, show that statistically reliable mediation exists only through processing fluency when the audit opinion is located at the end of the audit report. Taken together, this evidence supports H3.



Figure 8

Statistical Diagram of H3 Results

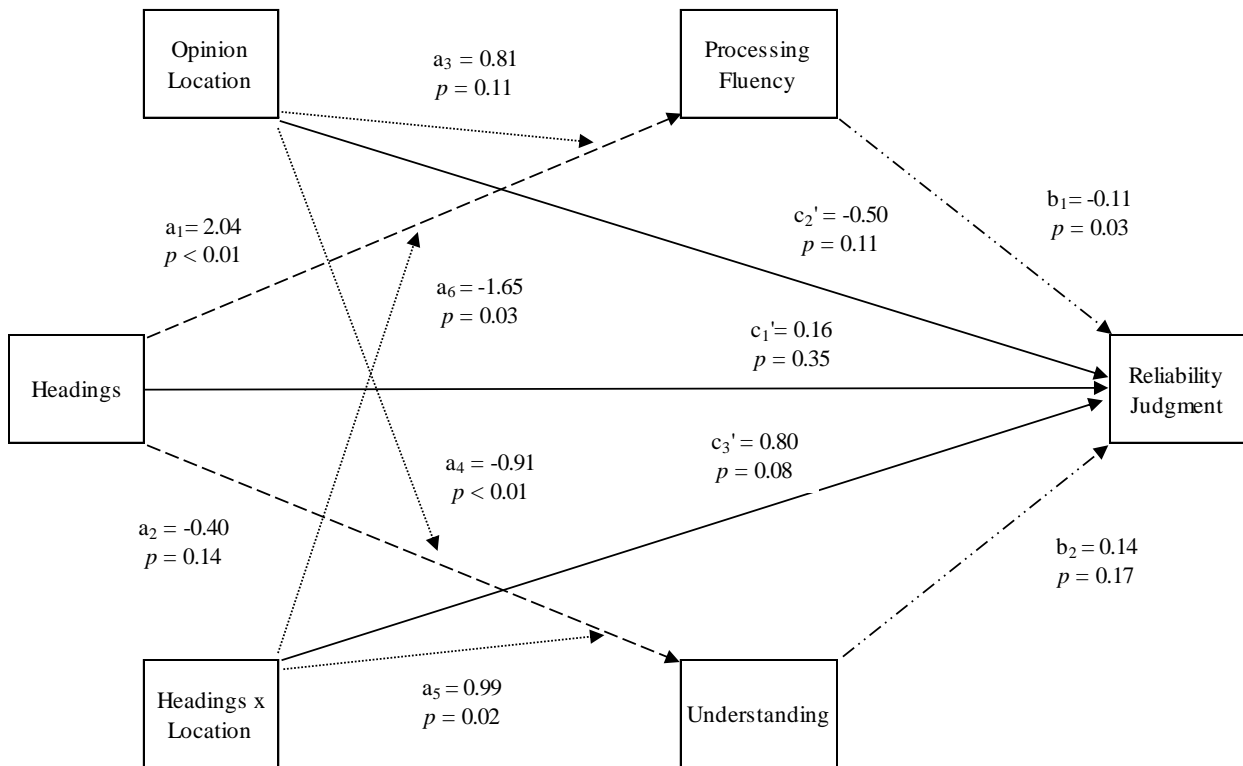


Table 5  
Processing Fluency vs. Understanding (H3)<sup>a</sup>

Panel A: Regression Model of Understanding Scores <sup>b</sup>					
	*	Coefficient	SE	<i>t</i> -stat	<i>p</i> -value
Heading	a <sub>2</sub>	-0.40	0.37	-1.08	0.14
Location	a <sub>4</sub>	-0.91	0.35	-2.59	<0.01
Heading x Location	a <sub>5</sub>	0.99	0.49	2.01	0.02

Panel B: Regression Model of Processing Fluency <sup>c</sup>					
	*	Coefficient	SE	<i>t</i> -stat	<i>p</i> -value
Heading	a <sub>1</sub>	2.04	0.67	3.04	<0.01
Location	a <sub>3</sub>	0.81	0.64	1.26	0.11
Heading x Location	a <sub>6</sub>	-1.65	0.89	-1.85	0.03

Panel C: Regression Model of Financial Statement Reliability Judgments <sup>d</sup>					
	*	Coefficient	SE	<i>t</i> -stat	<i>p</i> -value
Understanding	b <sub>2</sub>	0.14	0.10	1.39	0.17 <sup>h</sup>
Fluency	b <sub>1</sub>	-0.11	0.06	-1.99	0.03
Heading	c <sub>1</sub> '	0.16	0.42	0.38	0.36
Location	c <sub>2</sub> '	-0.50	0.40	-1.24	0.11
Heading x Location	c <sub>3</sub> '	0.80	0.56	1.44	0.08

Panel D: Conditional Direct Effect(s) <sup>e</sup>					
	Location	Effect	SE	<i>t</i> -stat	<i>p</i> -value
	Beginning	0.96	0.36	2.64	0.01
	End	0.16	0.42	0.38	0.36

Panel E: Conditional Indirect Effect(s) <sup>f</sup>					
Mediator	Location	Effect	SE	LLCI	ULCI
Fluency	Beginning	-0.04	0.08	-0.242	0.042
Fluency	End	-0.23	0.15	-0.529	-0.039
Understanding	Beginning	0.08	0.09	-0.004	0.318
Understanding	End	-0.06	0.07	-0.261	0.008

Table 5 cont.

Panel F: Indirect Effect of Highest Order Product<sup>g</sup>

Mediator	Effect	SE	LLCI	ULCI
Understanding	0.14	0.14	-0.006	0.476
Fluency	0.19	0.15	0.014	0.530

## NOTES:

a. Table 5 presents results of analyses of moderated mediation based on OLS regression path analysis for the effects of headings on less sophisticated investors' judgments of financial statement reliability through processing fluency and understanding scores conditioned on the relative location of the opinion paragraph. Processing fluency and understanding scores are modeled as parallel mediators. All reported *p*-values are two-tailed.

b. Panel A presents the results of the OLS regression model of participants' understanding scores. Understanding scores are calculated based on responses to four questions regarding the content of the audit report's opinion paragraph, the paragraph describing the basis of the auditor's opinion, the paragraph describing management's responsibility for the financial statements, and the order in which the basic elements of the audit report are presented.

c. Panel B presents the results of the OLS regression model of processing fluency. Processing fluency is measured by asking participants "How difficult was it to read the audit report" (0 = Not at all difficult and 10 = Very difficult). Thus, lower values reflect higher levels of processing fluency.

d. Panel C presents the results of the OLS regression model of financial statement reliability judgments. Financial Statement Reliability was measured by asking participants "How much confidence do you have in the reliability and accuracy of the values reported in the Company's financial statements?" (0=Not at all confident, and 10=Very confident).

e. Panel D reports the effect of including headings in the audit report, conditioned by the relative location of the audit opinion, on less sophisticated investors' judgments of financial statement reliability.

f. Panel E reports the 95% bias-corrected bootstrap confidence intervals based on 10,000 bootstrap samples for the indirect effect(s) of including headings in the audit report conditioned by the relative location of the audit opinion through less sophisticated investors' understanding scores and processing fluency.

g. Panel F reports the 95% bias-corrected bootstrap confidence intervals based on 10,000 bootstrap samples of whether the indirect effect(s) of including headings in the audit report through less sophisticated investors' understanding scores and processing fluency, respectively, significantly differs when the audit opinion is presented at the beginning of the audit report compared to when it is presented at the report's end.

h. Two-tailed *p*-value

\* Correspond to the paths diagrammed in Figure 8.

## Tests of H4

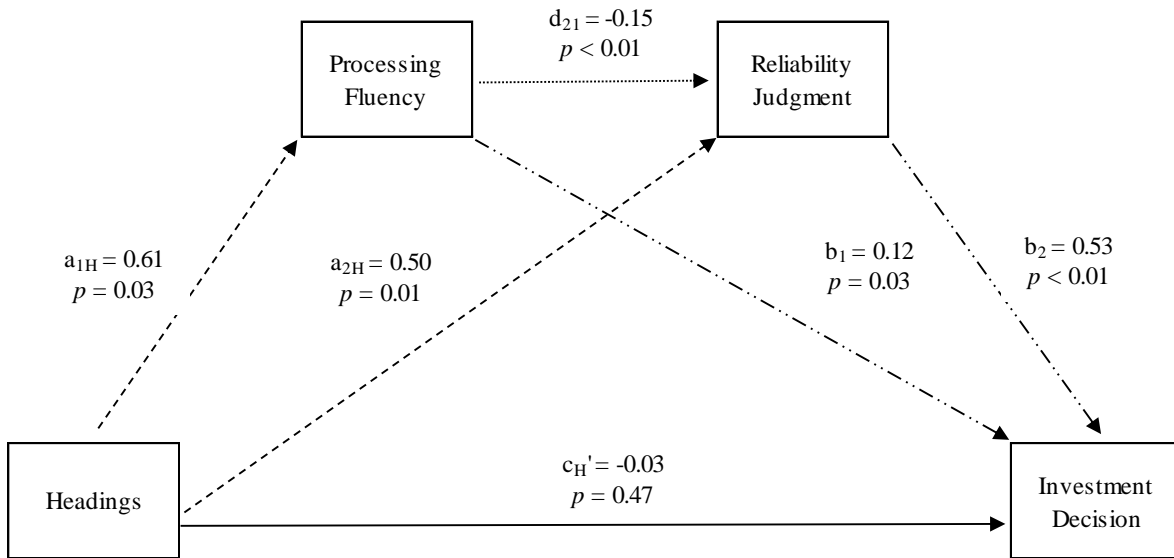
In H4a, I predict that the indirect effect of headings on investment decisions operates through a causal sequence between processing fluency and judgments of financial statement reliability. Panel A of Figure 9 presents a statistical diagram of the predicted serial mediation, and Panel D of Table 6 presents results of 95% bias-corrected bootstrap confidence intervals based on 10,000 bootstrap samples for the indirect effects of headings on investment decisions. Results indicate that when headings are present, the indirect effect through processing fluency to reliability judgments on investment decisions (Ind2) is statistically significant (LLCI = -0.129, ULCI = -0.013), which supports H1a.

H4b predicts that the indirect effect of opinion location on investment decisions operates through a causal sequence between processing fluency and judgments of financial statement reliability. However, I do not find sufficient statistical evidence to support H4b (LLCI = -0.039, ULCI = 0.044).

Figure 9

Serial Mediation of Investment Decisions (H4)

Panel A: Indirect Effect(s) of Headings on Investment Decisions<sup>a</sup>



Panel B: Indirect Effect(s) of Opinion Location on Investment Decisions<sup>b</sup>

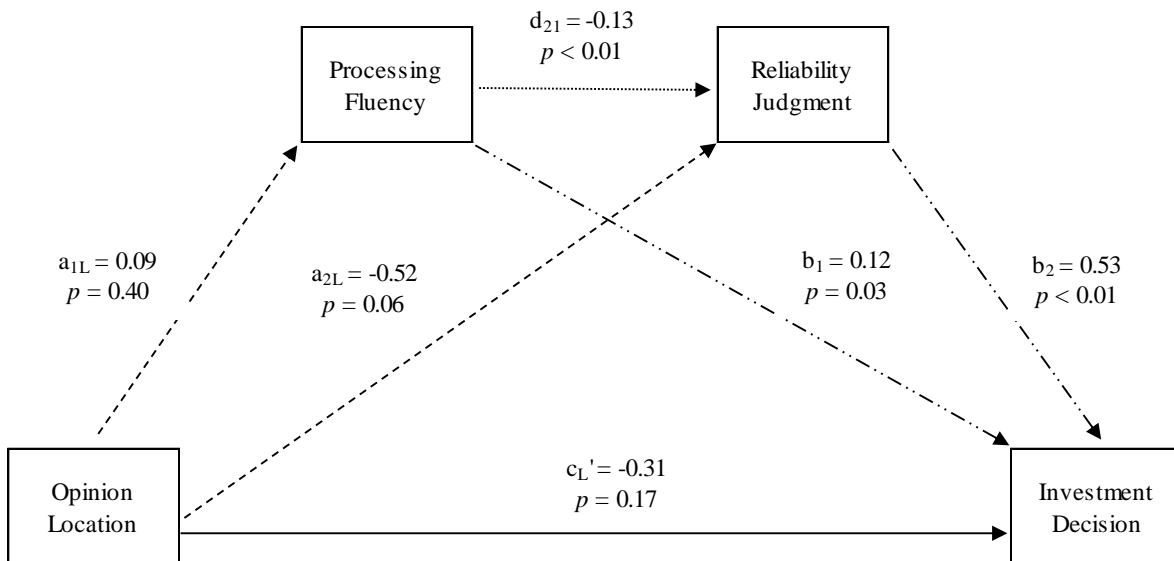


Table 6  
Serial Mediation of Investment Decisions (H4)<sup>a</sup>

Panel A: Regression Model of Processing Fluency<sup>b</sup>

	*	Coefficient	SE	<i>t</i> -stat	<i>p</i> -value
Headings	a <sub>1H</sub>	0.61	0.33	1.83	0.03
Location	a <sub>1L</sub>	0.09	0.12	-0.27	0.40

Panel B: Regression Model of Financial Statement Reliability Judgments<sup>c</sup>

	*	Coefficient	SE	<i>t</i> -stat	<i>p</i> -value
Fluency	d <sub>21</sub>	-0.15	0.04	-3.73	<0.01
Headings	a <sub>2H</sub>	0.50	0.20	2.52	0.01
Location	a <sub>2L</sub>	-0.31	0.20	-1.57	0.14

Panel C: Regression Model of Investment Decisions<sup>d</sup>

	*	Coefficient	SE	<i>t</i> -stat	<i>p</i> -value
Fluency	b <sub>1</sub>	0.12	0.06	1.91	0.03
Reliability	b <sub>2</sub>	0.53	0.10	5.07	<0.01
Headings	c <sub>H</sub> '	-0.03	0.32	-0.08	0.47
Location	c <sub>L</sub> '	-0.31	0.32	-0.97	0.17

Panel D: Serial Indirect Effect(s) of Headings<sup>e</sup>

Path	Effect	SE	LLCI	ULCI
Total	0.29	0.16	0.093	0.622
Ind1	0.07	0.06	0.002	0.227
Ind2	-0.05	0.03	-0.129	-0.013
Ind3	0.26	0.14	0.090	0.589

Panel E: Serial Indirect Effect(s) of Opinion Location<sup>f</sup>

Path	Effect	SE	LLCI	ULCI
Total	-0.16	0.14	-0.455	-0.002
Ind4	0.01	0.05	-0.045	0.118
Ind5	-0.01	0.03	-0.053	0.029
Ind6	-0.16	0.13	-0.461	-0.006

Table 6 cont.

NOTES:

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a. Table 6 presents results of tests for serial mediation based on OLS regression path analysis for the effects of audit report structure on investment decisions. All reported  $p$ -values are one-tailed unless otherwise noted.

b. Panel A presents the results of the OLS regression model of processing fluency. Processing fluency is measured by asking participants "How difficult was it to read the audit report" (0 = Not at all difficult and 10 = Very difficult). Thus, lower values reflect higher levels of processing fluency.

c. Panel B presents the results of the OLS regression model of financial statement reliability judgments. Financial statement reliability was measured by asking participants "How much confidence do you have in the reliability and accuracy of the values reported in the Company's financial statements?" (0=Not at all confident, and 10=Very confident).

d. Panel C presents results of the OLS regression model of investment decisions. Investment decisions are measured by asking participants to respond to the following: "Assume that you have \$50,000 in a checking account to invest in Connected, Inc., or to save. Having reviewed Connected, Inc.'s financial statements, and the audit firm's report on those financial statements, indicate how much of the \$50,000 will be either invested in Connected, Inc., or saved. The amounts designated for each option must sum to \$50,000." I transform the observed values using a logarithmic transformation to stabilize the variance.

e. Panel D presents each specific serial indirect effect based on the technique described in Hayes (2013). Total represents the total indirect effect of headings on investment decisions through all specific indirect paths. Ind1 represents the indirect path from headings through processing fluency to the investment decision. Ind2 represents the indirect path from headings to processing fluency to judgments of financial statement reliability to the investment decision. Ind3 represents the indirect path from headings to judgments of financial statement reliability to the investment.

f. Panel E presents each specific serial indirect effect based on the technique described in Hayes (2013). Total represents the total indirect effect of opinion location on investment decisions through all specific indirect paths. Ind4 represents the indirect path from opinion location through processing fluency to the investment decision. Ind5 represents the indirect path from opinion location to processing fluency to judgments of financial statement reliability to the investment decision. Ind6 represents the indirect path from opinion location to judgments of financial statement reliability to the investment.

\* Correspond to the paths diagrammed in Figure 9.

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### *Additional Analyses – Experiment One*

In an effort to understand how audit report structure and processing fluency influence investors' decision making, I first examine investors' affective reactions to the experimental materials. Prior studies demonstrate that the experience of processing fluency induces spontaneous positive affective reactions towards the object perceived as fluent and its source (e.g., Winkielman and Cacioppo 2001). The affective response is then interpreted as a cue that the information is reliable. I measure participants' affective reactions by asking "While reading the financial statements, audit report, and making your judgments, what were your feelings towards the company, Connected, Inc.?" (0 = Very negative, 10 = Very positive). I then regress processing fluency, headings, and opinion location on my measure of affective response. Results (untabulated) indicate higher levels of processing fluency are associated with stronger positive affective feelings (coefficient = -0.09,  $t = -1.95$ ,  $p = 0.03$ ), and a significant interaction between headings and opinion location ( $t = 2.09$ ,  $p = 0.02$ ).

To test the temporal ordering of the respective effects of processing fluency and positive affect, I re-estimate the serial multiple mediator models described in my tests of H4, and include my measure of positive affect following processing fluency and preceding judgments of financial statement reliability and investment decisions. Results indicate a statistically significant indirect effect of headings on investment decisions that first heightens feelings of processing fluency, which then induces positive affect, and, subsequently, increases the amount participants are willing to invest (LLCI = -0.129, ULCI = -0.005). Consistent with H4b, I do not find evidence an indirect effect of opinion location on investment decisions.

Given the consistency of these results with those of H1 and H4, I next examine whether participants' affective reactions differ across levels of investor sophistication. Consistent with



H2, the interactive effect of headings and opinion location in the audit report on positive affective feelings towards the company appears to be driven by less sophisticated investors. Specifically, when the audit report includes headings, relocating the opinion paragraph to the beginning of the report significantly increases positive affect among less sophisticated investors (mean = 8.16 vs. 7.25;  $p = 0.01$ ), but not more sophisticated investors (mean=8.15 vs. 8.59;  $p = 0.30$ ). This provides additional support of the notion that less sophisticated investors avoid processing audit report content, and, instead, rely on subjective feelings of processing ease and their spontaneous affective states to inform their judgments and decisions.

### **Tests of H5**

In H5, I predict that when the audit opinion is adverse, the presence of headings in the audit report indirectly and negatively affects investors' judgments of financial statement reliability, and that the indirect effect will operate through feelings of processing fluency. I also predict in H5 that the relative location of the opinion paragraph will moderate the indirect effect of headings such that investors will experience higher levels of processing fluency when the opinion is presented at the beginning of the report rather than the report's end. Thus, investors' judgments of financial statement reliability will be lowest when the audit report includes descriptive headings and the opinion is located at the beginning of the report.

Table 7 presents results of the OLS path analysis, and Figure 10 illustrates the related statistical diagram. The effect of headings is on processing fluency is significantly moderated by the relative location of the audit opinion (path  $a_3$ ,  $t = -3.14$ ;  $p < 0.01$ ). Given that lower values reflect higher levels of processing fluency, the negative coefficient (-1.97) indicates that when headings are present and the opinion is presented at the beginning of the audit report, higher levels of processing fluency are experienced. The path ( $b_1$ ) between processing fluency and

reliability judgments (Panel B of Table 7) is also statistically significant ( $t = 3.53$ ;  $p < 0.01$ ). As predicted, the relationship between processing fluency and reliability judgments is negative ( $b_1 = 0.28$ ), indicating that higher levels of processing fluency lead to lower judgments of financial statement reliability when the audit opinion is adverse. 95% bias-corrected bootstrap confidence intervals for the indirect effect(s) of headings through processing fluency conditioned on the relative location of the audit opinion are presented in Panel D. Confidence interval endpoints when the opinion is presented at the beginning of the audit report are entirely below zero (LLCI = -0.757, ULCI = -0.152) indicating statistically significant mediation through processing fluency, and the direction of the effect on financial statement reliability judgments is consistent with my prediction.

I also conduct a direct test of whether the indirect effect of headings through processing fluency when the opinion is presented at the beginning of the report reliably differs from when the opinion is presented at the report's end. The resulting confidence intervals estimated in this test are reported in Panel E, and confirm that the difference between the respective indirect effects are significantly different (LLCI = -1.053, ULCI = -0.215). Thus, results of these tests provide evidence in support of H5.

Figure 10

Statistical Diagram of H5 Results

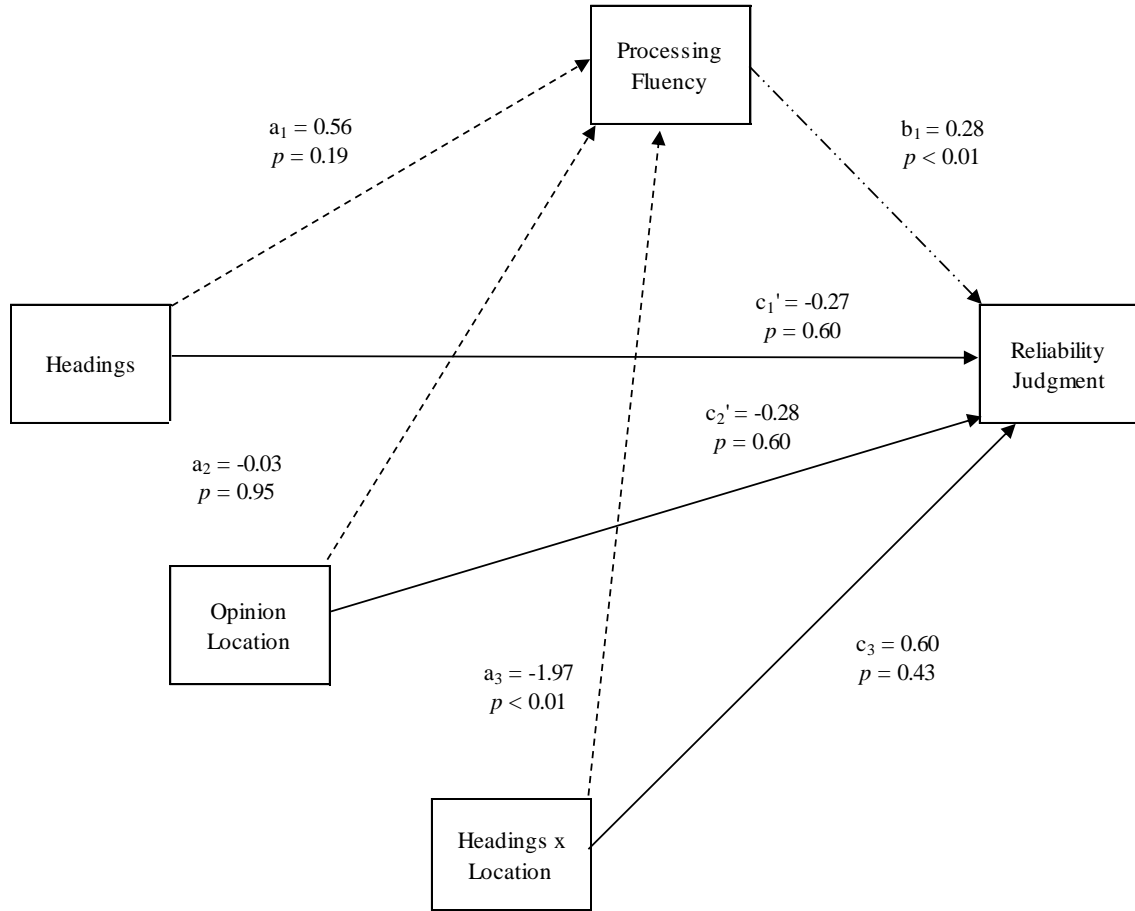


Table 7  
Audit Report Structure, Investor Judgments, and Adverse Opinions (H5)

Panel A: Regression Model of Processing Fluency <sup>b</sup>					
	*	Coefficient	SE	<i>t</i> -stat	<i>p</i> -value
Heading	a <sub>1</sub>	0.56	0.43	1.31	0.19
Location	a <sub>2</sub>	-0.03	0.44	-0.06	0.95
Heading x Location	a <sub>3</sub>	-1.97	0.63	-3.14	<0.01

Panel B: Regression Model of Financial Statement Reliability Judgments <sup>c</sup>					
	*	Coefficient	SE	<i>t</i> -stat	<i>p</i> -value
Fluency	b <sub>1</sub>	0.28	0.08	3.51	<0.01
Heading	c <sub>1</sub> '	-0.27	0.52	-0.53	0.60
Location	c <sub>2</sub> '	-0.28	0.53	-0.53	0.60
Heading x Location	c <sub>3</sub> '	0.60	0.77	0.79	0.43

Panel C: Conditional Direct Effect(s) <sup>d</sup>					
	Location	Effect	SE	<i>t</i> -stat	<i>p</i> -value
	Beginning	-0.33	0.56	0.59	0.56
	End	-0.27	0.14	-0.53	0.60

Panel D: Conditional Indirect Effect(s) <sup>e</sup>					
	Location	Effect	SE	LLCI	ULCI
	Beginning	-0.39	0.18	-0.757	-0.152
	End	0.15	0.14	-0.034	0.424

Panel E: Indirect Effect of Highest Order Product <sup>f</sup>					
	Mediator	Effect	SE	LLCI	ULCI
	Fluency	-0.54	0.25	-1.053	-0.215

## Table 7 cont.

### NOTES:

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a. Table 7 presents results of analyses of moderated mediation based on OLS regression path analysis for the effects of headings on less sophisticated investors' judgments of financial statement reliability through processing fluency conditioned on the relative location of the opinion paragraph. All reported *p*-values are one-tailed unless otherwise noted.

b. Panel A presents the results of the OLS regression model of processing fluency. Processing fluency is measured by asking participants "How difficult was it to read the audit report" (0 = Not at all difficult and 10 = Very difficult). Thus, lower values reflect higher levels of processing fluency.

c. Panel B presents the results of the OLS regression model of financial statement reliability judgments. Financial statement reliability was measured by asking participants "How much confidence do you have in the reliability and accuracy of the values reported in the Company's financial statements?" (0=Not at all confident, and 10=Very confident).

d. Panel C presents the direct effect of headings on judgments of financial statement reliability conditioned on the relative location of the opinion paragraph.

e. Panel D reports the 95% bias-corrected bootstrap confidence intervals based on 10,000 bootstrap samples for the indirect effect(s) of including headings in the audit report through processing fluency on judgments of financial statement reliability conditioned on the relative location of the opinion paragraph.

f. Panel E reports the 95% bias-corrected bootstrap confidence intervals based on 10,000 bootstrap samples for the indirect effect of the highest order product. Given that the moderator variable, opinion location, is dichotomous, this is a test of equality of the conditional indirect effects of headings across levels of opinion location (Hayes 2013).

\* Correspond to the paths diagrammed in Figure 10.

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### ***Additional Analyses – Experiment Two***

In experiment one, I find that when the audit opinion is unqualified, the effect of headings on judgments of financial statement reliability interacts with the relative location of the opinion paragraph, but only for less sophisticated investors. In contrast, results of H5 indicate that when the audit opinion is adverse, the interactive effect is pervasive across levels of investor sophistication. Results from experiment one also show that the indirect effect of headings follows a causal path through processing fluency to judgments of financial statement reliability, and finally to investment decisions. Given the results of H5, I also examine whether the serial indirect effect of headings is moderated by opinion location when the audit opinion is adverse.

I follow the technique described by Hayes (2015) to test for moderated serial mediation, and present results in Table 8. Panel A presents results of an OLS regression model of

processing fluency, and indicates a significant interaction effect ( $t = -3.14; p < 0.01$ ). Given that lower values indicate higher levels of processing fluency, the coefficient reported in Panel B for the impact of processing fluency on judgments of financial statement reliability (0.28) indicate that, as predicted, higher levels of processing fluency are associated with lower reliability judgments, and this relationship is statistically significant ( $t = 3.53; p < 0.01$ ). Also consistent with my prediction, lower judgments of financial statement reliability are systematically associated with smaller investment decisions (Panel C, coefficient = 0.95;  $t = 13.29; p < 0.01$ ).

Results of my formal test of moderated serial mediation using bias-corrected bootstrap samples based on 10,000 bootstrap samples are entirely below zero (LLCI = -0.964, ULCI = -0.177). This test provides direct evidence that the relative location of the opinion paragraph moderates the serial indirect effect of headings through processing fluency and financial statement reliability judgments on participants' likelihood to invest in the hypothetical company.

Table 8  
Moderated Serial Mediation - Adverse Opinions <sup>a</sup>

Panel A: Regression Model of Processing Fluency <sup>b</sup>				
	Coefficient	SE	<i>t</i> -stat	<i>p</i> -value
Headings	0.56	0.43	1.30	0.19
Location	-0.03	0.44	-0.06	0.95
Headings x Location	-1.97	0.63	-3.14	<0.01

Panel B: Regression Model of Financial Statement Reliability Judgments <sup>c</sup>				
	Coefficient	SE	<i>t</i> -stat	<i>p</i> -value
Fluency	0.28	0.08	3.53	<0.01
Headings	-0.27	0.52	-0.53	0.60
Location	-0.28	0.53	-0.53	0.60
Headings x Location	0.60	0.77	0.79	0.43

Panel C: Regression Model of Investment Decisions <sup>d</sup>				
	Coefficient	SE	<i>t</i> -stat	<i>p</i> -value
Fluency	0.19	0.09	2.11	0.04
Reliability	0.95	0.07	13.28	<0.01
Headings	-0.41	0.57	-0.73	0.46
Location	0.83	0.59	1.43	0.16
Headings x Location	-0.15	0.84	-0.17	0.86

Panel D: Moderated Serial Indirect Effect(s) <sup>e</sup>			
Mediator		LLCI	ULCI
Fluency		-0.724	-0.070
Reliability		-0.676	1.810
Fluency and Reliability in serial		-0.964	-0.177

NOTES

a. Table 8 presents results of analyses of moderated serial mediation based on OLS regression path analysis (Hayes 2015) for the effects of headings on investment decisions through processing fluency and judgments of financial statement reliability conditioned on the relative location of the opinion paragraph. All reported *p*-values are two-tailed unless otherwise noted.

Table 8 cont.

b. Panel A presents the results of the OLS regression model of processing fluency. Processing fluency is measured by asking participants "How difficult was it to read the audit report" (0 = Not at all difficult and 10 = Very difficult). Thus, lower values reflect higher levels of processing fluency.

c. Panel B presents the results of the OLS regression model of financial statement reliability judgments. Financial statement reliability was measured by asking participants "How much confidence do you have in the reliability and accuracy of the values reported in the Company's financial statements?" (0=Not at all confident, and 10=Very confident).

d. Panel C presents results of the OLS regression model of investment decisions. Investment decisions are measured by asking participants to respond to the following: "Assume that you have \$50,000 in a checking account to invest in Connected, Inc., or to save. Having reviewed Connected, Inc.'s financial statements, and the audit firm's report on those financial statements, indicate how much of the \$50,000 will be either invested in Connected, Inc., or saved. The amounts designated for each option must sum to \$50,000." I transform the observed values using a logarithmic transformation to stabilize the variance.

e. Panel D reports results a serial multiple mediator model with moderation of one or more indirect paths following the technique described by Hayes (2015).

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## V. CONCLUSION

In response to calls from audit report stakeholders to improve the report's utility for evaluating financial statements, standard setters have considered a number of changes to the report's content and structure including the use of descriptive paragraph headings and prominent placement of the opinion paragraph. While prior studies have shown that even small changes to the presentation format (i.e., structure) of financial statements and disclosures affect investor decision-making, little is known about how the audit report's structure influences investors' evaluations of potential investments. I conduct two experiments to examine whether proposed changes to the audit report's structure affect nonprofessional investors' attention to its content. Specifically, I examine whether the relative placement of the opinion paragraph and the use of descriptive headings affect perceptions of the report's readability, and, thereby, influence judgments of financial statement reliability and investment decisions. I also examine whether the potential effects of these two structural aspects of the audit report differ across levels of investor sophistication.

Results indicate that the audit report's structure significantly influences nonprofessional investors' judgments and decisions, and that the influence is stronger for less sophisticated investors than for those who are more sophisticated. Specifically, when the opinion is unqualified, neither headings nor the location of the audit opinion meaningfully affects how more sophisticated investors use the audit report. In contrast, less sophisticated investors judge the financial statements to be more reliable when the audit report includes descriptive paragraph

headings, and this effect is mediated by their perceptions of the report's readability (processing fluency). The positive impact on judgments of financial statement reliability then flows through to positively influence investment decisions.

The impact of opinion location appears to depend on the type of opinion issued rather than the level of investor sophistication. When the opinion is unqualified, investors exhibit a preference, as indicated by their perceptions of the report's readability, for the traditional location of the opinion paragraph at the report's end. However, when the opinion is adverse, this preference reverses. Specifically, the influence of audit report structure is strongest when the opinion is presented at the report's beginning and headings are present, and this effect follows a causal path through perceptions of the report's readability to negatively impact judgments of financial statement reliability. The strength of the negative reaction indicates that the heightened prominence given to the opinion improves the efficiency with which investors impound the negative news.

However, because of the rarity of departures from the standard unqualified opinion, it is unclear whether nonprofessional investors sufficiently understand the implications of an adverse opinion. If this is the case, the negative impact of headings and prominent placement of the audit opinion on participants' evaluations of the financial statements could be driven by the metacognitive difficulty associated with interpretation of the opinion (Labroo and Kim 2009). Prior studies suggest that it is possible that the increased cognitive ease that participants experience (i.e., processing fluency) when they access unexpected negative information, such as an adverse audit opinion, is interpreted negatively rather than positively, as would be the case when an unqualified opinion is easily accessed (Pochesptsova, Labroo, and Dhar 2010). The

negative reaction to the unexpected cognitive ease then prompts increased effort to understand the adverse opinion.

A related, but alternative explanation is that the adverse opinion is processed with a different cognitive system than the unqualified opinions. Alter, Oppenheimer, Epley, and Eyre (2007) conduct a series of experiments to examine how two separate systems of cognition are used to process information, and find that the use of one system rather than the other depends on whether the information being processed is consistent with prior expectations. Dual-processing theories of cognition have been extensively studied in cognitive psychology.<sup>22</sup> In this stream of literature, “System 1” is characterized by intuitive and associative reasoning, and, therefore, is engaged during heuristically driven decision-making. “System 2” is the more deliberate and analytical system of reasoning, and is characterized, among other things, by slower and more thorough processing than “system 1” (Alter et al. 2007, 569-570).

Dual-processing theory implies that heightened processing fluency engages System 1, which is consistent with findings that indicate that the mediating effect of processing fluency is stronger for less sophisticated investors’ judgments than the mediating effect of their actual understanding of the audit report’s content. Assuming that an adverse opinion is unexpected by participants, the unexpected information engages System 2, and, therefore, increases the likelihood that readers impound the information communicated by the opinion paragraph into their subsequent judgments. While these potential explanations are consistent with processing fluency theories, they are beyond the scope of my study, and should be addressed in future research.

This study makes several important contributions. First, my results inform auditing standard setters as they evaluate recent changes or consider additional changes to the structure of

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<sup>22</sup> See Kahneman 2011 for a comprehensive review.

the audit report. Relative to the proposed or adopted changes to the report's content, such as inclusion of critical audit matter paragraphs, mandating paragraph headings and prominent placement of the audit opinion within the audit report would be less likely to affect the risk assumed by auditors and issuers. I provide experimental evidence that two structural aspects of the audit report significantly affect the usefulness of the report to nonprofessional investors. While nonprofessional investors are an important subset of audit report users, future research should examine the implications for other groups of audit report stakeholders.

My results also contribute to the text signaling literature by answering calls to explore how individual signaling devices potentially interact (e.g., Lemarie et al. 2008). Additionally, I extend the text signaling literature by considering how signaling devices trigger subconscious reliance on subjective feelings of processing fluency, which contributes to our understanding of how text signals affect cognition. I also make an important contribution to both the processing fluency literature in psychology, and studies of the effects of formatting features on investors in accounting settings. Prior studies in both literatures manipulate a number of formatting features to elicit feelings of processing fluency. In my study, I isolate the effects of descriptive headings and opinion paragraph location, two individual features of the audit report's format (i.e., structure). Results suggest that the effects of processing fluency might be more pervasive than previously thought, and future research should explore whether other individual aspects of readability command similar influence over judgments and decisions. Finally, the results of this study answer calls for research to experimentally examine investor reactions across audit opinion types (e.g., Church et al. 2008). While my study focuses on unqualified and adverse opinions, future research should examine investors' reactions in abstract experimental settings to isolate the potential effects of myriad opinion types.

Results should be interpreted within the context of my study's limitations. For example, in my experimental setting, I provide participants with background information, a set of financial statements, and the audit report. Thus, it could be argued that I increase the likelihood that participants read the audit report. This limits my ability to conclude whether the observed results would generalize to a setting where investors are less likely to read the report because of the presence of more diverse sources of information. Additionally, I examine how the audit report's structure influences evaluation of a single potential investment. In the real world, such decisions are often based on simultaneous consideration of several potential investments. Also, my experimental setting is constrained to a single reporting period. Future research should evaluate whether the effects of audit report structure persist across multiple reporting periods. Finally, future studies should also consider other potential mediators when evaluating the effects of audit report structure on investors' judgments and decisions. While I provide evidence that such effects operate through processing fluency, it is also possible that other underlying factors that I do not observe either enhance or offset the influence of processing fluency on evaluations of potential investments.

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## APPENDIX

## APPENDIX A

### TASK OVERVIEW

Thank you for participating in this task. I am conducting this research to understand how investors view companies. To complete this task, you will read a brief case study about a company and answer questions about that case. Most individuals complete the task in less than 30 minutes.

Your participation is completely voluntary. Your responses are anonymous and will be held on a password-protected computer. The results of this study may be published or presented at professional meetings; however, the findings will be summarized and reported in group form.

Participants will be screened before beginning the task based on responses to three basic questions. If your answers indicate that you do not meet our required characteristics you will be redirected to Amazon Mechanical Turk's website and will not be paid. You must answer all questions completely in order to be paid for your participation. You will be paid \$1.50 for completing the task.

Thank you again for your participation.

#### **IRB Approval**

This study has been reviewed by The University of Mississippi's and the University of Virginia's Institutional Review Boards (IRB). The IRBs determined that this study fulfills the human research subject protections obligations required by state and federal law and University policies. If you have any questions, concerns, or reports regarding your rights as a participant of research, please contact The University of Mississippi's IRB at (662) 915-7482 or the University of Virginia's IRB at (434) 924-5999.

How many accounting courses have you completed?

- 0
- 1
- 2
- 3
- 4-10
- 10+

How many finance courses have you completed?

- 0
- 1
- 2
- 3
- 4-10
- 10+

Have you ever read a company's financial statements?

- Yes
- No

## **Overview**

In the following screens you will be presented with background information for a company in which you are evaluating as a potential investment. In addition to background information, you will be provided with the company's financial statements, and the independent auditor's report on those financial statements. Please pay close attention to the information you are provided. After reviewing the information, you will be asked to evaluate the company on a number of dimensions.

Please note that you will not be able to return to previously viewed screens, so it is important to read all information carefully.

## **Background Information**

**Connected Inc.** designs, manufactures, and sells a variety of internet modems and wifi hardware. The company operates in a very competitive industry, and markets its product to consumer retailers in a variety of segments including online, big box, and computer specialty hardware stores. **Connected Inc.** is very committed to meeting analysts' earnings targets and has not missed a target in the past four years. **Connected Inc.'s** upper management, including the CEO and CFO, are paid bonuses in cash and stock options for meeting accounting based performance goals, including net income targets, which is consistent with the practices of other companies operating within the industry.

**Connected Inc.** has engaged **Smith & Co., CPA**, a large audit firm, to perform the annual financial statement audit. **Smith and Co., CPA** summarize and describe the results of their audit in a signed audit report, which will be presented along with **Connected, Inc.'s** financial statements in subsequent screens. You will then be asked a number of questions about the financial statements and audit report, and your feelings about **Connected, Inc.** as a potential investment.



**Connected, Inc.**  
**Comparative Balance Sheet**  
**December 31, 2014**

<b>Balance Sheet Items</b>	<b><u>2014</u></b>	<b><u>2013</u></b>
<b>Assets</b>		
Cash and Cash Equivalents	6,197,884	6,160,850
Marketable Securities	1,668,494	1,533,839
Net Accounts Receivable	17,509,257	17,475,039
Inventory (FIFO)	15,488,632	15,440,548
Prepaid Expenses	<u>1,652,155</u>	<u>1,632,845</u>
<b>Total Current Assets</b>	<b><u>42,516,422</u></b>	<b><u>42,243,121</u></b>
Property, Plant and Equipment	22,895,866	22,856,884
Less: Accumulated Depreciation	<u>(3,858,901)</u>	<u>(3,698,995)</u>
Net Property, Plant, and Equipment	19,036,965	19,166,889
Intangibles - Net	1,153,798	1,244,336
All other Non-Current Assets	<u>3,518,708</u>	<u>3,497,648</u>
<b>Total Assets</b>	<b><u>66,225,893</u></b>	<b><u>66,151,994</u></b>
<b>Liabilities and Owners' Equity</b>		
Accounts Payable	10,009,308	9,953,419
Accrued Tax Liability	560,526	580,458
Notes Payable - Short-Term	6,176,412	6,239,994
Current Portion of Long-Term Debt	2,187,716	2,241,432
Other Current Liabilities	<u>5,961,973</u>	<u>5,928,350</u>
<b>Total Current Liabilities</b>	<b><u>24,895,935</u></b>	<b><u>24,943,653</u></b>
Long-Term Debt	8,242,398	8,197,201
Other Non-Current Liabilities	3,217,171	3,185,046
Common Stock	3,514,500	3,514,500
Retained Earnings	<u>26,355,889</u>	<u>26,311,594</u>
<b>Total Shareholders' Equity</b>	<b><u>29,870,389</u></b>	<b><u>29,826,094</u></b>
<b>Total Liabilities and Owners' Equity</b>	<b><u>66,225,893</u></b>	<b><u>66,151,994</u></b>
Debt-to-Asset Ratio	55%	55%
Current Ratio	1.7	1.7

**Connected, Inc.**  
**Income Statement**  
**For the Year Ended December 31, 2014**

	<u>2014</u>	<u>2013</u>	<u>2012</u>
Sales	126,945,800	126,978,621	126,792,870
(Sales Returns & Allowances)	<u>(2,553,770)</u>	<u>(2,580,000)</u>	<u>(2,501,965)</u>
<b>Net Sales</b>	<b>124,392,030</b>	<b>124,398,621</b>	<b>124,290,905</b>
(Cost of Goods Sold)	<u>(89,021,248)</u>	<u>(89,001,234)</u>	<u>(88,934,776)</u>
<b>Gross Profit</b>	<b>35,370,782</b>	<b>35,397,387</b>	<b>35,356,129</b>
(Selling & Administrative Expenses)	<u>(25,796,549)</u>	<u>(25,829,169)</u>	<u>(25,813,577)</u>
<b>Operating Income</b>	<b>9,574,233</b>	<b>9,568,218</b>	<b>9,542,552</b>
All Other Revenue (Expenses) - Net	<u>(433,252)</u>	<u>(433,530)</u>	<u>(447,008)</u>
<b>Earnings Before Interest &amp; Taxes</b>	<b>9,130,981</b>	<b>9,134,688</b>	<b>9,095,544</b>
Interest Expense	<u>(676,680)</u>	<u>(693,274)</u>	<u>(676,180)</u>
<b>Earnings Before Taxes</b>	<b>8,454,301</b>	<b>8,441,414</b>	<b>8,419,364</b>
Income Taxes	<u>(2,587,015)</u>	<u>(2,586,373)</u>	<u>(2,583,310)</u>
<b>Net Income</b>	<b><u>5,867,286</u></b>	<b><u>5,855,041</u></b>	<b><u>5,836,054</u></b>
<b>EPS</b>	\$1.67	\$1.67	\$1.66

**Connected, Inc.**  
**Statement of Cash Flows**  
**For the Year Ended December 31, 2014**

	<u>2014</u>	<u>2013</u>	<u>2012</u>
<b>Operating Activities</b>			
Net Income	5,867,286	5,855,041	5,836,054
Adjustment for Depreciation	1,553,851	1,525,792	1,502,107
Adjustment for Amortization	90,538	90,537	90,537
Changes in Receivables	(34,218)	(40,803)	98,560
Changes in Inventories	(48,084)	(3,951)	5,228
Changes in Prepaid Expenses	(19,310)	(47,297)	30,080
Changes in Other Non-Current Assets	(21,060)	(59,079)	(22,917)
Changes in Accounts Payable	55,889	(13,849)	21,656
Changes in Taxes & Other Current Liabilities	13,691	37,678	(7,579)
Changes in Other Non-Current Liabilities	<u>32,125</u>	<u>(31,564)</u>	<u>59,674</u>
<b>Cash Flow from Operating Activities</b>	<b><u>7,490,708</u></b>	<b><u>7,312,505</u></b>	<b><u>7,613,400</u></b>
<b>Investing Activities</b>			
Changes in Marketable Securities	(134,655)	2,717	(36,464)
Net Purchases (Disposals) of Property, Plant, and Equipment	<u>(1,423,927)</u>	<u>(1,451,970)</u>	<u>(1,432,698)</u>
<b>Cash Flow from Investing Activities</b>	<b><u>(1,588,582)</u></b>	<b><u>(1,449,253)</u></b>	<b><u>(1,469,162)</u></b>
<b>Financing Activities</b>			
Net Increase (Decrease) in Long-Term Notes Payable	(8,519)	(13,202)	(5,919)
Net Increase (Decrease) in Short-Term Notes Payable	(63,582)	26,715	(32,467)
Cash Dividends Paid	<u>(5,822,991)</u>	<u>(5,842,807)</u>	<u>(5,772,420)</u>
<b>Cash Flow from Financing Activities</b>	<b><u>(5,895,092)</u></b>	<b><u>(5,829,294)</u></b>	<b><u>(5,810,806)</u></b>
Net Cash Flows	37,034	33,958	333,432
Beginning Cash Balance	<u>6,160,850</u>	<u>6,126,895</u>	<u>5,793,463</u>
<b>Ending Cash Balance</b>	<b><u>6,197,884</u></b>	<b><u>6,160,853</u></b>	<b><u>6,126,895</u></b>

## Experimental Audit Report Manipulations

[Unqualified (Adverse) x Headings x OpinionEnd condition]

### REPORT OF INDEPENDENT PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders  
Connected, Inc.:

We have audited the accompanying balance sheets of Connected, Inc. (the "Company") as of December 31, 2014 and 2013, and the related statements of income and cash flows for each of the three years in the period ended December 31, 2014.

#### Responsibilities of Management for the Financial Statements

Management is solely responsible for the preparation and fair presentation of these financial statements in accordance with US GAAP, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to error or fraud.

#### Auditor's Responsibilities for the Audit of the Financial Statements

Our responsibility is to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to error or fraud, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from error or fraud and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

#### Basis for Opinion

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board ("PCAOB") (United States). Our responsibilities under those standards are further described in a previous section of our report. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud.

Our audit included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures include examining, on a test basis, appropriate evidence regarding the amounts and disclosures in the financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audit provides a reasonable basis for our opinion.

#### (Adverse)Opinion

In our opinion, the accompanying financial statements (do not) present fairly, in all material respects, the financial position of Connected, Inc.. as of December 31, 2014 and 2013, and the results of operations and its cash flows for each of the three years then ended December 31, 2014, in conformity with United States Generally Accepted Accounting Principles ("US GAAP").

/s/ Smith and Co., CPA  
New York, New York  
February 21, 2015

[Unqualified (Adverse) x Headings x OpinionBeginning condition]

## **REPORT OF INDEPENDENT PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Shareholders  
Connected, Inc.:

### **(Adverse) Opinion**

In our opinion, the accompanying financial statements (do not) present fairly, in all material respects, the financial position of Connected, Inc. as of December 31, 2014 and 2013, and the results of operations and its cash flows for each of the three years then ended December 31, 2014, in conformity with U. S. Generally Accepted Accounting Principles.

We have audited the accompanying balance sheets of Connected, Inc. (the "Company") as of December 31, 2014 and 2013, and the related statements of income and cash flows for each of the three years in the period ended December 31, 2014.

### **Responsibilities of Management for the Financial Statements**

Management is solely responsible for the preparation and fair presentation of these financial statements in accordance with US GAAP, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to error or fraud.

### **Auditor's Responsibilities for the Audit of the Financial Statements**

Our responsibility is to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to error or fraud, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from error or fraud and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

### **Basis for Opinion**

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board ("PCAOB") (United States). Our responsibilities under those standards are further described in a previous section of our report. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud.

Our audit included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures include examining, on a test basis, appropriate evidence regarding the amounts and disclosures in the financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audit provides a reasonable basis for our opinion.

/s/ Smith and Co., CPA  
New York, New York  
February 21, 2015

[Unqualified (Adverse) x No Headings x OpinionEnd condition]

## **REPORT OF INDEPENDENT PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Shareholders  
Connected, Inc.:

We have audited the accompanying balance sheets of Connected, Inc. (the "Company") as of December 31, 2014 and 2013, and the related statements of income and cash flows for each of the three years in the period ended December 31, 2014.

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In our opinion, the accompanying financial statements (do not) present fairly, in all material respects, the financial position of Connected, Inc.. as of December 31, 2014 and 2013, and the results of operations and its cash flows for each of the three years then ended December 31, 2014, in conformity with United States Generally Accepted Accounting Principles ("US GAAP").

/s/ Smith and Co., CPA  
New York, New York  
February 21, 2015

[Unqualified (Adverse) x No Headings x OpinionBeginning condition]

## **REPORT OF INDEPENDENT PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Shareholders  
Connected, Inc.:

In our opinion, the accompanying financial statements (do not) present fairly, in all material respects, the financial position of Connected, Inc. as of December 31, 2014 and 2013, and the results of operations and its cash flows for each of the three years then ended December 31, 2014, in conformity with United States Generally Accepted Accounting Principles ("US GAAP").

We have audited the accompanying balance sheets of Connected, Inc. (the "Company") as of December 31, 2014 and 2013, and the related statements of income and cash flows for each of the three years in the period ended December 31, 2014.

Management is solely responsible for the preparation and fair presentation of these financial statements in accordance with US GAAP, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to error or fraud.

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We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board ("PCAOB") (United States). Our responsibilities under those standards are further described in a previous section of our report. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud.

Our audit included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures include examining, on a test basis, appropriate evidence regarding the amounts and disclosures in the financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audit provides a reasonable basis for our opinion.

/s/ Smith and Co., CPA  
New York, New York  
February 21, 2015

How much confidence do you have in the reliability and accuracy of the values reported in the Company's financial statements in general?

0 = Not at all Confident	1	2	3	4	5	6	7	8	9	10 = Very Confident
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----- Page Break on Qualtrics Screen -----

Assume that you have \$50,000 in a checking account to invest in Connected, Inc., or to save. Having reviewed Connected, Inc.'s financial statements, and the audit firm's report on those statements, indicate below how much of the \$50,000 will be either invested in Connected, Inc. or saved. The amounts designated for each option must sum to \$50,000.

Amount invested in Connected, Inc.	<input type="text" value="\$0"/>
Amount saved	<input type="text" value="\$0"/>
<hr/>	
Total	<input type="text" value="\$0"/>

----- Page Break on Qualtrics Screen -----

How useful was the audit report in deciding whether or not to invest in this company?

0 = Not at all Useful	1	2	3	4	5	6	7	8	9	10 = Very Useful
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----- Page Break on Qualtrics Screen -----



How difficult was it to read the auditor's report?

0 = Not at all Difficult	1	2	3	4	5	6	7	8	9	10 = Very Difficult
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----- Page Break on Qualtrics Screen -----

While reading the financial statements, audit report, and making your judgments, what were your feelings towards the company, **Connected, Inc.**?

0 = Very Negative	1	2	3	4	5	6	7	8	9	10 = Very Positive
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While reading the financial statements, audit report, and making your judgments, what were your feelings towards *the audit firm*, **Smith & Co., CPA**?

0 = Very Negative	1	2	3	4	5	6	7	8	9	10 = Very Positive
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Which of the following best describes Connected, Inc.'s financial statements?

- The financial statements present fairly, in all material respects, the financial position of the Company, the results of operations and its cash flows.
- The financial statements do *not* present fairly, in all material respects, the financial position of the Company, the results of operations and its cash flows.
- Neither

----- Page Break on Qualtrics Screen -----

Which of the following best describes **management's responsibility** for the preparation and fair presentation of the financial statements?

- Management is *solely* responsible for the preparation and fair presentation of the financial statements.
- Management *shares* responsibility with the auditors for the preparation and fair presentation of the financial statements.
- Neither

----- Page Break on Qualtrics Screen -----

Which of the following best describes the **basis of the auditor's opinion**?

- The audit standards require that the auditors plan and perform the audit to obtain *reasonable assurance* about whether the financial statements are free of material misstatement, whether due to error or fraud.
- The audit standards require that the auditors plan and perform the audit to obtain *absolute assurance* about whether the financial statements are free of material misstatement, whether due to error or fraud.
- Neither

----- Page Break on Qualtrics Screen -----

Which of the following choices best describes the presentation order of the information in the audit report?

- Opinion, Management's Responsibility, Auditor's Responsibility, Basis of Opinion
- Management's Responsibility, Auditor's Responsibility, Basis of Opinion, Opinion
- Opinion, Auditor's Responsibility, Management's Responsibility, Basis of Opinion
- Auditor's Responsibility, Management's Responsibility, Basis of Opinion, Opinion

----- Page Break on Qualtrics Screen -----

The audit report used descriptive headings to identify separate topics throughout the report.

True

False

----- Page Break on Qualtrics Screen -----

How difficult was it for you to determine who was responsible for the financial statements?

0 = Not at all Difficult	1	2	3	4	5	6	7	8	9	10 = Very Difficult
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----- Page Break on Qualtrics Screen -----

To what degree is the *company's management* responsible for the information presented in the financial statements?

0 = Not at all Responsible	1	2	3	4	5	6	7	8	9	10 = Completely Responsible
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To what degree is the *audit firm* responsible for the information presented in the financial statements?

0 = Not at all Responsible	1	2	3	4	5	6	7	8	9	10 = Completely Responsible
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----- Page Break on Qualtrics Screen -----

How much assurance that the financial statements are free of material misstatement is the audit firm responsible for providing?

0 = No Assurance	1	2	3	4	5	6	7	8	9	10 = Absolute Assurance
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How important was the *audit firm's opinion* in making your judgments about the company's financial statements?

0 = Not at all Important	1	2	3	4	5	6	7	8	9	10 = Very Important
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Below are four basic elements of the auditor's report. Please rank them in order of their respective importance (1 = Most important, 2 = Second-most important, 3 = Third-most important, 4 = Least important) to you as you formed your judgments about the company and made your investment decision.

- \_\_\_ Auditor's Opinion
- \_\_\_ Basis of Auditor's Opinion
- \_\_\_ Management's Responsibility for the Financial Statements
- \_\_\_ Auditor's Responsibility

(DEMOGRAPHICS)

What is your gender?

- Male
- Female

----- Page Break on Qualtrics Screen -----

How old are you?

- Under 18
- 18-25
- 26-34
- 35-54
- 55-64
- 65 or older

----- Page Break on Qualtrics Screen -----

How old were you when you first learned to speak English?

- Less than 5 years old
- 5 – 10 years old
- 11 – 15 years
- 16-20 years old
- 21 years old or older

----- Page Break on Qualtrics Screen -----

What were you doing last week?

- Working a full-time job for pay or profit, that is, 35 hours or more
- Working for pay or profit part-time, that is, 1 – 34 hours
- Working two or more part-time jobs for pay, totaling 35 or more hours
- Unemployed, laid off, or looking for work
- With a job but not at work because of temporary illness, vacation, or work stoppage
- With a job but on family leave (maternity or paternity leave)
- In school
- Keeping house
- Doing volunteer work
- Other

----- Page Break on Qualtrics Screen -----



For what kind of business or industry do you or did you work? Choose one from the list below that best matches the job you consider to be your primary employment.

- Construction and Extraction
- Farming, Fishing, and Forestry
- Installation, Maintenance, and Repair
- Office and Administrative Support
- Management, Business, and Financial
- Production
- Professional and related
- Sales and related
- Service
- Transportation and Material Moving
- Other

----- Page Break on Qualtrics Screen -----

How many total years of work experience do you have?

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----- Page Break on Qualtrics Screen -----

What is the highest level of education you have completed?

- Less than High School (0 – 8 years)
- Some High School (9 – 12 years, but did not graduate)
- GED or High School Equivalency
- High School Graduate
- Attended a Vocational or Trade School after High School
- Some College (no degree)
- 2-year College Degree (Associate’s degree)
- 4-year College Degree (BS, BA, or similar)
- Some postgraduate (no degree)
- Postgraduate (MS, MA, PhD, MD, etc.)

----- Page Break on Qualtrics Screen -----

What was your major in college?

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----- Page Break on Qualtrics Screen -----

What was your undergraduate major?

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----- Page Break on Qualtrics Screen -----

What is or was your graduate major?

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----- Page Break on Qualtrics Screen -----

Approximately how many auditing courses have you completed?

None

1

2

3

4 – 10

10+

----- Page Break on Qualtrics Screen -----

Approximately how many statistics courses have you completed?

- None
- 1
- 2
- 3
- 4 – 10
- 10+

----- Page Break on Qualtrics Screen -----

Approximately how many specialized mathematics courses have you completed?

- None
- 1
- 2
- 3
- 4 – 10
- 10+

----- Page Break on Qualtrics Screen -----

Have you ever invested in an individual company's stock?

- Yes, directly
- Yes, through a pension or formal retirement account
- No

----- Page Break on Qualtrics Screen -----

Have you ever invested in a mutual fund?

- Yes, directly
- Yes, through a pension or formal retirement account
- No

----- Page Break on Qualtrics Screen -----

Approximately what is the current value of your investment portfolio in individual company stocks?

---

----- Page Break on Qualtrics Screen -----

Approximately what is the current value of your investment portfolio in mutual funds in which you invested directly?

---

----- Page Break on Qualtrics Screen -----

Approximately what is the current value of your investment portfolio in mutual funds held through retirement accounts?

---

----- Page Break on Qualtrics Screen -----

When evaluating a company's stock as a potential investment, how often do you examine a company's financial statements (for example, through its annual report or SEC filings) as part of your evaluation?

- Never
- Rarely
- Sometimes
- Most of the time
- Always

----- Page Break on Qualtrics Screen -----

When evaluating a company's stock as a potential investment, how often do you examine the audit report on the company's financial statements as part of your evaluation?

- Never
- Rarely
- Sometimes
- Most of the time
- Always

----- Page Break on Qualtrics Screen -----

Do you rent or own your home?

- Rent
- Own
- Neither – I am staying with family or friends without either renting or owning
- Neither – I do not currently have a home

----- Page Break on Qualtrics Screen -----

Have you ever tried to figure out how much you or your household would need to save for retirement?

- Yes
- No

----- Page Break on Qualtrics Screen -----

Have you developed a plan for retirement saving?

Yes

No

----- Page Break on Qualtrics Screen -----

How often have you been able to stick to this plan?

Never

Rarely

Mostly

Always

----- Page Break on Qualtrics Screen -----

How do you see yourself: Are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?

0 = Not at all willing to take risks	1	2	3	4	5	6	7	8	9	10 = Very willing to take risks
---	---	---	---	---	---	---	---	---	---	------------------------------------

----- Page Break on Qualtrics Screen -----



Which of the following statements below comes closest to the amount of financial risk that you are willing to take when making investments or saving?

- Take substantial financial risk expecting to earn substantial returns
- Take above-average financial risks expecting to earn above-average returns
- Take average financial risks expecting to earn average returns
- Not willing to take any financial risk

----- Page Break on Qualtrics Screen -----

(INSTRUCTIONAL CHECK)

What do you think this study was about? Research in decision making shows that people, when making decisions and answering questions, prefer not to pay attention and minimize their effort as much as possible. Some studies show that over 50% of people don't carefully read questions. If you are reading this question and have read all the other questions, please select the box labeled 'other'. Thank you for participating and taking the time to read through the questions carefully!

- Good decision making
- Financial decision making
- Understanding financial statements
- Understanding audit reports
- Other

----- Page Break on Qualtrics Screen -----

## VITA

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### BRIAN M. GOODSON

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Patterson School of Accountancy  
University of Mississippi  
200 Conner Hall  
University, MS 38677

Email: [bmgoodso@go.olemiss.edu](mailto:bmgoodso@go.olemiss.edu)  
Phone: 662-915-3982  
Fax: 662-915-7483  
Mobile: 334-492-2879

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### EDUCATION & PROFESSIONAL CERTIFICATION

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University of Mississippi – University, MS  
Ph.D., Accountancy, *Summer 2015*

Troy University – Troy, AL  
M.B.A., Accountancy, *Summer 2006*  
B.B.A., Accountancy, *Spring 2005* (with honors)

Professional Certification  
Licensed Certified Public Accountant, State of Alabama, *2008 - present*

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### WORKING PAPERS & WORKS IN PROCESS

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DISSERTATION: “*How Does the Audit Report’s Structure Affect Nonprofessional Investors’ Attention to Its Content?*”

Committee Chair: Dr. Kendall Bowlin  
Committee Members: Dr. Morris Stocks, Dr. Karl Wang, Dr. Rachna Prakash, and Dr. John Bentley  
(data analysis and write up stage)

“*The Impact of Proposed Changes to the Content of the Audit Report on Jurors’ Assessments of Auditor Negligence*” with Ann Backof of the University of Virginia and Kendall Bowlin of the University of Mississippi

(currently revising for second round review at *The Accounting Review*)

“*Trait-Influenced Behaviors and Risk-Based Decision Making: An Experimental Examination of Professional Skepticism*” with Dereck Barr of the University of Wisconsin

(collecting additional data and revising manuscript)

*“The Interactive Effect of Processing Fluency and Depletion on Auditors’ Evaluations of Audit Evidence”*  
with Dereck Barr of the University of Wisconsin  
(theoretical development stage)

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## SCHOLARLY PRESENTATIONS

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*“How Does the Audit Report’s Structure Affect Nonprofessional Investors’ Attention to Its Content?”*

Auburn University; Auburn, AL; *March 2015*

University of Cincinnati; Cincinnati, OH; *February 2015*

University of Kentucky; Lexington, KY; *February 2015*

University of Denver; Denver, CO; *January 2015*

AAA Accounting Ph.D. Rookie Recruiting and Research Camp; Miami, FL; *December 2014*

University of Mississippi; Oxford, MS; *October 2014*

*“The Impact of Proposed Changes to the Content of the Audit Report on Jurors’ Assessments of Auditor Negligence”*

AAA ABO Midyear Meeting; Philadelphia, PA; *October 2014*

University of Illinois Symposium on Audit Research; Urbana-Champaign, IL; *September 2014*

Mid-South Doctoral Consortium; Starkville, MS; *February 2014*

University of Mississippi; Oxford, MS; *January 2014*

*“The Effects of Disaggregating Operating and Financing Activities on Profitability and Price-to-Book Ratios: Evidence from Operating Leases”*

University of Mississippi; Oxford, MS; *June 2012*

*“Trait-Influenced Behaviors and Risk-Based Decision Making: An Experimental Examination of Professional Skepticism”*

University of Mississippi; Oxford, MS; *May 2011*

Presentations as Discussant

*“Risk Management Attention and Firm Risk-Taking Strategies”*

AAA Annual Meeting; Atlanta, GA; *August 2014*

*“Trust, Corporate Governance and Investment Decision Making”*

AAA Annual Meeting; Anaheim, CA; *August 2013*

*“Auditor Industry Specialization in Homogenous Industries”*

AAA Annual Meeting; Anaheim, CA; *August 2013*

Panel Moderator

*“Issues in Research on Juror Judgments”* with Ann Backof of the University of Virginia, Kathryn Kadous of Emory University, and Jordan Lowe of Arizona State University

AAA Annual Meeting; Atlanta, GA; *August 2014*

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## CONFERENCE PARTICIPATION

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AAA Accounting Ph.D. Rookie Recruiting and Research Camp; Miami, FL; *December 2014*  
AAA ABO Midyear Meeting; Philadelphia, PA; *October 2014*  
AAA ABO Doctoral Consortium; Philadelphia, PA; *October 2014*  
University of Illinois Symposium on Audit Research; Urbana-Champaign, IL; *September 2014*  
University of Illinois Symposium on Audit Research Doctoral Consortium; Urbana-Champaign, IL; *September 2014*  
AAA Annual Meeting; Atlanta, GA; *August 2014*  
Mid-South Doctoral Consortium; Starkville, MS; *February 2014*  
AAA Annual Meeting; Anaheim, CA; *August 2013*  
AAA Audit Midyear Meeting; New Orleans, LA; *January 2013*  
AAA Audit Doctoral Consortium; New Orleans, LA; *January 2013*  
AAA Financial Accounting and Reporting Midyear Meeting; Chicago, IL; *January 2012*  
AAA Financial Accounting and Reporting Doctoral Consortium; Chicago, IL; *January 2012*  
Mid-South Doctoral Consortium; Oxford, MS; *November 2010*  
MSCPA Accounting Education Symposium; Ridgeland, MS; *October 2010*

Ad Hoc Reviewer, AAA Annual Meeting, ABO Section; *2013, 2014, 2015*  
Ad Hoc Reviewer, AAA Annual Meeting, Auditing Section; *2013, 2014*  
Ad Hoc Reviewer, AAA Auditing Midyear Meeting; *2013, 2014*

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## PROFESSIONAL EXPERIENCE

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University of Mississippi Patterson School of Accountancy  
Instructor, *Spring 2011 – present*  
Research Assistant, *Fall 2011*

Troy University School of Accountancy  
Lecturer of Accounting, *August 2008 – August 2010*

Ernst & Young, LLP  
Assurance and Advisory Services, *August 2006 – August 2008*

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## COURSES INSTRUCTED

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Becker CPA Exam Review Course  
Instruct lectures for each of four exam sections  
University of Mississippi Patterson School of Accountancy; *Spring 2011, 2012, 2013, 2014, 2015*  
Troy University School of Accountancy; *Spring 2008, 2009*

Principles of Accounting I and II  
University of Mississippi Patterson School of Accountancy; *Fall 2011 – present*  
Troy University School of Accountancy; *2008 – 2010*

Fundamentals of Accounting and Finance  
Troy University School of Accountancy; *2008 – 2010*

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## PROFESSIONAL AFFILIATIONS

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American Accounting Association, 2010 – present  
AAA Audit Section, 2010 – present  
AAA ABO Section, 2012 – present  
AAA Public Interest Section, 2014  
American Institute of Certified Public Accountants, 2009 – present  
Alabama Society of Certified Public Accountants, Birmingham Chapter, 2009 – present

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## ACADEMIC HONORS, SCHOLARSHIPS & ACTIVITIES

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### University of Mississippi

2013 Outstanding Doctoral Student Teaching Award  
2013 University of Mississippi GSC Research Grant (1 of 18 awards among all academic disciplines)

### Troy University

2009 School of Accountancy Outstanding Teacher of the Year  
2009 Birmingham Alumni Chapter Scholarship Chairman  
2006 Ernst & Young Scholar  
2006 Sigma Chi Foundation National Madson Graduate Scholar (1 of 12 nationally per year)  
2005 Alabama Society of Certified Public Accountants Outstanding Graduating Senior  
2005 School of Accountancy Outstanding Undergraduate Student of the Year  
2005 Ingall's Award Selection Committee for Faculty of the Year  
2004 Greek Man of the Year  
2004 Trojan Pride Fellowship Recipient  
2004-2005 President, Order of Omega, Greek Honor Society  
2004-2005 Treasurer, Mortar Board Society  
2003-2006 Student Affairs Judicial Review Board  
2000-2005 Recipient of Chancellor's Scholarship  
Omicron Delta Kappa Honor and Leadership Society  
Mortar Board Society  
Gamma Beta Phi Honor Society  
Alpha Lambda Delta Honor Society

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