Preventing Financial Reporting Fraud: A Holistic View of the Attributions Made Following Potential Fraudulent Financial Reporting Events

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ABSTRACT

Constituents in the judicial process such as jurors and lawyers who often play a critical role in the aftermath of an alleged financial reporting fraud have largely been ignored in the accounting literature. Literature in psychology suggests that both laypeople and highly trained professionals frequently over-attribute causality of an observed behavior to the disposition of the person performing that behavior. In doing so, these individuals underestimate the power of situations and fail to recognize important environmental factors that lead to a particular behavior. Within the context of fraudulent financial reporting, there is little understanding of how jurors and lawyers initially perceive and react to fraudulent behavior. Consequently, it is possible jurors and lawyers who are asked to evaluate the causality of a suspected fraudulent event, are inaccurate in their assessment of the causality of that event.

This study addresses the question of whether or not the various constituents in the judicial process are biased in their attributions when evaluating causal factors related to financial reporting decisions. More specifically, it focuses on how individuals outside the profession of accounting, laymen jurors and corporate lawyers, make attributions when observing decisions related to fraudulent financial reporting, and whether or not these attributions differ from those made by corporate accountants. Further, after identifying differences in attributions, this study attempts to determine the causes of these differences; and whether recent changes in business culture have been effective in curbing financial reporting fraud.

The late 1990s and early 2000s saw a proliferation of high profile financial reporting frauds, and as a result, numerous changes have been made within the regulatory environment governing financial reporting. Many of these changes targeted overall business culture and a commitment to ethical financial reporting. By studying the attributions of corporate accountants we learn about their perceptions of the current environment and better understand their willingness to report something in a manner that would constitute financial reporting fraud. Evidence demonstrates that laymen, corporate lawyers, and corporate accountants differ in their attributions and that laymen are typically more biased when observing individuals and their financial reporting decisions. Laymen are also shown to lack awareness of recent changes in the financial reporting environment, have unrealistic expectations of the likelihood accountants are willing to intentionally misreport something, and are not as good at identifying appropriate and inappropriate financial reporting behaviors. Results also suggest recent changes in business culture and governance around financial reporting have been effective in convincing corporate accountants that environmental factors should not lead to, and are not a viable excuse for, fraudulent financial reporting.

DEDICATION

This dissertation is dedicated to my wife, Dr. Ashley Negangard, my parents, John and Karen Negangard, and my recently departed dog, Bailey. To my amazing wife and best friend, none of this would have been possible without your infinite love and support. I have never met anyone who is as determined and dedicated as you, and I am truly blessed to have a partner in life who is so supportive and unwavering in her conviction. To my parents, thank you both for instilling in me the desire to truly be a lifelong learner and for your constant support of my life adventures. No matter where life has taken me I have always known that you are both proud of me. For this I can never thank you enough as it is the greatest gift a parent can give. Finally, to the recently passed Bailey, you showed me that even in the face of life's extreme hardship a positive attitude and love, can, and will prevail. Thank you for sitting at my feet for so many hours as I worked my way through the Ph.D. program and this dissertation. I truly miss you bud and wish you could have been here to cross the finish line with me.

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CHAPTER ONE

INTRODUCTION

1. 1 Introduction

Accounting research related to fraudulent financial reporting (FFR) has primarily focused on which companies commit FFR, how companies commit FFR, and how auditors assess the risk of FFR. More specifically, the accounting literature has examined the causes of FFR (e.g., Beasley 1996; Carcello and Nagy 2004; Carpenter and Reimers 2005; Dechow et al. 1996; Rezaee 2005), the frequency and magnitude of FFR (e.g., Beasley et al. 1999; Beasley et al. 2010), how to identify companies that have committed FFR (e.g., Hennes et al. 2008; Kaminski et al. 2004), auditor risk assessment related to FFR (e.g., Bell and Carcello 2000; Hammersley 2011; Hoffman and Patton 1997; Hogan et al. 2008; Trompeter et al. 2012), and market fluctuations as a result of FFR (e.g., Cox and Weirich 2002; Palmrose et al. 2004). While a significant volume of research related to FFR exists, important constituents such as laypeople and non-accounting professionals such as corporate lawyers who are often involved in the prosecution or defense of those who are accused of FFR, have been largely ignored in the accounting literature.

The literature in social psychology, offers a theoretical framework for examining these other constituents. Research in social psychology suggests that individuals frequently over-attribute causality of an observed behavior to the disposition of the person performing the behavior (Gilbert and Malone 1995; Jones 1979; Ross 1977). In doing so, individuals underestimate the power of situations and fail to recognize important environmental factors that lead to a particular behavior. In fact, this tendency to blame the person and not the situation for acts performed is so pervasive that psychologists call it the "fundamental attribution error" (Ross

1977). Since individuals are frequently biased in their assumption that a particular behavior "corresponds" to a person's disposition rather than to the situation or the environment the person is in, psychologists refer to this as "correspondence bias" (Gilbert and Malone 1995). It is important to note, however, that correspondence bias can also work in the opposite direction and result in an over attribution to environmental factors.

Within the context of FFR, it is possible that important constituents who observe, hear, or read about an instance of FFR make the fundamental attribution error and exhibit correspondence bias. Jurors and professional lawyers are highly involved in the prosecution of FFR, yet there is little understanding of how these individuals initially perceive and react to FFR events. The purpose of this research is to (1) determine whether individuals outside the profession of corporate accounting, specifically jurors and corporate lawyers, over-attribute the occurrence of FFR to the dispositions of those committing FFR, thereby overlooking critical environmental factors that may have played a proximate causal role, and (2) determine whether corporate accountants differ in their attributions by over attributing occurrences of FFR to environmental factors.

As a result of this research, academics and accounting professionals will better understand the perceptions of critical constituents in the FFR judicial process, and be better able to determine whether or not correspondence bias colors interpretations of instances of FFR. Further, the research helps to identify what leads observers to make these attributions so that they may be better understood or even mitigated in the future. While it is unrealistic to assume that all FFR can be eradicated, there have been calls to more fully understand the nature of FFR and how individuals react to it (AICPA 1987; Beasley et al. 2010; International Audit Networks 2006, 2008; U.S. President 2002). While correspondence bias has been widely studied in the field of

social psychology (e.g., Epley et al. 2002; Gilbert and Malone 1995; Heider 1958; Jones 1979; Ross and Nisbett 1991; Swann 1984; Tetlock 1985), little work has been done to study its existence or effects within the accounting domain (e.g., Arrington et al. 1985; Kaplan et al. 2007). Finally, by studying the attributions of those who are routinely in a position to commit FFR (i.e., corporate accountants), we can better understand what effect, if any, recent changes in the regulatory environment have had on overall business culture as it relates to FFR.

The remainder of this dissertation is organized as follows. Chapter Two provides background information and a review of the related literature. Chapter Three presents the research design, experimental instrument, and variables of interest. Chapter Four details the data analysis and results. Chapter Five provides a discussion of the study's contributions, limitations, and suggestions for future research.

CHAPTER TWO

BACKGROUND AND LITERATURE REVIEW

2. 1 Literature Review

This thesis draws on numerous areas of accounting and psychology literature to develop hypotheses regarding the perceptions and subsequent attributions of individuals who observe, hear, or read about an FFR event. According to Jones (1990, 39), "perceiving others is synonymous with making sense of their behavior, and this activity typically involves finding the cause or causes of that behavior." As observers we "try to 'find' appropriate causes in characteristics of the actor – inferred dispositions that seem to explain why the actor behaved as he or she did" (Jones 1990, 39).

In his classic work, *The Psychology of Interpersonal Relations*, Heider (1958) posits that causal judgments result from evaluating the effective force of an actor to produce an outcome relative to the effective force of the environment to produce the outcome. Thus, at the simplest level, causality is assigned internally to the observed actor (i.e., his or her disposition) and externally to the environment (i.e., the situation) in proportion to perceptions of the effective force of each (Arrington et al. 1985).

2.1.1 The Fundamental Attribution Error and Correspondence Bias

The fundamental attribution error represents a human psychological tendency to draw inferences about a person's inherent disposition from behaviors that can be alternatively explained by the situations in which they occur (Gilbert and Malone 1995). Correspondence bias represents the bias that causes the fundamental attribution error (Ross 1977) and has been the subject of numerous psychology studies (e.g., Gilbert and Malone 1995; Heider 1958; Jones 1979; Ross 1977; Ross and Nisbett 1991; Swann 1984; Tetlock 1985). According to Tetlock

(1985), correspondence bias represents a significant shortcoming in how people typically process information about others and a widespread error or bias in social judgment linked to people's reliance on simple, highly overlearned judgmental heuristics in social perception tasks.

Correspondence bias can occur when people observe behavior, such as FFR, and conclude that the person who performed the behavior was predisposed to do so (Gilbert and Malone 1995). In other words, "the person's behavior corresponds to the person's unique dispositions and they [observers] draw such conclusions even when a logical analysis suggests they should not" (Gilbert and Malone 1995, 21). Stated differently, people tend to think that "others are as they act" (Bonner 2007, 269; Jones and Davis 1965).

Numerous studies (e.g., Arrington et al. 1985; Feigenson 2000; Quattrone 1982; Sherman 1980; Gilbert et al. 1988) demonstrate that individuals routinely fail to recognize situational influences and over-attribute observed behavior to the disposition of the actor. In other words, observers succumb to the fundamental attribution error and exhibit correspondence bias when assessing the behavior of others.

2.1.2 The Appropriate Recognition of Environmental and Dispositional Information

Varying levels of information regarding the context of an observed behavior should normatively lead to differences in the attributions of that behavior. Accordingly, the failure to appropriately interpret all the information surrounding an observed behavior is indicative of correspondence bias. More specifically, research on attribution theory (e.g., Arrington et al. 1985; Jones 1990; Kelley 1967; Nisbett and Ross 1980; McArthur 1972) has identified three contextual factors as relevant to the attribution process, all of which are also relevant in the context of FFR. These factors are the consensus, consistency, and distinctiveness of a particular informative effect. Table 1 provides specific definitions of consensus, consistency, and

distinctiveness as they have evolved in the psychology literature and identifies forms of each that can be operationalized within the context of FFR.

Originating with the Kelley (1967) ANOVA cube, various combinations of information leading to perceived high or low levels of consensus, consistency, and distinctiveness of a behavior have been normatively theorized and empirically shown to lead to either dispositional or environmental[1] attributions by observers. For example, a high level of consensus, the degree to which people other than the observed individual show similar behavior, would normatively lead to environmental attributions and a low level of consensus would lead to dispositional attributions. Further, a high level of consistency, the degree to which the person has performed the action in the past, would normatively lead to dispositional attributions and a low level of consistency would lead to environmental attributions. Finally, a high level of distinctiveness, the degree to which other options are not available to achieve a goal, would normatively lead to environmental attributions, and a low level of distinctiveness would lead to dispositional attributions (Nisbett and Ross 1980). In summary, and as provided by Arrington et al. (1985), the normative impact of an appropriate interpretation of each type of information on the attribution process is as follows:

	Attribution Implied	
Type of Information	*High Level*	*Low Level*
Consensus	Situational	Dispositional
Consistency	Dispositional	Situational
Distinctiveness	Situational	Dispositional

A failure to appropriately interpret information around the consensus, consistency, and distinctiveness of a particular behavior is indicative of correspondence bias. Accordingly, the

[1] Psychology literature uses the terms "situational" and "environmental" somewhat interchangeably in reference to external attributions. Except when quoting previous literature, external attributions are hereinafter referred to as environmental attributions.

logical benchmark for assessing correspondence bias within an FFR context can be established through the inclusion and recognition of various combinations of information pertaining to consensus, consistency, and distinctiveness. Based upon the attributions implied above, two combinations of information exist that should clearly generate environmental or dispositional attributions. Environmental information, or information that should normatively lead to environmental attributions, can be defined by a combination of additional information that portrays high consensus, low consistency, and high distinctiveness of a particular behavior. Dispositional information, the type that should produce dispositional attributions, can then be defined by low consensus, high consistency, and low distinctiveness. Alternatively, as a third option, ambiguity can be created by the provision of no additional information around consensus, consistency, and distinctiveness. Consequently, the presence of additional environmental, dispositional, or no additional information around a particular behavior can be used to identify failures to make appropriate attributions in an FFR context.

2.1.3 Correspondence Bias and the Internality Scale

Researchers have developed a way to identify correspondence bias in the attribution process. In order to measure the perceived effective force of the actor (i.e., internal or dispositional factors) relative to the effective force of the environment (i.e., external or situational factors) prior research has taken two distinct approaches towards developing what is known as an internality scale. The first approach, similar to Kaplan et al. (2007), is simply to ask the observer to attribute the behavior using a direct scale with dispositional causes as one end point and environmental as the other. A less direct method was developed by Luginbuhl et al. (1975) whereby an observer is typically allotted a total of 100 points, and following the observation of a particular behavior, assigns the points to four attributional categories: two

dispositional and two environmental. Net internality is then determined by the difference between the sum of the two dispositional categories minus the sum of the two environmental categories. A positive internality score is indicative of dispositional attributions (i.e., the actor is perceived as a more salient cause of the outcome than is the environment), whereas a negative score attributes more causality to the environment. Correspondence bias is represented by the propensity to over-attribute to either dispositional or environmental factors regardless of the consensus, consistency, or distinctiveness of the observed action.

2.2 Correspondence Bias in Laymen, Professionals, and the Empathetic Observer

While Gilbert and Malone (1995) provide theoretical causes of correspondence bias, they do not address factors that may help reduce correspondence bias. Considerable research in psychology has shown that both laymen and professionals (i.e., individuals with specialized contextual knowledge) exhibit correspondence bias when making attributions for observed behavior when they view their relationship with the observed individual as an out-group[2] relationship (e.g., Arrington et al. 1985; Dripps 2003; Epley et al. 2002; Feigenson 2000; Kunda 1999; Ross 1977; Ross and Nisbett 1991). However, observers who are able to empathize with the observed individual exhibit less correspondence bias (Arkin et al. 1978; Arrington et al. 1985; Regan and Totten 1975). This indicates that a perceived in-group relationship may help to eliminate correspondence bias (Arkin et al. 1978; Arrington et al. 1985; Regan and Totten 1975). The following sections address the presence of correspondence bias for out-group laymen and professionals, and its potential avoidance for in-group empathetic observers.

[2] Social Identity Theory identifies an out-group as a social group with which an individual does not psychologically identify (Tajfel and Turner 1979). By contrast, an in-group is a social group to which a person psychologically belongs or identifies with.

2.2.1 Laymen

Decades of research in the social sciences suggests that laymen, or "intuitive psychologists" as Ross (1977) labeled them, exhibit correspondence bias when making inferential judgments about someone with whom they do not have a relationship. According to Feigenson (2000, 44), "the evidence that common-sense social judgments, including judgments about responsibility... may systematically diverge from legal (and/or scientific) norms is overwhelming." Further, laymen are melodramatic in their assignment of responsibility, meaning they tend to exaggerate and sensationalize events, and be overemotional (Feigenson 2000). Laymen "are inclined to believe that a bad thing... probably occurred because one person did a deviant (i.e., bad) thing, and that the person behaved that way because of the sort of person he or she is" (Feigenson 2000, 44). Further, laymen prefer "simple, mono-causal explanations for events." Therefore, laymen possess a common-sense schema of responsibility "in which one and only one party, the 'bad-guy,' is to blame, and the other party [or in this case, the environment] is more or less innocent" (Feigenson 2000, 44). Social psychology suggests that laymen tend to prefer simple causal explanations to complex ones out of their need for cognitive closure, which can lead to correspondence bias.

2.2.2 Professionals

Notwithstanding the voluminous evidence showing correspondence bias in laymen, one might think that professionals, people with formal education, training, and experience in a particular field, would be more adept at identifying situational cues that may lead to a particular behavior. By doing so, they would avoid the fundamental attribution error and its accompanying correspondence bias. While professional experience might increase awareness of certain environmental elements and/or lead to more realistic expectations of behavior, considerable

evidence shows that well-educated, trained individuals who lack any type of relationship with an individual they are observing exhibit correspondence bias as well (Arrington et al. 1985; Dripps 2003; Epley et al. 2002; Feigenson 2000; Kunda 1999; Ross 1977; Ross and Nisbett 1991). Further, according to Dripps (2003, 1385), "psychology research suggests that decision makers such as public officials charged with the administration of the criminal justice system are likely to overestimate the causal significance of personal choice, and to correspondingly underestimate the causal significance of situational factors in the behaviors of others." Additionally, Arrington et al. (1985) demonstrate that business owners exhibit correspondence bias when evaluating the performance of auditors after audit failures.

2.2.3 The Empathetic Observer

Research has shown that empathy and/or the "degree of similarity of social perspective between an actor and a subject [the observer]" (Arrington et al. 1985, 3) can influence the attributional process in a manner that reduces or eliminates correspondence bias (Arkin et al. 1978; Arrington et al. 1985; Regan and Totten 1975). Arkin et al. (1978) conclude that the more observers perceive themselves as similar to the actor, the less they will assign intrinsic causality for outcomes to the actor. Further, Arrington et al. (1985) demonstrate that CPAs (as opposed to business owners), when asked to evaluate the performance of auditors, are much more likely to attribute audit failures to environmental factors as opposed to the disposition of the auditor. Therefore, there is some evidence to demonstrate that empathy from the observer can reduce or eliminate correspondence bias.

2.3 The In-Group/Out-Group Relationship Effect on Correspondence Bias

As further evidence of how empathy can influence the attribution process, research in social psychology identifies the in-group versus out-group distinction as one that can affect

cognitive processes (e.g., Allport 1979; Baumeister and Leary 1995; Brewer 1999; Forsyth and Schlenker 1977; Katz 1991; Leary and Forsyth 1987; Tajfel 2010; Zander 1971) In fact, Baumeister and Leary (1995, 497) insist that "belongingness appears to have multiple and strong effects on emotional patterns and on cognitive processes, and therefore people devote considerable cognitive processing to interpersonal interactions and relationships" and less to impersonal ones. As a result, people expect more favorable and fewer objectionable actions by their in-group than by out-group members, and these expectations bias information processing and memory, leading people to forget bad things (relative to good things) that their fellow in-group members do (Howard and Rothbart 1980; Baumeister and Leary 1995). People also make group-serving or "sociocentric" attributions for the performance of the groups to which they belong. Further, members of a successful group may make group-serving attributions that put the entire group in a good light, whereas group members may join together in absolving another's responsibility after failure (Forsyth and Schlenker 1977; Leary and Forsyth 1987; Zander 1971).

Linville and Jones (1980) show that people tend to process information about out-group members in extreme, black-and-white, simplistic, polarized ways, whereas similar information about members of their own group is processed in a more complex fashion. That is, the mere existence of a social bond leads to more complex information processing, which can reduce or eliminate correspondence bias. Therefore, one would expect correspondence bias, at least in the sense of over-attribution to dispositional rather than environmental factors, to exist for out-group but not in-group relationships.

2.4 Correspondence Bias as it Relates to FFR and the Judicial Process

Existing research related to FFR highlights the necessary factors for fraud. Starting with the Cressey (1973) fraud triangle, research identifies three elements that must be in place for an

individual, or group of individuals, to commit fraud: pressure, opportunity, and the ability to rationalize the act (e.g., Bell and Carcello 2000; Cressey 1973; Hogan et al. 2008; Rezaee 2004). However, following an occurrence of FFR (e.g., Enron, WorldCom, Tyco, or the more recent Madoff investment scandal), individuals tend not to think of the environmental factors that lead to the occurrence of these frauds; rather they immediately begin to think of the persons involved and their greed and disregard for the public interest. Ewing (2012) states that "in the aftermath of a high profile financial reporting fraud, the press, prosecutors, regulators, and perhaps the whole of society, rush to judgment, settle for superficial answers, and fail to push deep into the real thrust of what transpired." As a result, what may be missing is a true understanding of the individuals who misrepresent their company's financial statements and, perhaps more importantly, the environment they operate in.

Following the detection of a potential FFR event, criminal and/or civil litigation is likely. Therefore, much can be learned by looking at attributional differences that exist between the constituents involved in the FFR judicial process. If any or all of the constituents involved in the judicial process exhibit correspondence bias during their initial exposure to a potential FFR event, their judgments and decisions from that point forward are likely to be affected. Further, if these constituents fail to fully understand the environmental factors that lead to FFR, it is unlikely that attempts to reduce the incidence of FFR will be as successful as they could be were there a full understanding of all contributing factors.

A typical FFR judicial process, regardless of whether it involves criminal or civil proceedings, includes important constituents in the form of jurors, lawyers, and the accused accountant or accountants. Each of these constituents is to some extent responsible for, or devoted to, the determination of both culpability (guilt or innocence) and level of causality

related to the FFR event.[3] In their consideration of causality, jurors and lawyers are required to consider both actual and proximate cause since both have to be present to prove guilt (James and Perry 1951). According to Carpenter (1931, 229), "cause," in legal terms, "means any and all antecedents, active or passive, creative or receptive, which were factors involved in the occurrence of the consequence." Actual cause, or "cause in fact," is perhaps the easiest to identify and is determined with what lawyers refer to as the "but for rule." The "but for rule" as applied to FFR considers whether the FFR in question would have occurred "but for" the actions of the accused accountant (James and Perry 1951).[4] Proximate cause, however, is a much more loosely defined concept in the law and therefore harder to identify. Proximate cause can actually represent a situation or causal factor whereby the accused "shall be exempt from liability for effects from which his wrongful act actually contributed," meaning that, even though actual cause exists, proximate cause from another factor alleviates some if not all of the defendant's culpability (Carpenter 1931, 230).

Within the context of an FFR event, environmental factors can be proximate causes of an FFR outcome. While it is likely that the accused accountants will recognize and attribute environmental factors as proximate causes, it less clear whether laymen jurors and professional lawyers are initially able or willing to recognize environmental factors as proximate causes. If jurors or lawyers over-attribute the cause of FFR to the disposition of the accused, this bias in

[3] In both criminal and civil trials, jurors are responsible for determining both the culpability (guilt or innocence) of the defendant and the level of causality (who or what is to blame) attributed to the defendant. The level of causality is reflected in the form of sentencing or punishment (e.g., prison, probation, fines, etc.) in a criminal trial and the amount of damages awarded to the plaintiff in a civil trial. Accordingly, lawyers are tasked with providing evidence to the effect of both culpability and causality in criminal and civil trials. Conversely, accused accountants are likely to deny culpability and their involvement in any wrongdoing by looking to ascribe causality to proximate or environmental factors.

[4] If an accountant is responsible for financial reporting and knowingly reports something fraudulently, it meets the actual cause criterion.

their initial attributions will limit their ability to fairly evaluate the complete set of causal factors for FFR.

To examine attributional differences within the FFR environment, I conduct a scenario-based experiment with three distinct groups of subjects, each representing an important constituent in the judicial process: (1) laymen (i.e., potential jurors – those who are charged with assessing culpability and causality during a trial, (2) corporate lawyers (i.e., legal professionals who would either prosecute or defend individuals accused of committing FFR), and (3) corporate accountants (i.e., accounting professionals who are in a position to commit and/or be accused of FFR).[5]

In sum, the research directly examines three issues: (1) the extent to which laymen, corporate lawyers, and corporate accountants make different attributions when observing behavior related to FFR; (2) the extent to which laymen, corporate lawyers, and corporate accountants fail to consider information related to consensus, consistency, and distinctiveness (i.e., possible proximate causes) when observing behavior related to FFR; and (3) to the extent that they exist, what leads to attributional differences between laymen, corporate lawyers, and corporate accounting professionals.

2.5 Hypothesis Development - Correspondence Bias and the Decision to Commit FFR

FFR is a crime and the observation of an individual who has a choice to commit or not commit FFR should lead to different attributions depending on the environment and outcome decision (Gilbert and Malone 1995; Jones 1990; Kelley 1967; Nisbett and Ross 1980; Ross

[5] To prevent subjects from assuming a particular role such as juror or lawyer when responding to the scenarios, all subjects were told during the solicitation process that they are simply needed for an impression management study.

1977).[6] For example, the observation of an individual who commits FFR but is surrounded by environmental factors that are indicative of FFR (e.g., other corporate controllers in the industry appear to be accounting for the item fraudulently and there are no other readily apparent non-fraudulent mechanisms to achieve the particular financial reporting goal) should lead to environmental attributions indicative of a belief that the environment led him or her to commit FFR. On the other hand, given a scenario where an observed individual decides not to commit FFR in spite of environmental factors encouraging him or her to do so (e.g., other corporate controllers in the industry appear to be accounting for the item fraudulently and there are no other readily apparent non-fraudulent mechanisms to achieve the particular financial reporting goal), an observer can, and should, make relatively high dispositional attributions. Essentially, the observer should give credit to the observed individual for having the disposition to overcome environmental factors that encourage FFR. However, as a result of correspondence bias, the observer may fail to do so.

The outcome of a decision to commit or not to commit FFR should lead to different attributions by an individual given a particular scenario with a particular set of dispositional or environmental factors. With this in mind, separate hypotheses are made for two scenarios – one in which an individual goes through with inappropriate accounting (i.e., an FFR outcome) and one in which appropriate accounting is pursued (i.e., a Non-FFR outcome).

2.5.1 FFR Outcome Scenarios

Laymen are likely to view their relationship with someone who is in a financial accounting position such as a corporate controller as an out-group relationship. Therefore,

[6] Observers who witness a behavior such as FFR are likely to be more self-aware of their attributions as compared to when they observe an expected behavior such as choosing to account for something appropriately. However, observers can and will make attributions for an expected behavior when prompted to do so.

laymen are unlikely to be empathetic towards such individuals. Laymen are also likely to be melodramatic and seek mono-causal explanations for behavior as they strive for cognitive closure (Feigenson 2000). Further, laymen are likely less aware of environmental factors that exist in a financial reporting environment and have more unrealistic expectations about whether corporate controllers are willing to commit FFR.

On the other hand, corporate lawyers, as compared to laymen, might have increased awareness of environmental factors, more realistic expectations of behavior, and be less likely to seek mono-causal explanations and cognitive closure. However, they will likely still view their connection with corporate controllers as an out-group relationship. Therefore, corporate lawyers can be expected to fail to exert the cognitive effort, or undertake the level of information processing, necessary to avoid correspondence bias.

Finally, corporate accountants should have a much higher awareness of environmental factors within an FFR environment and more realistic expectations as to whether or not corporate controllers are willing to commit FFR. Additionally, corporate accountants are likely to view their connection with corporate controllers as an in-group relationship and therefore have empathy for the individuals who are in a position to make decisions that affect FFR outcomes. As a result of a perceived in-group relationship, I predict corporate accountants will engage in more information processing prior to making attributions.

The combination of in-group versus out-group information processing, with increased awareness of situations leading to FFR, leads to the following alternative hypothesis for laymen, corporate lawyers, and corporate accountants in FFR outcomes:

$H1_a$: Laymen are *more* likely than Corporate Lawyers, and Corporate Lawyers are *more* likely than Corporate Accountants, to attribute *fraudulent* outcomes to the individual involved as evidenced by *more* dispositional attributions and *higher* internality scores:

$$\bar{I}_{lay} > \bar{I}_{law} > \bar{I}_{acc}$$

where: $\bar{I}_{lay}$ = Mean Internality Score for Laymen;

$\bar{I}_{law}$ = Mean Internality Score for Corporate Lawyers; and

$\bar{I}_{acc}$ = Mean Internality Score for Corporate Accountants.

2.5.2 Non-FFR Outcome Scenarios

While prior research shows that individuals have a tendency to make dispositional rather than environmental attributions when observing a behavior that conforms to the observer's expectation for that behavior (e.g., Arrington et al. 1985; Bierbrauer 1979; Feigenson 2000; Gilbert et al. 1988; Jones and Harris 1967; Quattrone 1982; Sherman 1980), less is known about how individuals make attributions when observing an actor who deviates from an expected inappropriate behavior. However, if an individual is put in an environment where it appears that environmental factors would lead him or her to perform an inappropriate behavior, yet the individual is able to overcome the environmental factors and act appropriately, dispositional attributions should normatively be made by observers.

Regardless of outcome (i.e., FFR or Non-FFR), laymen will perceive their connection with corporate controllers as an out-group relationship and are unlikely to be empathetic. As a result of this perceived out-group relationship, I expect laymen to seek simple explanations and therefore fail to process information such that they are able to recognize the need for dispositional attributions provided a Non-FFR outcome. In essence, laymen will fail to appropriately weight the decision outcome upon learning that the corporate controller did not commit FFR. Additionally, I expect laymen, as a result of their lack of professional training and overall unfamiliarity with accounting concepts and acceptable business practices, to misinterpret (i.e., misunderstand the significance and appropriateness of) FFR and Non-FFR outcomes more frequently than corporate lawyers and corporate accountants. This misinterpretation will reduce

the likelihood that laymen recognize the need for dispositional attributions in Non-FFR outcomes.

Similar to laymen, corporate lawyers can also be expected to view their relationship with corporate controllers as out-group, and therefore they may not perform the information processing needed to weight the decision outcome in a manner allowing them to make higher dispositional attributions in a Non-FFR outcome. However, corporate lawyers, given their background and experience, may do better than laymen at interpreting behavior and therefore be likelier to identify the need for dispositional attributions in a Non-FFR outcome.

Corporate accountants, as a result of their perceived in-group relationship and ability to empathize with the described corporate controller, can be expected to do more information processing in determining attributions in a Non-FFR outcome, which will enable them to interpret behavior better and appropriately weight the decision outcome in their attributions. As a result, compared to corporate lawyers and laymen, corporate accountants will make higher dispositional attributions provided a Non-FFR outcome.

Accordingly, I posit the following alternative hypothesis for Non-FFR outcomes:

$H1_b$: Laymen are *less* likely than Corporate Lawyers, and Corporate Lawyers *less* likely than Corporate Accountants, to attribute *appropriate* financial reporting outcomes to the individual involved as evidenced by *fewer* dispositional attributions and *lower* internality scores:
$\overline{I}_{lay} < \overline{I}_{law} < \overline{I}_{acc}$

where: $\overline{I}_{lay}$ = Mean Internality Score for Laymen;
$\overline{I}_{law}$ = Mean Internality Score for Corporate Lawyers; and
$\overline{I}_{acc}$ = Mean Internality Score for Corporate Accountants.

This hypothesis, along with $H1_a$, is plotted graphically in Figure 1.

2.5.3 Interaction between Relationship Type and Decision Outcome

As noted in $H1_a$ and $H1_b$, out-group observers (corporate lawyers and laymen) can be expected to make dispositional attributions and in-group observers (corporate accountants) to make environmental attributions following an FFR outcome. However, in a Non-FFR outcome, out-group observers can be expected to fail to recognize the need for increased dispositional attributions. In-group individuals will recognize the need for dispositional attributions and therefore appropriately change their attributions from environmental to dispositional in a Non-FFR outcome. Thus, out-group observers will be more responsive to a corporate controller's decision outcome and an interaction effect can be expected between relationship type (in-group versus out-group) and decision outcome (FFR versus Non-FFR). This leads to the following hypothesis:

> $H1_c$: An interaction exists between relationship type (in-group and out-group) and decision outcome (FFR and Non-FFR outcomes) so that:
>
> $$\overline{I}_{\text{in\_non-ffr}} - \overline{I}_{\text{in\_ffr}} > \overline{I}_{\text{out\_non-ffr}} - \overline{I}_{\text{out\_ffr}}$$
>
> where: $\overline{I}_{\text{in\_non-ffr}}$ = Mean In-Group Internality Score for Non-FFR;
>
> $\overline{I}_{\text{in\_ffr}}$ = Mean In-Group Internality Score for FFR;
>
> $\overline{I}_{\text{out\_non-ffr}}$ = Mean Out-Group Internality Score for Non-FFR; and
>
> $\overline{I}_{\text{out\_ffr}}$ = Mean Out-Group Internality Score for FFR.

Figure 2 plots this hypothesis graphically.

2.5.4 The Appropriate Interpretation of Consensus, Consistency, and Distinctiveness

Research shows that consensus, consistency, and distinctiveness influence the attributional process. Therefore, a logical benchmark for assessing correspondence bias within the FFR context can be established through the inclusion of three different types of information content (situational, environmental, and no additional information). Similar to H1 above, separate hypotheses are posited for the interpretation of varying levels of information type for both FFR and Non-FFR outcomes.

2.5.5 FFR Outcome Scenarios

Within an FFR outcome, the inclusion of dispositional information (low consensus, high consistency, and low distinctiveness) should lead to more dispositional attributions, whereas the inclusion of environmental information (high consensus, low consistency, and high distinctiveness) should lead to more environmental attributions for both in-group and out-group observers. When no additional information is provided, individuals are expected to make attributions based upon their preconceived notions of dispositional and environmental factors. Since out-group individuals are generally expected to make more dispositional attributions than in-group individuals, I expect the out-group internality scores to be higher across all three information types. Accordingly, the following alternative hypothesis is posited for in-group and out-group participants across the three information types provided an FFR outcome:

$H2_a$: In-group individuals will have *lower* internality scores than out-group individuals when *dispositional*, *environmental*, or *no additional* information is provided such that in-group individuals make more *environmental* attributions provided an FFR outcome:

$\overline{I}_{\text{in-dis}} < \overline{I}_{\text{out-dis}}$ And $\overline{I}_{\text{in-env}} < \overline{I}_{\text{out-env}}$ And $\overline{I}_{\text{in-no}} < \overline{I}_{\text{out-no}}$

where: $\overline{I}_{\text{in-dis}}$ = Mean Internality Score for In-Group individuals provided Dispositional Information;

$\overline{I}_{\text{out-dis}}$ = Mean Internality Score for Out-Group individuals provided Dispositional Information;

$\overline{I}_{\text{in-env}}$ = Mean Internality Score for In-Group individuals provided Environmental Information;

$\overline{I}_{\text{out-env}}$ = Mean Internality Score for Out-Group individuals provided Environmental Information;

$\overline{I}_{\text{in-no}}$ = Mean Internality Score for In-Group individuals provided No Additional Information; and

$\overline{I}_{\text{out-no}}$ = Mean Internality Score for Out-Group individuals provided No Additional Information.

Figure 3 plots this hypothesis graphically.

2.5.6 Non-FFR Outcome Scenarios

Consistent with the interaction hypothesis ($H1_c$) above, in-group individuals are expected to make appropriate dispositional attributions in a Non-FFR outcome but out-group individuals are not. An in-group individual's ability to recognize, and an out-group individual's failure to recognize, the need for dispositional attributions following a Non-FFR outcome should occur when situational and no additional information is provided. This is a result of the in-group's ability to think through the various combinations of information provided (or lack thereof in the instance of no additional information) and outcome. To the extent that dispositional information is provided, in-group individuals are more likely to attribute Non-FFR action to the environment (i.e., they are able to interpret the conflicting nature of the dispositional information and outcome), whereas out-group individuals will fail to process the information any differently from the other two information types. Accordingly, the following alternative hypotheses are posited for in-group and out-group participants across the three information types provided a Non-FFR outcome:

$H2_b$: In-group individuals will have *lower* internality scores than out-group individuals when *dispositional* information is provided such that they make more *environmental* attributions provided a Non-FFR outcome:
$\bar{I}_{\text{in-dis}} < \bar{I}_{\text{out-dis}}$

$H2_c$: In-group individuals will have *higher* internality scores than out-group individuals when *environmental* and *no additional* information is provided such that they make more *dispositional* attributions provided a Non-FFR outcome:
$\bar{I}_{\text{in-env}} > \bar{I}_{\text{out-env}}$ And $\bar{I}_{\text{in-no}} > \bar{I}_{\text{out-no}}$

where: $\bar{I}_{\text{in-dis}}$ = Mean Internality Score for In-Group individuals provided Dispositional Information;

$\bar{I}_{\text{out-dis}}$ = Mean Internality Score for Out-Group individuals provided Dispositional Information;

$\bar{I}_{\text{in-env}}$ = Mean Internality Score for In-Group individuals provided Environmental Information;

$\bar{I}_{\text{out-env}}$ = Mean Internality Score for Out-Group individuals provided Environmental Information;
$\bar{I}_{\text{in-no}}$ = Mean Internality Score for In-Group individuals provided No Additional Information; and
$\bar{I}_{\text{out-no}}$ = Mean Internality Score for Out-Group individuals provided No Additional Information.

Figure 4 plots these hypotheses graphically.

2.5.7 Causes of Correspondence Bias

Although internality scores are indicative of dispositional or environmental attributions and help to identify correspondence bias within the FFR environment, they do not specifically indicate why differences in attributions exist or what mediates correspondence bias for laymen, corporate lawyers, or corporate accountants. According to Gilbert and Malone (1995), correspondence bias is caused by four distinct mechanisms: (a) lack of awareness, (b) unrealistic expectations, (c) inflated categorizations, and (d) incomplete corrections. Each of these mechanisms can individually or collectively lead to correspondence bias.

Differences in contextual awareness for laymen, corporate lawyers, and corporate accountants likely result from differences in training, level of experience, and overall exposure to the financial reporting environment. Therefore lack of awareness is assuredly one of the causes of correspondence bias related to FFR.[7] However, it is more difficult to predict how each group of constituents is affected by their (a) *ex-ante* expectations of FFR, or what Gilbert and Malone refer to as possible "unrealistic expectations," (b) individual perceptions of the observed behavior (i.e., inflated categorizations), and (c) the possible failure to correct or adjust their original inferences (i.e., incomplete corrections). The following sections posit hypotheses for

[7] A specific hypothesis is not provided for lack of awareness. Lack of awareness is, however, addressed and controlled for in the supplemental analysis section.

whether lack of awareness, unrealistic expectations, inflated categorizations, and/or incomplete corrections cause correspondence bias for each of the constituent groups.

2.5.7.1 Unrealistic Expectations

Even observers "who are completely aware of the actor's situation may still have unrealistic expectations about how that situation should affect the actor's behavior" (Gilbert and Malone 1995, 27) and therefore incorrectly estimate the power of certain situations to induce certain behaviors. Essentially, the "availability heuristic" can lead observers to judge behaviors that are easily imagined or remembered as especially common differently from those that are not (Tversky and Kahneman 1973).[8] A behavior that "just happens to be common in the observer's corner of the world, recent in the observer's experience, or part of the observer's own behavioral repertoire may be seen as enjoying greater consensus than in fact it does" (Gilbert and Malone 1995, 27) and can create a "false consensus effect" (Ross et al. 1977, 280). To the extent that easily imaginable actions, such as one's own, are thought to be typical actions or recent experiences come to the forefront in an observer's thought process, use of the availability heuristic can lead observers to have unrealistic expectations for the behavior of others. When such expectations are violated, unwarranted dispositional attributions may result in correspondence bias.

As compared to laymen, corporate accountants and corporate lawyers (albeit to a lesser extent) should have greater awareness of the overall business environment and the factors that encourage and discourage FFR. Further, corporate accountants and corporate lawyers, as a result

[8] Bonner (2007) identifies the availability heuristic as a potential cause of bias in third-party evaluations and claims that the "most pervasive" of biases is the fundamental attribution error or correspondence bias whereby third parties "tend to deem person-related causes, particularly those perceived to be stable characteristics such as personality traits and abilities, as more important in causing effects than task-related or environmental causes" (Bonner 2007, 268).

of their training, expertise, and background, should have a working knowledge of the financial reporting environment. Laymen, on the other hand, are likely to have limited knowledge of the financial reporting environment. Additionally, laymen likely have a melodramatic view of the world when it comes to unfamiliar contexts, and as a result, are likely to have unrealistic expectations and overestimate the occurrence of FFR. As such, I expect corporate accountants and corporate lawyers to initially have a lower baseline estimate of the likelihood and/or prevalence of FFR as compared to laymen. Given corporate accountants increased awareness of the financial reporting environment as compared to that of corporate lawyers, I expect corporate accountants to have more realistic expectations about the prevalence of FFR and therefore to assess a lower likelihood of FFR. Accordingly, I propose the following alternative hypothesis regarding unrealistic expectations relative to correspondence bias:

$H3_a$: Corporate Accountants will assess a *lower* likelihood of an FFR outcome than Corporate Lawyers, and Corporate Lawyers will assess a *lower* likelihood of an FFR outcome than Laymen:

$\overline{L}_{acc} < \overline{L}_{law} < \overline{L}_{lay}$

where: $\overline{L}_{acc}$ = Mean Likelihood for Corporate Accountants;

$\overline{L}_{law}$ = Mean Likelihood for Corporate Lawyers; and

$\overline{L}_{lay}$ = Mean Likelihood for Laymen.

2.5.7.2 Inflated Categorizations

It is possible for a behavior to be misinterpreted even when an observer has complete awareness and realistic expectations of the behavior.[9] When an observer witnesses a behavior,

[9] Trope (1986) and Trope et al. (1988) show that an observer's awareness of a situation can give rise to expectations for an actor's behavior that, in turn, may induce the perceptual assimilation of that behavior. Thus, the very awareness that enables the observer to have a realistic expectation for behavior may cause the observer to have an inaccurate perception of that behavior. "The irony… is that the observer's excellent knowledge of the situation has 'inflated' her categorization of the actor's behavior, which in turn has led her to make an unwarranted

that observer's perception of the behavior is based on his or her prior knowledge of the context in which the behavior occurred. This prior knowledge can alter the perception of the behavior and lead to what Gilbert and Malone (1995) refer to as "inflated categorizations" of behavior.[10]

An observer must properly interpret the observed behavior to avoid inflated categorizations and make appropriate attributions. Within the context of the FFR environment, it is important that the observer recognize the difference between appropriate and fraudulent accounting. Given their knowledge of the financial reporting environment, I predict that corporate accountants are better than corporate lawyers and laymen at interpreting and identifying the outcome behavior as either FFR or Non-FFR. Further, given corporate lawyers' additional expertise and training, I predict that corporate lawyers are better at interpreting and identifying outcome behavior then laymen. Accordingly, I propose the following alternative hypothesis:

$H3_b$: Corporate Accountants will *more* accurately identify FFR and Non-FFR outcomes than Corporate Lawyers, and Corporate Lawyers will *more* accurately identify FFR and Non-FFR outcomes than Laymen:
$\overline{A}_{acc} > \overline{A}_{law} > \overline{A}_{lay}$

where: $\overline{A}_{acc}$ = Mean Accuracy for Corporate Accountants;
$\overline{A}_{law}$ = Mean Accuracy for Corporate Lawyers; and
$\overline{A}_{lay}$ = Mean Accuracy for Laymen;

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dispositional inference about an actor whose situation she understands perfectly" (Gilbert and Malone 1995, 28).

[10] According to Gilbert and Malone (1995), if lack of awareness were the sole cause of correspondence bias, then one might expect the bias to disappear when observers are completely aware of the actor's situation and have realistic expectations for behavior in that situation. This is not the case. In fact, under certain conditions, awareness of situational constraints may actually cause correspondence bias. One way to think of the attribution process is as a "matching test" in which the observer compares the actor's behavior with their expectations for that behavior and determines whether the behavior meets those expectations (Gilbert and Malone 1995). The problem is that observers are only able to use their perceptions of behavior and the interpretation or categorization of behaviors "may be profoundly affected by knowledge of the context in which they occurred" (Gilbert and Malone 1995, 28).

2.5.7.3 Incomplete Corrections

The fourth potential cause of correspondence bias results from incomplete corrections made by observers. Incomplete corrections may occur when observers are either unable or unwilling to correct their original inferences (Gilbert and Malone 1995). Since dispositional inferences are the "products of a mismatch between the observer's expectations for, and perceptions of, the actor's behavior" (Gilbert and Malone 1995, 29), if an observer "improperly calculates the value of either of these elements, a 'false mismatch' will result, and correspondence bias may follow" (Gilbert and Malone 1995, 29).

Provided additional dispositional or environmental information, astute observers should adjust their initial prediction of the likelihood that a corporate controller would commit FFR. However, consistent with in-group versus out-group information processing, and the evidence that in-group members engage in more information processing when evaluating similar others, I expect only corporate accountants to be able to process the additional information in a manner that will allow them to appropriately adjust their likelihood estimates. I do not expect out-group laymen and corporate lawyers to correctly adjust their predictions. Accordingly, I propose the following alternative hypothesis:

H3$_c$: Corporate Accountants will adjust their likelihood estimate *more* than Laymen and Corporate Lawyers provided additional *dispositional* or *environmental* information:

$\overline{X}_{acc} > \overline{X}_{lay}$ And $\overline{X}_{acc} > \overline{X}_{law}$

where: $\overline{X}_{acc}$ = Mean Adjustment for Corporate Accountants;

$\overline{X}_{lay}$ = Mean Adjustment for Laymen; and

$\overline{X}_{law}$ = Mean Adjustment for Corporate Lawyers.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

In order to test for the existence and magnitude of correspondence bias and to identify its potential causal factors, I conduct an experiment whereby participants are provided three different scenario-based case studies after providing an initial baseline estimate that corporate controllers are willing to account for something in a manner that would mislead users of their financial statements. Within each case study, information type (environmental, dispositional, and no additional information) is manipulated, and participants assess the likelihood that a particular corporate controller will account for a specific item[11] inappropriately and in a fraudulent manner. Participants are then informed whether or not the corporate controller accounted for the item appropriately and asked to rate the factors they feel contributed to the controller's action. Participants' responses are compared within- and between-subjects to determine (1) whether attributional differences exist in a financial reporting context, (2) how the inclusion of information around consensus, consistency, and distinctiveness affects attributions, and (3) which of the factors identified by Gilbert and Malone (1995) contribute to differences in attributions should differences exist.

Using variations of the designs found in Arrington et al. (1985) and Kaplan et al. (2007), the study utilizes a 3x3x2 nested block design with two fixed treatment factors (information type and outcome) to compare the judgments of laymen, corporate lawyers, and corporate

[11] Each of the three scenarios presented a particular expense for which a corporate controller had to decide to appropriately report in the current period or inappropriately postpone until the next. The expense type consisted of either (1) a particular portion of payroll, (2) a particular advertising expense, or (3) a particular consulting contract, and was presented in a randomized order for each participant. Where appropriate, expense type is included as a random effect within all analyses.

accountants. This design is necessary to test for two- and three-way interactions among constituent group (laymen, corporate lawyers, and corporate accountants), information type (dispositional, environmental, and no additional), and decision outcome (FFR and Non-FFR), and to eliminate the possibility that idiosyncrasies of individual participants lead to differences in attributions. Manipulations are assigned to participants in accordance with the schedule provided in Figure 5, which was generated using the Custom Designs tool in JMP® (SAS Institute).

Through the series of three scenarios – which describe a particular accounting decision and include varying levels of environmental, dispositional, or no additional information – participant responses are compared within-subject to identify how the various types of information, as well as the decision by the observed individual to commit or not commit FFR, influence the attributional process. Additionally, aggregate responses from the different groups of participants are compared between-subjects to identify how each group makes attributions and to determine which groups, if any, exhibit correspondence bias. Finally, through a comparison of participants' baseline estimates for FFR, subsequent scenario specific likelihood estimates of FFR, and interpretations of the FFR/Non-FFR outcomes, participant responses are compared both within- and between-subjects to isolate the potential causes of correspondence bias (e.g., unrealistic expectations, inflated categorizations, and incomplete corrections).

3.2 Pilot Testing

To ensure readability of the instrument and to refine the variables of interest, pilot testing was performed with several distinct subject pools. In total, 177 respondents completed the study during pilot testing. Pilot subjects were recruited from an undergraduate general business class, several sections of an undergraduate Principles of Accounting class, and a continuing professional education conference for CPAs. As a result of pilot testing, refinements were made

to the wording of the questions pertaining to the dependent variables, questions were dropped, and additional questions related to recent changes in overall business culture were added. Pilot testing also led to a focus on a direct internality scale as a measure attributions rather than an indirect internality scale.

3.3 Independent Variables

Independent variables include relationship type, constituent group, information type, and the controller's decision outcome. Relationship type consists of in-group for corporate accountants and out-group for corporate lawyers and laymen. Constituent group relates to which subject pool a participant belongs and consists of corporate accountants, corporate lawyers, or laymen. As depicted in Table 2, information type is manipulated at three levels: dispositional, environmental, and no additional information provided. Decision outcome is manipulated at two levels: the controller proceeds with inappropriate accounting (FFR outcome) or does not proceed with inappropriate accounting (Non-FFR outcome). Participants from each constituent group are randomly assigned to the appropriate schedule of manipulations as provided in Figure 5. Additionally, to ensure participants view each controller's decision independently, an expense type is randomly assigned to each scenario but never repeated for a single participant. Within each scenario a participant reviews a decision related to one of the following (1) payroll expense, (2) advertising expense, or (3) a consulting expense.

In addition to the independent variables described above, participant's baseline expectation about the general occurrence of fraud is collected and used to calculate an adjustment score. Prior to completing any scenarios, participants provide their overall expectation (i.e., a baseline estimate of the occurrence of FFR outcomes) of the percentage of accountants who work at public companies and are responsible for the financial reporting

decisions who would knowingly and intentionally account for something in a manner that would mislead the users of their financial statements. This baseline estimate is compared to the participant's scenario specific likelihood estimate that the corporate controller will commit FFR to determine how participants adjust their initial estimate in accordance with the type of information provided (see additional description of the adjustment score in the dependent variable section below). Finally, demographic and personal characteristics such as age, profession, experience with FFR, professional credentials, mood,[12] and overall perceptions of recent changes in business culture are collected and tested as covariates to control for their effect on participant attributions and/or correspondence bias.

3.4 Dependent Variables

Dependent variables include an internality score, the adjusted likelihood estimate that a particular corporate controller will commit FFR, and the assessment of the appropriateness of the controller's action. The primary dependent variable, developed in accordance with Kaplan et al. (2007), is collected using a single slider scale ranging from -10 to 10. The scale is anchored by "Environmental Factors" (-10) and "The Controller's Personal Disposition" (10). A positive score is therefore indicative of dispositional attributions (i.e., the actor being perceived as a more salient cause of a particular outcome than is the environment) and a negative score indicates environmental attributions (i.e., the environment being perceived as more salient). Attributional differences are therefore identified by consistently higher or lower internality scores across subjects for a particular information type and outcome combination.

Two additional dependent variables are a participant's adjustment score (i.e., the scenario specific adjusted likelihood estimate of FFR) and an appropriateness assessment of a particular

[12] Measured in accordance with Chung et al. (2008).

controller's outcome decision. In order to evaluate a participant's adjustment from their initial baseline estimate to their scenario specific estimate, a difference score is calculated. A participant's scenario specific likelihood estimate is compared to their original baseline estimate and used to identify incomplete corrections as a potential cause of correspondence bias.

Following the indication of each scenario specific decision outcome, participants are asked to assess the appropriateness of the controller's decision. Each participant's understanding of the appropriateness of the controller's accounting choice is used to determine whether or not the participant fully understood the behavior within each scenario. Participants are asked to evaluate the controller's action as either appropriate (Non-FFR) or inappropriate (FFR). The assessment is collected on a nine-point scale with highly inappropriate (1) and highly appropriate (9) as the end points. This assessment is then used to identify situations in which participants do not fully understand the controller's action resulting in what Gilbert and Malone (1995) refer to as inflated categorizations. Table 4 presents a Pearson Correlation Matrix of the variables used for analysis.

3.5 Sample

A total of 134 participants (41 laymen, 45 corporate lawyers, and 48 corporate accountants) participated in the study. Table 3 provides detailed participant characteristics. During the study, participants from each constituent group were randomly assigned to the appropriate schedule of manipulations provided in Figure 5. To recruit each group of participants the following measures were taken.

3.5.1 Laymen

Laymen participants were procured through Qualtrics[13] and paid a nominal fee for their participation. In total 53 laymen respondents accessed the online survey. Ten of these respondents were removed by Qualtrics Panels and not paid for their participation as a result of the limited time they spent on the survey.[14] Additionally, two respondents procured through Qualtrics Panels indicated within their responses they are licensed CPAs. These respondents were removed from analysis to eliminate any confounding effects between laymen and accounting participants.

3.5.2 Corporate Lawyers

Corporate lawyers were procured through personal contacts and relationships maintained by the ACIS department at Virginia Tech. I contacted attorneys at several large law firms with whom I have relationships and who specialize in corporate law, and asked if they would be willing to participant in an online study I was conducting for my dissertation around impression formation. Additionally, two faculty members at Virginia Tech helped facilitate participation from several law firms. In order to participate, all lawyers were required to have previously provided legal counsel to businesses or corporations.

In total, 53 corporate lawyers accessed the online survey. Of these, eight respondents did not finish the survey resulting in 45 complete corporate lawyer responses.

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[13] Qualtrics is a global, web-based market research company specializing in survey design, data collection, and data analysis. Qualtrics provides an easy-to-use Internet platform connecting researchers with pre-screened experimental participants. According to the Company website (www.qualtrics.com), approximately 1,300 universities worldwide, including every major university in the United States, obtains access to Qualtrics.

[14] In order to eliminate individual respondents who do not take a survey seriously, Qualtrics Panels has a policy to remove and not pay any survey respondents who complete a survey in less than one third of the average time it takes all respondents to complete that particular survey.

3.5.3 Corporate Accountants

Similar to corporate lawyers, corporate accountants (predominately CPAs) were procured through personal contacts and relationships maintained by the ACIS department at Virginia Tech. All corporate accountants were required to currently be, or have previously been, employed in a financial reporting role. I contacted several large corporations (predominantly public), as well as individual corporate accountants with whom I had a previous relationship and asked if they, as well as any of their financial accounting colleagues, would respond to an online survey about impression formation. Additionally, a faculty member and former department head of the ACIS department helped facilitate participation from the financial accounting personnel at several public companies.

In total 57 corporate accountants accessed the online survey. Of these, nine respondents did not finish the survey resulting in 48 completed accountant responses.

3.6 Experimental Instrument

Participants were asked to participate in an online academic study via Qualtrics. Figure 6 provides a flowchart of the experimental instrument. The complete instrument as presented to online participants is provided in Appendix A. Each section of the instrument is described below.

3.6.1 Introduction

All participants received a general overview of the experiment. Within the general overview, participants were informed that they would be asked to read a total of three distinct scenarios whereby three different corporate controllers are faced with a particular financial reporting decision. Participants were told that they would be responsible for making assessments of each corporate controller's action and then, upon being informed of the specific action taken

by the corporate controller, asked to indicate what factors they feel were relevant to the corporate controller's decision.

3.6.2 Initial Baseline Estimate of Accountants' Willingness to Commit FFR

After reading the introductory materials, participants were asked for their baseline estimate that an ordinary financial accountant would be willing to commit FFR. Specifically, participants were asked the following question:

> What percentage of accountants who work at publicly traded companies and are responsible for the financial accounting decisions at their company would knowingly and intentionally account for something in a manner that would mislead the users of their financial statements?
>
> _____ % of accountants would knowingly and intentionally account for something in a manner that would mislead the users of their financial statements.
> _____ % of accountants would not knowingly and intentionally account for something in a manner that would mislead the users of their financial statements.
>
> (Note: Total % must = 100)

3.6.3 Case-Based Scenarios

Participants were then asked to complete a series of three case-based scenarios whereby the type of information was manipulated as dispositional, environmental, or no additional information, as specified in Table 2. The order of scenarios, type of information provided, and decision outcome was specifically assigned to each participant. However, participants were randomly assigned to the unique combinations of manipulations shown in Figure 5. Within each scenario participants were first asked to review a particular set of circumstances and provide a likelihood estimate of the percentage of corporate controllers who would include a specific expenditure in the current year. Upon providing their likelihood estimate, participants were then informed of the scenario specific corporate controller's decision (i.e., chose to report the expense in the current year or chose not to report the expense). To gauge their perceptions of the controller's intent to, or not to, commit FFR, participants then evaluated the appropriateness

(from highly inappropriate to highly appropriate) of the corporate controller's decision. Participants were then asked to attribute the causes of the corporate controller's action prior to proceeding to the next scenario.

3.6.4 Post-Experiment Questionnaire

After completing a third and final scenario, demographic and other information was collected from participants in a post-experiment questionnaire. Collected demographics and personal characteristics include participants' gender, year of birth, profession, years of experience, experience with FFR, and mood. Additionally, participants answered a series of questions related to perceived changes in overall business culture. To conclude, participants were asked if they feel more could be done to improve the overall financial reporting environment and whether more should be done in the aftermath of financial reporting fraud to understand the causal factors of the event. To the extent participants indicated that yes more could be done in response to either question, they were asked to provide free-response suggestions for improvement.

CHAPTER FOUR

DATA ANALYSIS

4.1 Preliminary Analysis

I use linear mixed effect models to test my specific hypotheses. Prior to running the models, I first perform several preliminary analysis tests to determine whether the data collected meets the three basic assumptions of parametric linear modeling – independent observations, normal distribution of the dependent variables, and homogeneity of variance (Keppel 1991, 97).

The first assumption, independent observations, was addressed in experimental design by randomly assigning participants to the experimental conditions. For the second assumption, normal distribution of the dependent variables, I visually examined the data using boxplots and normal probability plots which raised concerns regarding the normality of the dependent variables. I next obtained Shapiro-Wilk test statistics based on the primary dependent variable, two additional dependent variables, and three primary independent variables. These tests indicate that the data often fail to meet the second assumption of normality. For the third assumption, homogeneity of variance, I use the Leven's statistic to test each of the dependent variables. In many instances I do not find evidence of equal variance ($p < .10$) in the data for the dependent variables.

Although the F statistic generated by linear models is robust to modest violations of these assumptions (Ferguson 1981, 245; Kirk 1968; Neter et al. 1996), the number of violations from the primary dependent variable (i.e., the internality assessment) and the two secondary dependent variables (i.e., the adjusted likelihood the scenario specific corporate controller will commit FFR and the appropriateness assessment) lead me to supplement my analysis with Mann-Whitney

two-sample rank-sum tests.[15] The Mann-Whitney is a nonparametric test that makes no assumptions regarding the distribution of the data (Mann and Whitney 1947; Wilcoxon 1945).

4.2 The Full Mixed Effects Model

In full consideration of the 3x3x2 design of my study, and recognizing the design includes both fixed (constituent group, information type, and outcome) and random effects (expense type and the participant themselves), I use mixed effects models to test the main effects of relationship type, constituent group, information type, and outcome, as well as the two and three-way interactions among all variables of interest. The benefit of this model is that it allows for the inclusion of the random effects of expense type as well as any idiosyncratic biases that any one individual participant brings to the study (McLean et al. 1991).

As depicted in Table 5, the full mixed models (Panel A presents a model testing the main effect of relationship type and Panel B presents a model testing the main effect of constituent group) reveal main effects for constituent group ($F = 8.01$, $p = .001$, two-tailed) and outcome ($F = 55.41$, $p = <.001$ in Panel A and $F = 48.28$, $p < .001$ in Panel B), but no main effects for relationship type ($F = 0.22$, $p = .640$, two-tailed) and information type ($F = 1.22$, $p = .298$, two-tailed, in Panel A and $F = 1.50$, $p = .226$, two-tailed, in Panel B). All two and three-way interactions are non-significant (all p-values > .100), except for the interaction of relationship type and outcome ($F = 4.20$, $p = .041$, two-tailed, in Panel A) and constituent group and outcome ($F = 2.47$, $p = .086$, two-tailed, in Panel B).[16] The finding that relationship type does not have a main effect in Panel A, but constituent group does in Panel B, combined with the hypothesis testing below provides evidence corporate lawyers do not process the information they receive

[15] Additionally, when possible, I run the Kruskal Wallis ANOVA for all variables of interest and find the results are consistent with the results of the parametric mixed model tests.
[16] All inferences remain the same when controlling for gender, age, mood, and experience with FFR.

consistent with that expected of an out-group relationship. In fact, several of the additional tests below indicate that corporate lawyers are able to fully incorporate relevant information and remain relatively unbiased in their attributions. As expected, laymen appear to be biased in their attributions consistent with an out-group relationship.

Based upon the findings from, and my interpretation of the full mixed model, I proceed with hypothesis testing using simpler versions of the mixed effects model.[17] It should be noted that all relationships reported, and inferences gained from them, remain the same when running non-parametric tests except where specifically indicated below. Also, as noted below Tables 5 through 7, all inferences remain the same when controlling for gender, age, mood, and previous exposure to FFR.

4.3 Attributional Differences – Hypotheses $H1_{a-c}$

To examine the attributional differences of laymen, corporate lawyers, and corporate accountants, attributions are examined for both FFR and Non-FFR outcomes using mixed linear models. Consistent with $H1_a$, I find a significant effect for constituent group for FFR outcomes ($F = 4.50$, $p = .013$, two-tailed, see Table 6 Panel B)[18] indicating that constituent groups make different attributions. As evidence in Table 6 Panel A and Figures 7 and 8, when observing FFR outcomes, laymen make more dispositional attributions, with a mean = 2.95, than corporate lawyers, mean = -0.88, and corporate accountants, mean = -0.33. Interestingly, both corporate lawyers and corporate accountants make neutral attributions that are neither significantly

[17] Provided the non-significant two and three-way interactions found in the full model, specific hypotheses are tested using mixed models that do not include the two and three-way interactions.
[18] Results of mixed models analyzing the attributions of each pair of constituent groups indicate the following for FFR outcomes: Laymen make different attributions than corporate lawyers ($F = 14.61$, $p < .001$, untabulated), laymen make different attributions than corporate accountants ($F = 10.36$, $p = .001$, one-tailed, untabulated), and corporate accountants and corporate lawyers make similar attributions ($F = 0.32$, $p = .570$, two-tailed, untabulated).

different from zero (t = -1.30, p = .099, and t = -0.47, p = .319, respectively), nor different from each other (t = 0.57, p = .285). The mean laymen attribution is significantly different from zero (t = 3.98, p < .001) and significantly different from attributions of corporate lawyers and corporate accountants (t = 3.82, p < .001, and t = 3.22, p = .001, respectively). This is indicative of laymen exerting correspondence bias and making the fundamental attribution error when observing FFR outcomes. In addition, these results demonstrate that corporate lawyers and corporate accountants do not over attribute an observed FFR outcome to either disposition or environment.

For Non-FFR outcomes, $H1_b$ predicts that out-group laymen and corporate lawyers fail to make dispositional attributions, whereas corporate accountants do not. Consistent with $H2_a$, I find a significant effect for constituent group for Non-FFR outcomes (F = 5.59, p = .005, two-tailed, see Table 6 Panel C). However, as shown in Table 6 Panel A and Figures 7 and 8, all three constituent groups on average are able to recognize situations where controllers make appropriate decisions by making net dispositional attributions. The mean attributions for each constituent group are 5.41 for laymen, 1.76 for corporate lawyers, and 4.00 for corporate accountants. Interestingly, laymen make higher dispositional attributions than both corporate lawyers and corporate accountants when observing Non-FFR outcomes (t = 3.90, p < .001, and t = 1.73, p = .043, respectively). Further, corporate accountants make more dispositional attributions than corporate lawyers (t = 2.52, p = .007) and each group's attributions are significantly greater than zero (t = 8.95, p < .001, t = 2.49, p = .008, and t = 7.29, p < .001, respectively). Collectively these results demonstrate that all three constituent groups are able to appropriately make dispositional attributions when observing Non-FFR outcomes.

$H1_c$ predicts an interaction between relationship type (in-group and out-group) and decision outcome. Results of a mixed model for relationship type and outcome show a non-

significant main effect for relationship type (F = 0.22, p = .640, two-tailed, see Table 5 Panel A) and a significant interaction (F = 4.20, p = .041, see Table 5 Panel A). Provided the findings from the full mixed model as well as testing for $H1_a$ and the idea that lawyers may not appropriately be categorized as out-group, I also test for an interaction between constituent group and outcome. As evidenced by the non-significant interaction coefficient (F = 2.16, p = .117, two-tailed) in Table 6 Panel D, an interaction between constituent group and decision outcome does not exist for FFR outcomes. The interaction between relationship type and outcome, and lack of interaction between constituent group and outcome, provide additional evidence that corporate attorneys are not appropriately classified as out-group. Rather, they are processing information consistent with members of an in-group.

Because an interaction does not exist between constituent group and outcome, the direct effects of both constituent group and outcome can be interpreted as presented above in $H1_{a\&b}$ and in Table 6. See Figures 8 and 9 for graphical depictions of internality assessments by constituent type for each outcome.

4.4 Effect of Information Type – Hypotheses $H2_{a-c}$

In H2a-c I hypothesize that internality scores will be systematically different between in- and out-group participants, and that these differences will depend on the type of additional information provided as well as the outcome. For $H2_{a-c}$ I first compare internality scores across relationship type and information type using a mixed model. As a result of the findings that corporate lawyers may make attributions more consistent with in-group corporate accountants, I also perform this comparison across constituent group when testing $H2_{a-c}$.

$H2_a$ predicts in-group corporate accountants will consistently have lower internality scores than out-group laymen and corporate lawyers across all information types provided an

FFR outcome. I find a non-significant effect for relationship type (F = 1.60, p = .105, one-tailed, untabulated) and a significant effect for information type (F = 2.41, p = .048, one-tailed, untabulated) when comparing internality scores across relationship type and information type. However, I find significant main effects for both constituent group (F = 4.79, p = .010, two-tail) and information type (F = 3.34, p = .040, two-tailed)(see Table 7 Panel B) when comparing internality scores across constituent group and information type. As indicated in Figure 9, corporate accountants do not consistently have lower internality scores than corporate lawyers but they do compared to laymen.

An inability to interpret the type of additional information and adjust attributions accordingly is indicative of correspondence bias (Arrington et al. 1985; Kelley 1967; Nisbett and Ross 1980) and theory indicates that in-group individuals should adjust their attributions according to the information type provided. However, corporate accountants do not appear to incorporate the different information types into their attributions, as evidenced by none of their internality scores across the three information types (dispositional = -0.65, environmental = -1.08, and no additional information = 0.91, see Table 7 Panel A) being significantly different from zero (t = -0.56, p = .292, t = -0.86, p = .199, and t = 0.77, p = .226, respectively). Surprisingly, corporate lawyers appropriately incorporate additional information into their attributions when environmental information is provided. While the corporate lawyers on average make more dispositional attributions when provided dispositional information, their mean internality score (1.18) is not significantly different from zero (t = 1.05, p = .153), nor is it significantly different from their mean attribution when no additional information is provided (mean = -0.05, t = 0.71, p = .243).

Since in-group corporate accountants should be able to process and incorporate the varying information types into their attributions, I further investigate the finding that the information type does not influence corporate accountants' attributions. I do this by examining the effect information type has on corporate accountants' scenario specific likelihood estimate that the controller will commit FFR (see discussion under Causes of Correspondence Bias for a detailed description of adjusted likelihood estimate).

In doing so, it is evident corporate accountants do incorporate the information type into their scenario specific likelihood estimate, specifically for environmental information. When provided additional dispositional or environmental information, corporate accountants increase their likelihood estimate of FFR over their estimate when no additional information is provided by 6.53% and 13.53%, respectively. Results of a mixed model indicate that the scenario specific estimates are different ($F = 4.82$, $p = .010$, two-tailed, untabulated) across information type. Differences between the revised estimates are significantly different for environmental ($t = 2.575$, $p = .006$), but not dispositional information ($t = 1.26$, $p = .106$, one-tailed) when compared to estimates when no additional information is provided. While it is evident that corporate accountants can interpret environmental information, they do not carry this influence forward to their attributions of the outcome decision. This result indicates that some other overriding factor may be influencing corporate accountants' attributions.

Similar to corporate accountants, laymen make equal attributions across all information types as the differences between their attributions when dispositional information (mean = 4.00) and environmental information (mean = 2.53) is provided, as well as the difference between their attributions when dispositional and no additional information (mean = 2.54) are all non-significant ($t = 0.79$, $p = .219$, and $t = 0.78$, $p = .220$, respectively).

Collectively these results indicate that corporate accountants and corporate lawyers consistently make less dispositional attributions than laymen. While corporate lawyers are the only constituents who incorporate additional information into their attributions, and they only incorporate additional environmental information, corporate accountants are able to interpret additional environmental information and adjust their scenario specific likelihood estimates accordingly. This additional information does not however carry forward to corporate accountants' attributions.

$H2_{b,}$ predicts in-group individuals will make less dispositional attributions compared to out-group individuals for Non-FFR outcomes when dispositional information is provided. When comparing internality scores across relationship type and information type, I find non-significant main effects for both relationship type ($F = 0.12$, $p = .735$, two-tailed, untabulated) and information type ($F = 0.30$, $p = .740$, two-tailed, untabulated). However, when comparing across constituent group and information type, I find a significant main effect for constituent group ($F = 5.64$, $p = .005$, two-tailed), but not information type ($F = 0.10$, $p = .906$, two-tailed)(see Table 7 Panel D).

As evidenced by Figure 10, corporate lawyers make the lowest attributions when dispositional information is provided. The mean internality scores for laymen, corporate lawyers, and corporate accountants are 6.63, 0.95, and 3.41, respectively (see Table 7 Panel C). Corporate lawyers are best able to interpret the conflicting nature of provided dispositional information and a Non-FFR outcome as they make neutral attributions as evidenced by a mean of 0.95, which is not significantly different from zero ($t = 0.72$, $p = .239$). Additionally, corporate accountants, with a mean internality score of 3.41, do make less dispositional attributions than laymen whose mean internality score is 6.63 ($t = -2.89$, $p = .003$).

Collectively these results show that corporate lawyers and corporate accountants, albeit to a less extent, interpret the conflicting nature of the additional dispositional information and the choice of a Non-FFR outcome. The results also demonstrate that by continuing to make overly dispositional attributions when provided conflicting information (i.e., information indicating the controller's poor disposition may have caused them to make inappropriate decisions previously), laymen exhibit correspondence bias.

$H2_c$ predicts in-group corporate accountants will have higher internality scores than out-group individuals when either environmental or no additional information is provided. As shown in Figure 10, corporate lawyers and corporate accountants appear to make lower attributions when provided environmental information (means = 2.57 and 4.00 respectively) than laymen (mean = 5.57). Further, corporate accountants and laymen appear to make similar attributions when no information is provided (means are 4.54 and 4.14 respectively). The difference between corporate lawyers and laymen when provided environmental information is significant ($t = 2.01$, $p = .050$, two-tailed); however, differences between corporate lawyers and corporate accountants ($t = 1.02$, $p = 3.12$, two-tailed) and corporate accountants and laymen are not different ($t = 1.13$, $p = .263$, two-tailed). When provided no additional information, corporate lawyers make similar attributions to corporate accountants ($t = -1.67$, $p = .103$, two-tailed) and laymen ($t = -1.34$, $p = .189$, two-tailed). Collectively these results provide evidence that corporate lawyers are best able to interpret the combination of additional information and outcome and therefore make attributions more consistent with in-group cognitive processing. Additionally, laymen do not engage in the appropriate level of post hoc cognitive processing and therefore fail to appropriately evaluate information and outcome, which is indicative of correspondence bias.

4.5 Causes of Correspondence Bias – Hypotheses $H3_{a-c}$

$H3_a$ considers the original baseline estimates made by each constituent group to determine whether correspondence bias is caused by unrealistic expectations as they relate to financial accounting decisions. Prior to completing any scenarios, participants provided baseline estimate of FFR (i.e., an estimate of the percentage of accountants who would knowingly and intentionally account for transactions in a manner that would mislead financial statement users). To test $H3_a$, I compare baseline estimates of FFR between constituents groups using a between group ANOVA[19] and find a significant main effect for constituent group ($F = 21.02$, $p < .001$, untabulated).

As highlighted in Figure 11, laymen, who on average believe that 26.24% of accountants are willing to mislead financial statement users, have a marginally higher baseline estimates than corporate lawyers who on average think that 18.2% would be willing to do so ($t = 1.59$ and $p = .058$, one-tail). Further, while corporate lawyers on average have a higher baseline expectation than corporate accountants who believe that 9.80% of accountants would intentionally misreport when using parametric tests ($t = 2.01$ and $p = .024$, one-tail), non-parametric tests indicate that corporate lawyer and corporate accountant estimates are the same ($z = 0.93$ and $p = .177$, one-tail). These mean differences between groups are indicative of different expectations for the prevalence of FFR, and that unrealistic expectations are a potential cause of correspondence bias for laymen.

For $H3_b$, I compare the accuracy of outcome identification across constituent groups using mixed models for both FFR and Non-FFR outcomes to identify potentially inflated

[19] An ANOVA is used here instead of a mixed model because participants only provide one baseline estimate. Since this baseline estimate is not scenario specific and was collected before the introduction of the random expense variables, it is not necessary to include any random effects in the model.

categorizations. The accuracy of outcome identification is measured by respondents' assessments of the appropriateness of the corporate controller's decision in each scenario. Assessments are made on a scale with end points representing highly inappropriate (1) and highly appropriate (9). After controlling for the random effects of expense type as well as the participant themselves, I find a non-significant main effect of constituent group ($F = 1.38$, $p = .256$, two-tail, untabulated) for FFR outcomes but a significant effect of constituent group ($F = 4.83$, $p = .010$, two-tail, untabulated) on the appropriateness assessment for Non-FFR outcomes.

As evidenced in Figure 12, corporate accountants, with a mean response of 2.63 for FFR outcomes and 8.06 for Non-FFR outcomes appear to best identify appropriate and inappropriate accounting outcomes. Corporate lawyers have a mean response of 2.96 for FFR outcomes and 7.43 for Non-FFR outcomes. Laymen average 3.50 for FFR outcomes and 6.46 for Non-FFR outcomes. While assessments for FFR outcomes for laymen are statistically different from those of corporate accountants ($t = 2.12$, $p = .018$), they are not significantly different from corporate lawyers (1.37, $p = .086$). Further, for FFR outcomes, corporate lawyers do not differ significantly from corporate accountants ($t = .924$ and $p = .179$). For Non-FFR outcomes, laymen assessments are significantly different from corporate accountants ($t = -4.00$, $p < .001$) and corporate lawyers ($t = -2.32$, $p = 0.011$). Corporate lawyer assessments of Non-FFR outcomes are also significantly different from those of corporate accountants ($t = -1.76$, $p = .041$).

Collectively, differences among constituent groups' ability to interpret outcomes, particularly for Non-FFR outcomes, provide evidence of a potential cause of correspondence bias. A failure to identify the nature of an outcome is indicative of a misinterpretation of the outcome. The inability or reluctance of laymen, and to a lesser extent, corporate lawyers, to

identify Non-FFR outcomes as appropriate indicates that inflated categorizations are potentially causing correspondence bias for these two constituent groups.

For $H3_c$, I compare changes from baseline estimates of FFR to actual scenario specific likelihood estimates of FFR across constituent group to identify whether incomplete or inaccurate corrections are made. The introduction of additional information, either dispositional or environmental, should normatively lead to an increase in a participant's likelihood estimate that a scenario specific corporate controller will commit fraud. In order to calculate the adjustment participants make when provided additional information, a participant's original baseline estimate of an FFR outcome is subtracted from that participant's scenario specific likelihood estimate that the corporate controller would not include the expense in the current period's financials (also an FFR outcome).

$H3_c$ predicted that corporate accountants will adjust their likelihood estimates more based upon the type of information they receive than corporate lawyers, and corporate lawyers would adjust more than laymen. Using a mixed model I do not find a significant main effect for constituent group ($F = 0.52$, $p = .595$, two-tailed, untabulated). As depicted in Figure 13, results suggest that neither group adjusts its likelihood estimate differently than the others. More specifically, the mean adjustment for the corporate accountants (13.99) is not significantly different from that of the corporate lawyers (mean = 17.77, $t = 0.896$, $p = .186$), nor are the corporate lawyers' adjustments significantly different from that of the laymen (mean = 11.38, $t = -1.336$, $p = .092$). Collectively these results indicate that correspondence bias is either not caused, or is equally caused, by incomplete corrections for each constituent group.

4.6 Supplemental Analysis

In addition to the hypothesis testing above, I perform supplemental analyses to further examine constituent group attributions. The following sections present these supplemental analyses.

4.6.1 Business Culture and Environment Questions

To gauge constituent groups' perceptions of recent changes in the financial reporting environment, and in an attempt to capture and control for what Gilbert and Malone (1995) refer to as lack of awareness, a series of questions are asked after completion of the demographics portion of the instrument. Table 8 presents these questions along with their means, standard deviations, and the results of ANOVA and non-parametric tests for differences across constituent groups. As evidenced by the ANOVA results, and confirmed with non-parametric tests, the constituent groups differ significantly for nine of the 19 questions. These differences are indicative of varying perceptions of overall business culture. To isolate and control for differences in awareness of recent changes to the financial reporting environment, I conduct a confirmatory factor analysis on the 19 questions. The initial phase of the confirmatory factor analysis produced the screen plot shown in Figure 16. Four factors emerge with eigenvalues greater than 1 and together account for an acceptable amount of the overall variance (58%).[20,21] To confirm the series of questions captures four unique constructs as they relate to overall business culture, and to determine which specific questions relate to each factor, I complete the

[20] One of the most commonly used criteria for determining the number of factors or components to include is the latent root criterion, also known as the eigenvalue-one criterion or the Kaiser criterion. With this approach, one retains and interprets any component that has an eigenvalue greater than 1.0 (Lance et al. 2006).

[21] The analysis resulted in a Kaiser-Meyer-Olkin Measure of Sampling Adequacy of .777 which is considered good (Hutcheson and Sofroniou 1999, 224-225) and Bartlett's Test of Sphericity was significant with $p < .001$ thereby indicating the correlations in the model are appropriate for factor analysis (Snedecor and Cochran 1989).

confirmatory factor analysis using a Varimax rotation with Kaiser Normalization. The confirmatory factor analysis produced the rotated component matrix presented in Table 11. Further analysis of the rotated component matrix indicates that none of the individual statements load more strongly on other factors.

When designing this part of the experiment, it was my intention to have the questions capture the following four items: (1) an overall awareness of recent changes in the financial reporting environment, (2) perceptions of the effectiveness of recent changes to the financial reporting environment (3) suggested future changes in the regulatory environment, and (4) perceptions of the causes of financial reporting fraud. The results of the confirmatory factor analysis are consistent with my expectations and confirm the grouping of questions into the four factors identified in Table 11.

Since I am primarily interested in the idea that corporate accountants may have more awareness of recent changes in the financial reporting environment than corporate lawyers and laymen, I create a scale that combines the six individual questions for Factor 1 into one variable[22] (see Table 11 for a complete listing of the four factors and the questions that load on each factor). Reliability tests confirm this six-item scale is reliable with a Cronbach's Alpha of 0.89 (Nunnally and Bernstein 1994). Further, an examination of the inter-item correlation matrix indicates that the average inter-item correlation is relatively high at 0.572.

[22] To combine the individual variables into one single scale, the responses to the six statements that loaded on component #1 were added together and divided by the number of variables (six). Since all six were originally measured with a nine-point scale, the variables did not need to be standardized.

After creating the scaled variable for Factor 1, I run a between groups ANOVA,[23] to determine whether the scaled response differs by constituent group and find a significant effect ($F = 8.58$, $p = .032$, one-tailed, untabulated). Corporate accountants score lowest (i.e., more strongly agree with the statements) on the scale (mean = 3.34), followed by corporate lawyers (mean = 3.85), and laymen (mean = 3.86). The corporate accountants have a significantly different response from corporate lawyers ($t = -2.05$, $p = .022$) and laymen ($t = -2.08$, $p = .021$), and the corporate lawyer and laymen responses are not significantly different ($t = -0.04$, $p = .97$, two-tailed). These results demonstrate that corporate accountants view the recent changes in the financial reporting environment differently than corporate lawyers and laymen. Further, they are consistent with the possibility that corporate lawyers and laymen are not as aware of, or as sensitive to, recent changes that have occurred within the financial reporting environment.

4.6.2 Controlling for the Potential Causes of Bias and Differing Perceptions of Business Culture

Provided the identification of lack of awareness, unrealistic expectations, and inflated categorizations as potential causes of correspondence bias, I run the full model used to test H1 and H2 as an ANCOVA[24] and control for the effects of these three items as well as gender and age. Results indicate that all three covariates are significant at $p < .10$ with lack of awareness (i.e., Factor 1), unrealistic expectations (i.e., the original baseline estimate of FFR), and inflated categorizations (i.e., the appropriateness assessment) each having an impact on attributions when observing FFR outcomes (see Tables 9 and 10). As evidenced by Figure 14, attributions become much more consistent across outcome when controlling for the three identified potential causes

[23] ANOVA is used to test for differences across the scale items because similar to participants' initial baseline estimates, the business culture questions are only asked once and are not influenced by any manipulated variables.

[24] The model was run as an ANCOVA with expense as a random effect rather than a mixed model because currently SPSS does not have the capability to produce estimated marginal means and plots out of a mixed model.

of correspondence bias. It should also be noted, as shown in Figure 15, that all three constituent groups are better able to identify the type of information provided as evidenced by their V-shaped attributions.

These remaining attributional differences between constituent groups suggest that correspondence bias remains even after accounting for the four items Gilbert and Malone (1997) identify as causes of correspondence bias. More specifically, even after controlling for the causes of correspondence bias, laymen still appear to consistently make more dispositional attributions suggesting something else is leading them to make dispositional attributions. This is a cause for concern should such individuals be selected for jury duty related to an FFR case. If in fact these individuals over attribute cause to the disposition of the accused, they fail to recognize other proximate causes of the outcome.

4.6.3 Effect of Technical Knowledge and Character

Following the indication of the decision that each scenario specific controller made, and prior to responding to the direct attribution scale, participants are asked to identify with four potential causes of the outcome decision. More specifically, participants are asked to allocate a total of 100 points across four categories represented by (1) the corporate controller's technical knowledge, (2) the corporate controller's character, (3) how the accounting might impact the company's financial reporting, and (4) other people's attitude towards financial reporting. Figure 17 presents the average points allocated to each of the four items for each combination of constituent group and outcome.

Of particular interest is that regardless of outcome, corporate lawyers tend to focus on technical knowledge (overall mean = 37.64) and corporate accountants tend to focus on character

(mean = 40.80).[25] Provided the results of the hypotheses testing and an overall conclusion that laymen suffer from correspondence bias more so than corporate lawyers and corporate accountants, this result gives credence to the idea that recent changes in business culture have created an environment whereby corporate accountants have an overarching belief that regardless of the environmental factors involved, another accountant who commits FFR must have poor character.

[25] Both items, the accountants' mean for controller's character and the lawyers' mean for technical knowledge, are significantly different from their respective next highest item with p values < .001.

CHAPTER FIVE

DISCUSSION, CONTRIBUTIONS, AND LIMITATIONS

5.1 Discussion

This dissertation examines the attributions important constituents in the judicial process make when observing the financial reporting decisions of corporate controllers. Research in psychology and in accounting demonstrates the existence of correspondence bias and a tendency to commit the fundamental attribution error by consistently over attributing an observed behavior to the disposition of the individual performing that behavior. Research also shows that this bias is mitigated or removed when in-group cognitive processing is present. To test for the existence of this bias within the context of fraudulent financial reporting, I conduct an experiment whereby laymen, corporate lawyers, and corporate accountants observe corporate controllers making financial reporting decisions.

My initial predictions were that out-group laymen and corporate lawyers would over attribute a fraudulent decision, and under attribute a non-fraudulent decision, to the disposition of the individual making that decision. While it is clear that attribution differences exist between these constituent groups, and that laymen exert correspondence bias, it is surprising, yet somewhat assuring to learn that corporate lawyers are actually well equipped to process contextual information and make unbiased attributions around financial reporting decisions. This is contradictory to a substantial body of research (e.g., Arrington et al. 1985; Dripps 2003; Feigenson 2000; Ross 1977; Ross and Nisbett 1991, etc.) showing experienced professionals exert correspondence bias and make the fundamental attribution error. More specifically, professionally trained corporate executives in Arrington et al. (1985) over attribute audit failures to the disposition of auditors performing the audit. Further, Dripps (2003, 1385) insists that

"decision makers such as public officials charged with the administration of the criminal justice system are likely to overestimate the causal significance of personal choice, and to correspondingly underestimate the causal significance of situational factors in the behaviors of others." Whereas these studies show circumstances where experienced professionals exhibit correspondence bias, the current study provides evidence that, at least within the context of financial reporting, corporate lawyers do not exhibit the bias.

As evidenced by their neutral attributions and ability to incorporate varying levels of dispositional and environmental information into their ex-post attributions, lawyers do in fact appear to devote an appropriate level of cognitive processing towards their attributions of blame. Lawyers do not appear to be processing information in extreme, black and white, simplistic, or polarized ways (cf., Linville and Jones 1980). Accordingly, they are better equipped to evaluate a more complete set of proximate causes within the context of an alleged financial reporting fraud.

Of particular interest is another finding that corporate accountants do not make environmental attributions when observing another accountant commit fraud. Corporate accountants, the constituent group which, based upon numerous studies (e.g., Arkin et al. 1978; Arrington et al. 1985; and Regan and Totten 1975), would normatively be in a position to empathize with an observed corporate controller and make environmental attributions, instead, make neutral attributions. Findings here indicate corporate accountants do not attribute the cause of fraudulent behavior to the environment. Rather, they equally attribute the observed action to both dispositional and environmental factors. Whereas previous research has shown that individuals who perceive their relationship with the observed individual to be that of "in-group" tend to make group serving or "sociocentric" attributions, within the context of fraudulent financial reporting, corporate accountants do not. Further, while corporate accountants appear to

be able to incorporate information that normatively would lead to more dispositional or environmental information into their likelihood estimates of a particular behavior, they do not allow such information to influence their attributions upon actually observing the behavior.

To address the idea that some other factor might be influencing corporate accountants' attributions, I perform supplemental analysis to examine changes in business culture and accountants' specific attributions. Supplemental analysis shows that corporate accountants anchor on the character of the individual when asked to identify potential causes of a financial reporting behavior. Consistent with their reluctance to empathize with corporate controllers and attribute FFR behavior to environmental factors, a consistent anchoring on character when observing both FFR and Non-FFR outcomes demonstrates a belief that no matter what environmental circumstances exist, these situational pressures or opportunities should not lead an accountant to commit FFR. This finding provides credence to the recent changes in the financial reporting environment and demonstrates that the recent regulatory focus on the prevention of FFR has been effective by creating an overall perception that there is a tremendous focus on the prevention of fraud and character matters.

For laymen, results show they are prone to correspondence bias and the fundamental attribution error within the context of financial reporting. Laymen consistently over attribute an observed fraudulent outcome to the disposition of the individual making the financial reporting decision. Further, laymen fail to interpret information that would normatively lead to dispositional or environmental attributions. While the bias in laymen was expected, it causes concern when these individuals serve as members of a jury and are asked to assign guilt and punishment. If in fact, these constituents are biased in their original attributions and assumptions,

this bias colors their judgment and decision making process. Ultimately this bias must be overcome during a trial in order to ensure a fair outcome.

Lastly, another focus of this study was to determine which of the four causes of correspondence bias, as conjectured by Gilbert and Malone (1995), are prevalent within the context of financial reporting. Results indicate three of the four causes posited by Gilbert and Malone likely play a role in the ex-post attributions of individuals who observe a financial reporting fraud. More specifically, results suggest that a lack of awareness of recent changes in the financial reporting environment, unrealistic expectations towards the likelihood of fraudulent behavior, and inflated categorizations of that behavior contribute to correspondence bias within the context of fraudulent financial reporting. Further, when these items are controlled for, attributions become more consistent between the constituent groups and each constituent group is better able to incorporate the type of information provided into their attributions. However, while the attributions become more consistent among the constituent groups, differences still exist which could be indicative of additional and currently unknown sources of correspondence bias within the financial reporting environment.

5.2 Contribution

This study extends prior literature in accounting by examining the effects of FFR on critical constituents in the judicial process. The recognition and understanding of the attributions made by laymen and non-accounting professionals related to FFR is paramount. Equipped with the knowledge that laymen are in fact biased in their attributions specific to fraudulent outcomes, and lawyers are not, the legal system can adapt accordingly. While results show that laymen do, in fact, over attribute blame to the disposition of the individual, it is reassuring to know that corporate lawyers are much more balanced in their attributions. This means that the prosecution

and defense attorneys involved in a case related to alleged financial reporting fraud are likely to bring more balanced assessments of blame to a trial than previously thought (Dripps 2003; Feigenson 2000).

Another contribution of this study is that it provides contextually specific evidence of the existence and respective influence of Gilbert and Malone (1985)'s proposed causes of correspondence bias. Whereas Gilbert and Malone provided theoretical support for the existence and impact of a lack of awareness, unrealistic expectation, inflated categorizations, and incomplete corrections, this study provides empirical evidence that at least three of these factors, lack of awareness, unrealistic expectations, and inflated categorizations, lead to correspondence bias within what is a very contextually specific environment.

Perhaps most importantly, my findings demonstrate recent changes in business culture have changed the way corporate accountants view the financial reporting environment as evidenced by their reluctance to make environmental attributions when observing a fraudulent accounting decision. This is not to say that more does not need to be done in the aftermath of an FFR event to better understand the underlying proximate causes of FFR but it does give credence to recent regulatory and enforcement efforts directed at preventing FFR.

5.3 Limitations

This study has several limitations. Research on correspondence bias, specifically the tendency to make dispositional rather than environmental attributions, has shown that the tendency to attribute behavior to disposition is likely limited to Western cultures. More specifically, recent studies (Choi and Nisbett 1998; Choi et al. 1999; Ji et al. 2000; Nisbett et al. 2001; Wong-On-Wing and Lui 2007) have shown that compared to Westerners, East Asians pay greater attention to environmental factors and endorse a more holistic theory of causality. Since

all participants in this study are from the U.S., the results may not generalize to non-Western cultures or societies.

Accountability, or the pressure to justify one's causal interpretations of behavior to others, has been shown to reduce or eliminate the correspondence bias (Tetlock 1985). Further, research has shown that when observers learn of the existence of multiple, possibly rival, motives for an actor's behavior, they are less likely to fall prey to correspondence bias than when they learn of the existence of environmental factors that may have constrained the actor's behavior (Fein 1996; Fein et al. 1990). In this study, participants are made aware of a single motive for FFR, the desire to meet earnings forecasts. As such, results from this study may not extend to situations in which individuals are required to justify themselves to others and/or when multiple and/or ulterior motives for the actor are suspected.

Lastly, the presence of correspondence bias has been shown to be moderated by age (Blanchard-Fields and Horhota 2005) and mood (Forgas 1998; Mienaltowski and Blanchard-Fields 2005). Specifically, research has shown that younger individuals are less prone to correspondence bias than are older individuals (Blanchard-Fields and Horhota 2005) and that negative mood can decrease, and positive mood increase, correspondence bias as a result of the information-processing consequences of affective states (Forgas 1998). While I control for both age and mood in my analyses, it is possible that my results will not generalize across all ages and affective states.

5.4 Future Research

In the future, research could more specifically consider the role that culture, accountability, suspicion of ulterior motives, age, and mood play in attributions within the context of FFR. Additionally, future research could consider how correspondence bias changes

with time. In other words, does the tendency to make dispositional attributions increase as time progresses beyond a particular FFR event? Finally, whereas this study focuses on several constituent groups in the judicial process, future research could consider the existence, causes, and effects of correspondence bias on auditors and regulators in an attempt to determine what activities increase their awareness of, and expectations for, FFR events.

While this study identifies which of Gilbert and Malone (1995)'s causes of correspondence bias exist in an FFR context, and demonstrates that constituents in the judicial process for FFR exert correspondence bias, it is not able to differentiate specifically among them. Multiple causes are identified and this study is unable to provide insight into which causal factor plays a bigger role. Future research could attempt to distinguish between individual causes for particular constituents while also addressing what other sources of correspondence bias exist within the financial reporting domain.

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FIGURE 1:

Predicted Effects of Group on Internality Assessments for FFR and Non-FFR Outcomes

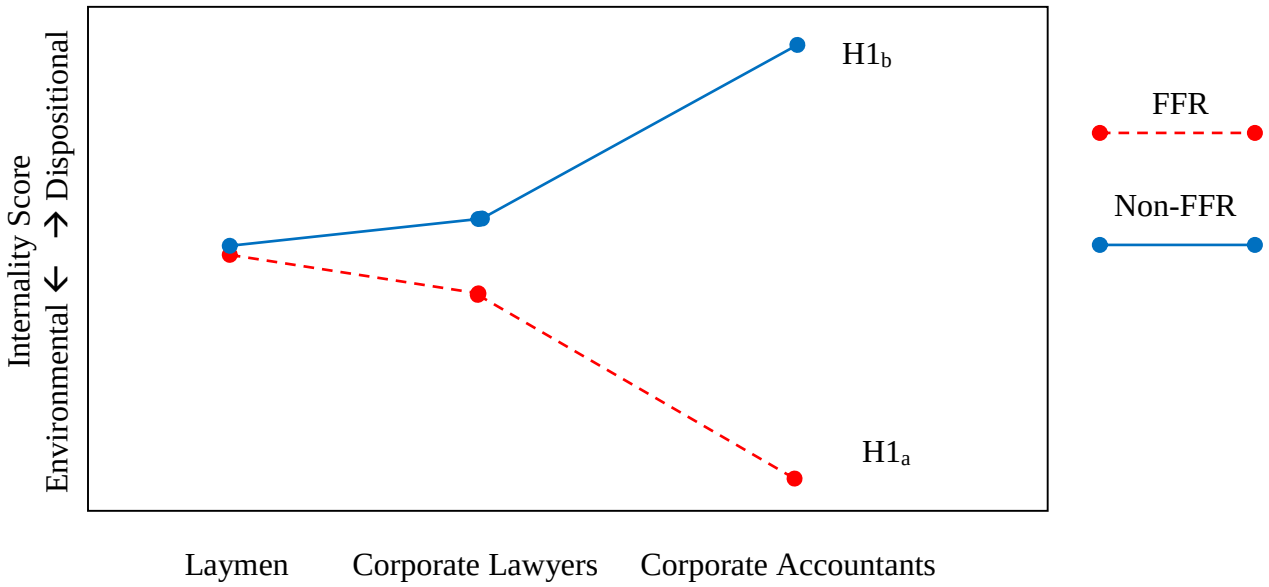


FIGURE 2:

Predicted Interaction between Relationship Type and Decision Outcome

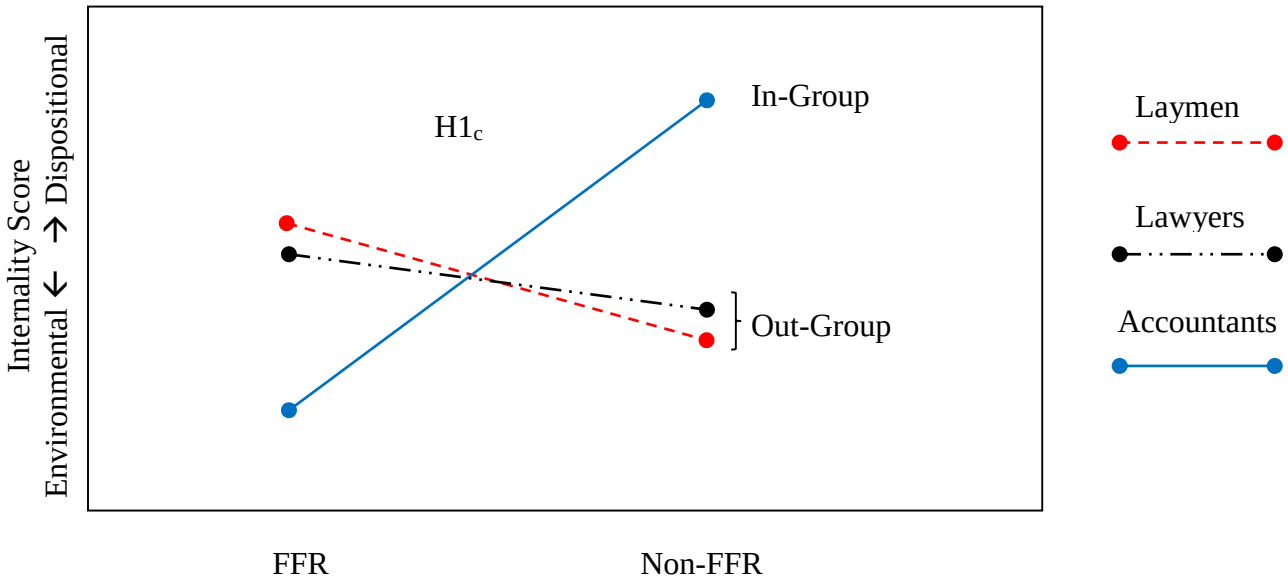


FIGURE 3:

Predicted Effects of Information Type and Relationship Type on Internality Assessments in an FFR Outcome

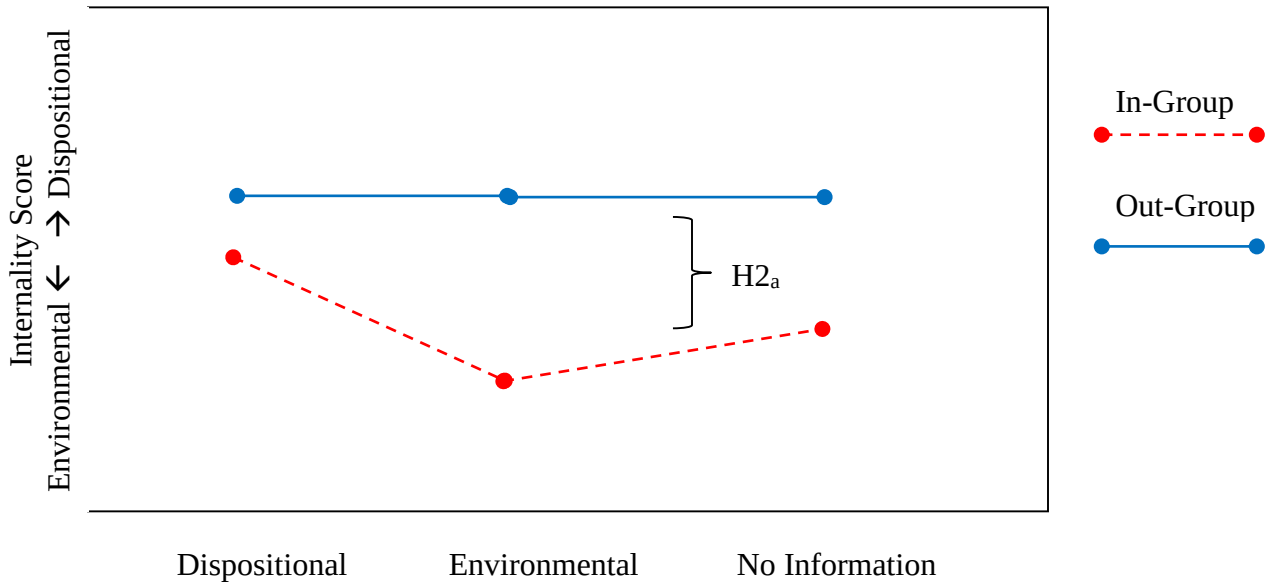


FIGURE 4:

Predicted Effects of Information Type and Relationship Type on Internality Assessments in a Non-FFR Outcome

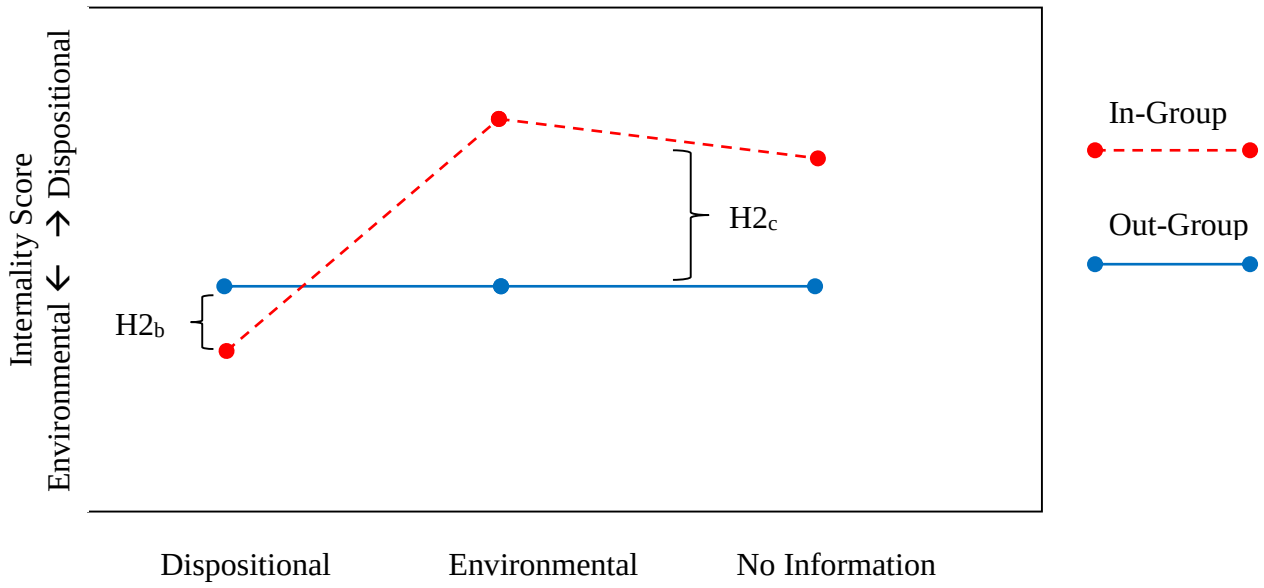


FIGURE 5:

Schedule of Manipulation Assignments by Constituent Group – Nested Block Design

Panel A: Laymen

Subject	Scenario 1	Scenario 2	Scenario 3
Information Type			
#1	Dispositional	No Additional	Environmental
Outcome	Non-FFR	FFR	Non-FFR
#2	Environmental	Dispositional	No Additional
	Non-FFR	FFR	Non-FFR
#3	No Additional	No Additional	Environmental
	FFR	Non-FFR	Non-FFR
#4	Environmental	Dispositional	No Additional
	Non-FFR	Non-FFR	FFR
#5	Environmental	Environmental	Dispositional
	FFR	Non-FFR	FFR
#6	Dispositional	Environmental	No Additional
	FFR	Non-FFR	FFR
#7	Environmental	Dispositional	No Additional
	Non-FFR	FFR	Non-FFR
#8	No Additional	Environmental	No Additional
	FFR	FFR	Non-FFR
#9	No Additional	No Additional	Dispositional
	FFR	Non-FFR	Non-FFR
#10	Environmental	Dispositional	No Additional
	Non-FFR	Non-FFR	FFR
#11	Environmental	Dispositional	No Additional
	FFR	Non-FFR	FFR
#12	Dispositional	Dispositional	No Additional
	Non-FFR	FFR	FFR
#13	Environmental	No Additional	Dispositional
	Non-FFR	Non-FFR	Non-FFR
#14	No Additional	Dispositional	Environmental
	Non-FFR	Non-FFR	FFR
#15	Environmental	Environmental	Dispositional
	Non-FFR	FFR	FFR
#16	No Additional	Dispositional	Environmental
	FFR	FFR	FFR

Subject	Scenario 1	Scenario 2	Scenario 3
#17	Dispositional	Environmental	Dispositional
	FFR	FFR	Non-FFR
#18	No Additional	Dispositional	No Additional
	FFR	FFR	Non-FFR
#19	Environmental	Dispositional	Dispositional
	Non-FFR	FFR	Non-FFR
#20	Environmental	Dispositional	No Additional
	FFR	FFR	Non-FFR
#21	No Additional	Dispositional	Dispositional
	Non-FFR	Non-FFR	FFR
#22	Environmental	No Additional	Environmental
	Non-FFR	Non-FFR	FFR
#23	No Additional	Dispositional	Environmental
	FFR	FFR	Non-FFR
#24	No Additional	Environmental	No Additional
	FFR	FFR	Non-FFR
#25	Dispositional	No Additional	Dispositional
	Non-FFR	Non-FFR	FFR
#26	Dispositional	No Additional	Environmental
	Non-FFR	Non-FFR	FFR
#27	Dispositional	No Additional	No Additional
	FFR	Non-FFR	FFR
#28	No Additional	Environmental	Environmental
	FFR	Non-FFR	FFR
#29	Dispositional	Environmental	Environmental
	Non-FFR	Non-FFR	FFR
#30	Dispositional	Environmental	Dispositional
	FFR	FFR	Non-FFR
#31	Environmental	Dispositional	No Additional
	FFR	Non-FFR	FFR
#32	No Additional	Environmental	Environmental
	Non-FFR	FFR	Non-FFR

FIGURE 5 (continued)

Panel B: Corporate Lawyers

Subject	Scenario 1	Scenario 2	Scenario 3
Information Type	Dispositional	No Additional	Environmental
#1 Outcome	Non-FFR	Non-FFR	FFR
#2	Dispositional	Environmental	Dispositional
	Non-FFR	Non-FFR	FFR
#3	Dispositional	Environmental	No Additional
	FFR	FFR	Non-FFR
#4	Environmental	No Additional	Dispositional
	Non-FFR	FFR	FFR
#5	No Additional	Environmental	Dispositional
	Non-FFR	FFR	FFR
#6	Dispositional	No Additional	Dispositional
	Non-FFR	Non-FFR	FFR
#7	Environmental	Dispositional	No Additional
	Non-FFR	FFR	FFR
#8	Environmental	No Additional	No Additional
	FFR	Non-FFR	FFR
#9	Environmental	Dispositional	Dispositional
	FFR	FFR	Non-FFR
#10	Environmental	No Additional	Dispositional
	FFR	FFR	Non-FFR
#11	Environmental	Dispositional	Environmental
	FFR	FFR	Non-FFR
#12	No Additional	Environmental	No Additional
	Non-FFR	FFR	FFR
#13	Dispositional	Environmental	Environmental
	Non-FFR	FFR	Non-FFR
#14	No Additional	Dispositional	Dispositional
	Non-FFR	Non-FFR	FFR
#15	No Additional	Dispositional	Dispositional
	FFR	FFR	Non-FFR
#16	Environmental	No Additional	Dispositional
	Non-FFR	Non-FFR	Non-FFR

Subject	Scenario 1	Scenario 2	Scenario 3
#17	No Additional	Dispositional	Environmental
	FFR	FFR	Non-FFR
#18	Environmental	No Additional	Environmental
	Non-FFR	Non-FFR	FFR
#19	Environmental	No Additional	Dispositional
	Non-FFR	FFR	Non-FFR
#20	Environmental	No Additional	Dispositional
	FFR	FFR	Non-FFR
#21	Environmental	Dispositional	Environmental
	FFR	FFR	Non-FFR
#22	Environmental	No Additional	Dispositional
	Non-FFR	Non-FFR	Non-FFR
#23	No Additional	Environmental	Dispositional
	FFR	Non-FFR	Non-FFR
#24	No Additional	Environmental	No Additional
	Non-FFR	Non-FFR	FFR
#25	Dispositional	No Additional	No Additional
	FFR	FFR	Non-FFR
#26	Dispositional	No Additional	No Additional
	FFR	FFR	Non-FFR
#27	No Additional	Dispositional	Environmental
	FFR	Non-FFR	FFR
#28	Dispositional	Environmental	Environmental
	Non-FFR	FFR	Non-FFR
#29	Environmental	No Additional	Dispositional
	FFR	FFR	FFR
#30	No Additional	Dispositional	Dispositional
	Non-FFR	Non-FFR	FFR
#31	No Additional	No Additional	Environmental
	FFR	Non-FFR	Non-FFR
#32	Environmental	No Additional	Environmental
	FFR	Non-FFR	Non-FFR

FIGURE 5 (continued)

Panel C: Corporate Accountants

Subject	Scenario 1	Scenario 2	Scenario 3
Information Type			
#1	Dispositional	Dispositional	Environmental
Outcome	FFR	Non-FFR	FFR
#2	Environmental	No Additional	Environmental
	FFR	FFR	Non-FFR
#3	Dispositional	No Additional	Environmental
	Non-FFR	Non-FFR	Non-FFR
#4	Environmental	Dispositional	No Additional
	Non-FFR	Non-FFR	FFR
#5	Environmental	Dispositional	No Additional
	Non-FFR	FFR	Non-FFR
#6	No Additional	No Additional	Dispositional
	Non-FFR	FFR	Non-FFR
#7	No Additional	Dispositional	Environmental
	Non-FFR	Non-FFR	Non-FFR
#8	Dispositional	No Additional	Environmental
	FFR	Non-FFR	Non-FFR
#9	No Additional	No Additional	Environmental
	Non-FFR	FFR	FFR
#10	No Additional	Dispositional	Dispositional
	Non-FFR	FFR	Non-FFR
#11	Environmental	Dispositional	Dispositional
	Non-FFR	Non-FFR	FFR
#12	No Additional	Dispositional	No Additional
	Non-FFR	FFR	FFR
#13	Environmental	No Additional	Dispositional
	FFR	Non-FFR	Non-FFR
#14	Dispositional	No Additional	Environmental
	Non-FFR	FFR	FFR
#15	Dispositional	Environmental	Environmental
	FFR	Non-FFR	FFR
#16	Dispositional	Environmental	Environmental
	Non-FFR	FFR	Non-FFR

Subject	Scenario 1	Scenario 2	Scenario 3
#17	Environmental	Dispositional	No Additional
	Non-FFR	FFR	FFR
#18	Dispositional	No Additional	Environmental
	Non-FFR	FFR	Non-FFR
#19	No Additional	Environmental	Dispositional
	FFR	FFR	Non-FFR
#20	Dispositional	No Additional	Environmental
	FFR	FFR	FFR
#21	Dispositional	Environmental	No Additional
	FFR	FFR	FFR
#22	Dispositional	No Additional	Environmental
	Non-FFR	Non-FFR	FFR
#23	Dispositional	Environmental	No Additional
	FFR	FFR	Non-FFR
#24	Dispositional	No Additional	Dispositional
	FFR	Non-FFR	Non-FFR
#25	No Additional	Dispositional	Dispositional
	FFR	FFR	Non-FFR
#26	Dispositional	Dispositional	No Additional
	Non-FFR	FFR	FFR
#27	Environmental	Environmental	No Additional
	Non-FFR	FFR	Non-FFR
#28	No Additional	Environmental	No Additional
	Non-FFR	Non-FFR	FFR
#29	Dispositional	No Additional	Environmental
	FFR	Non-FFR	Non-FFR
#30	Environmental	Environmental	No Additional
	FFR	Non-FFR	FFR
#31	No Additional	Environmental	No Additional
	Non-FFR	FFR	FFR
#32	Environmental	Dispositional	Environmental
	Non-FFR	FFR	FFR

FIGURE 6:

Flowchart of Experimental Procedures

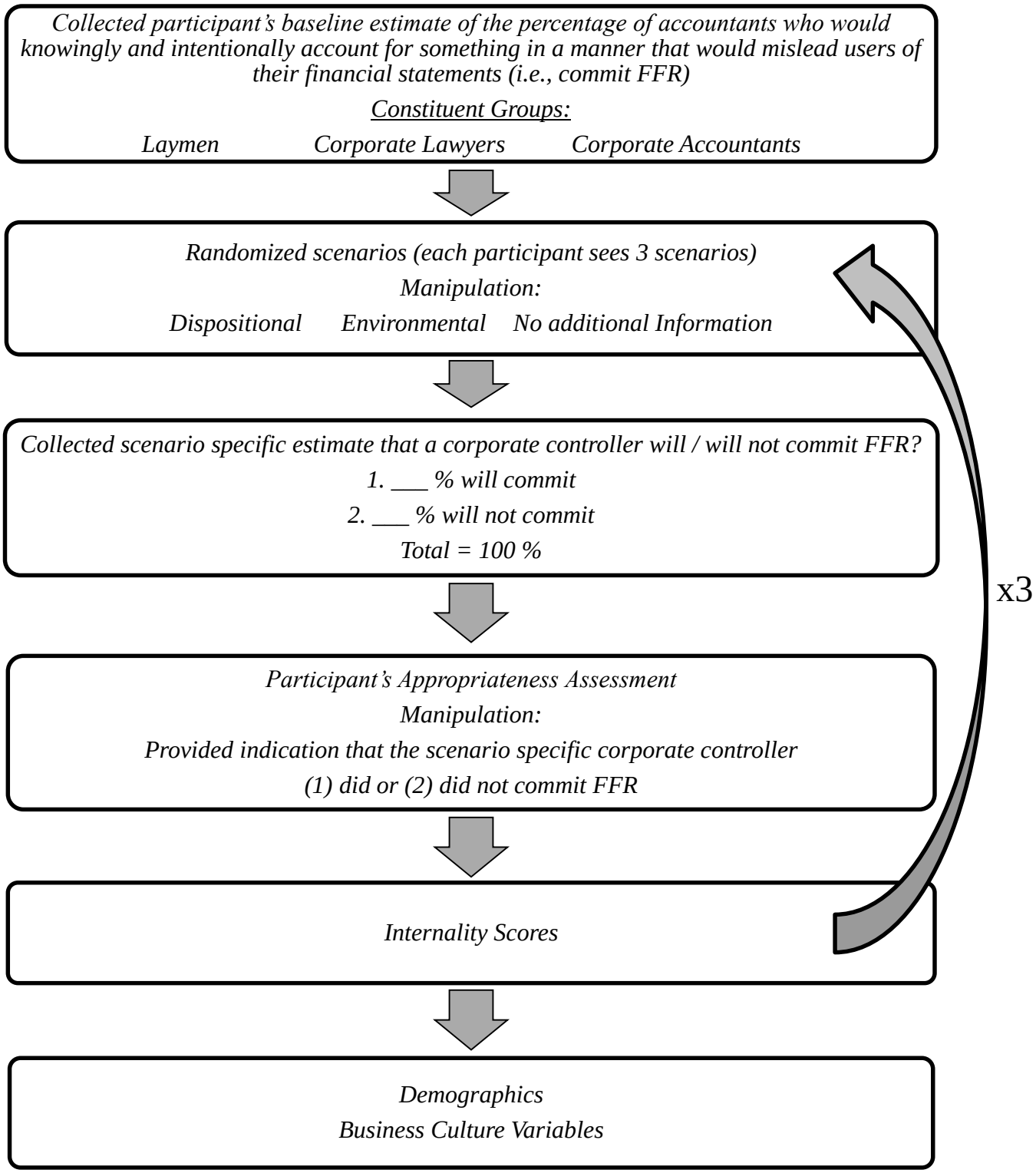


FIGURE 7:

Observed Effects of Constituent Group and Outcome on Internality Assessments

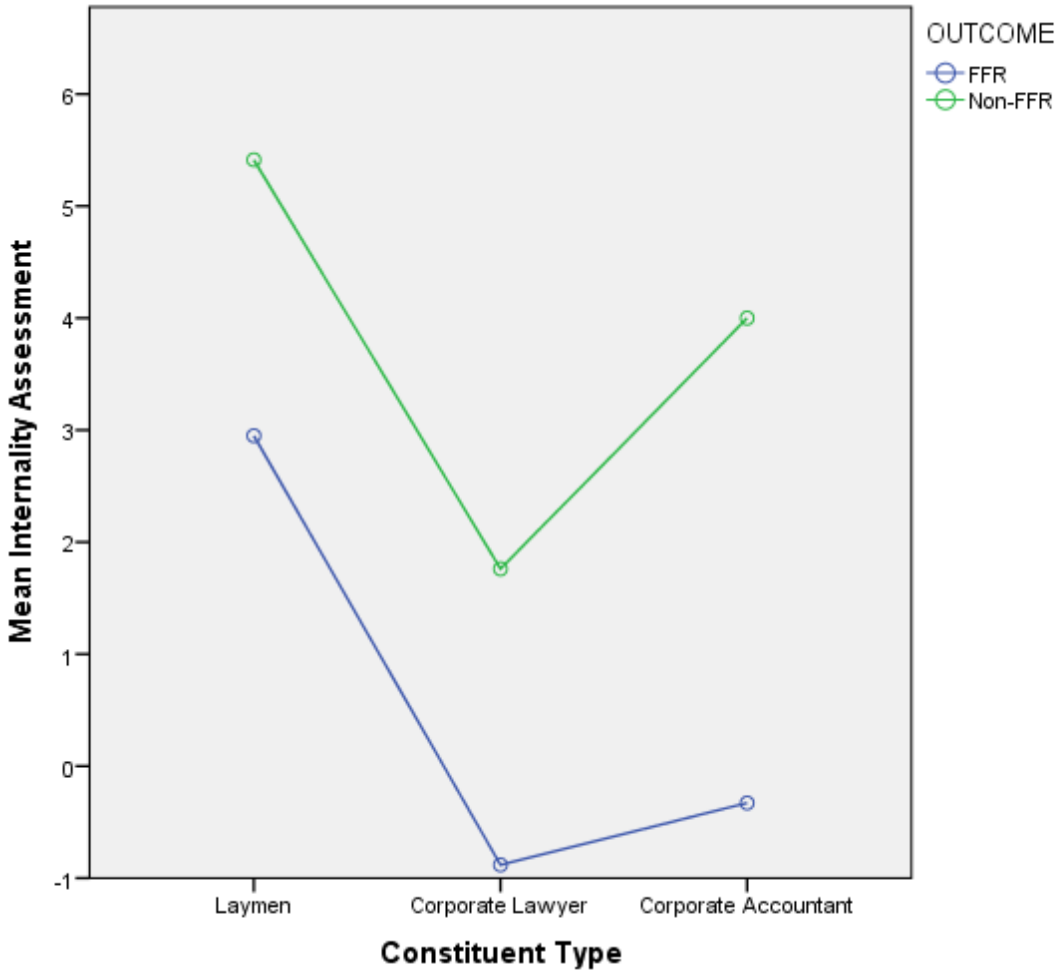


FIGURE 8:

Observed Effects of Outcome and Constituent Group on Internality Assessments

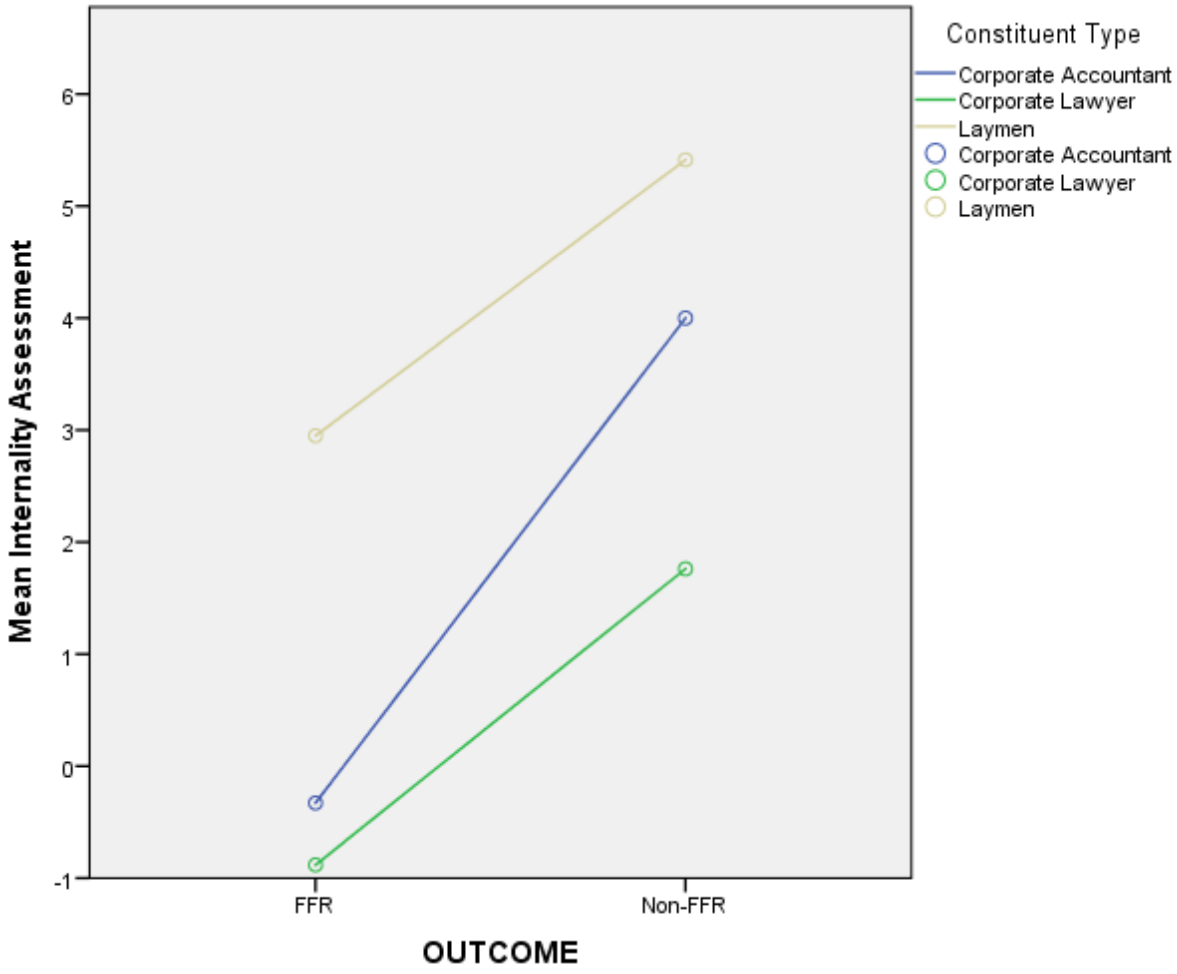


FIGURE 9:

Observed Effects of Information Type and Constituent Group on Internality Assessments for FFR Outcomes

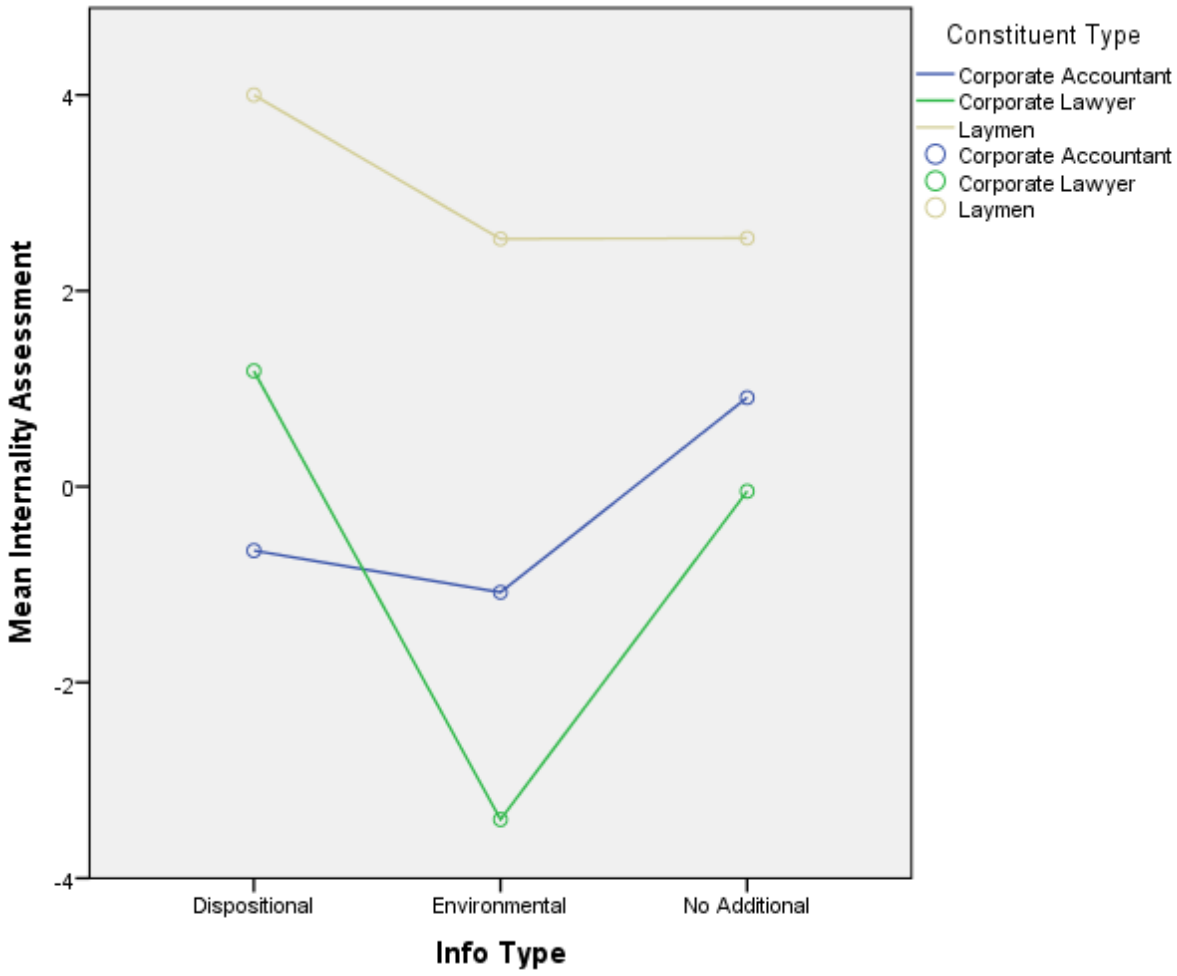


FIGURE 10:

Observed Effects of Information Type and Constituent Group on Internality Assessments for Non-FFR Outcomes

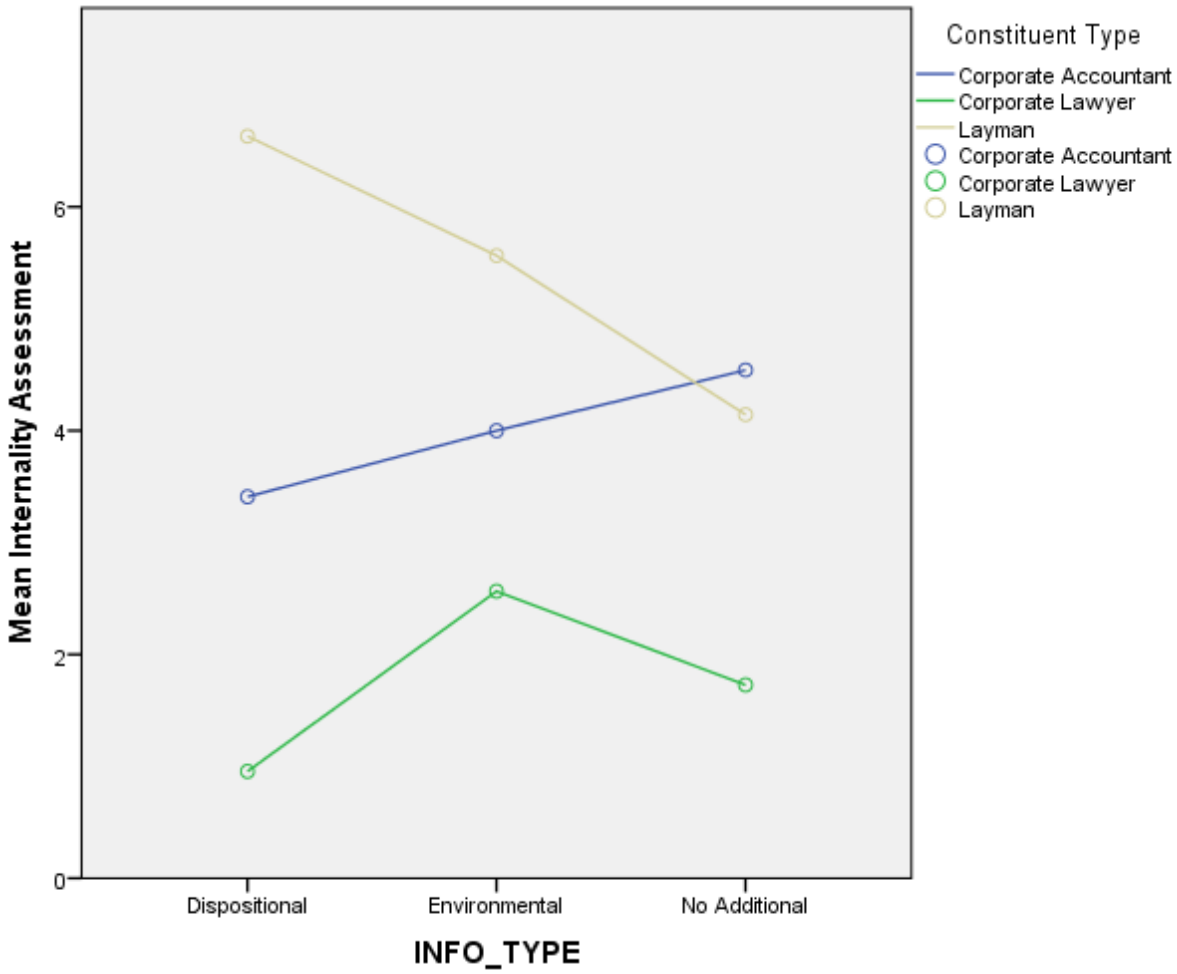


FIGURE 11:

Participant's Original Baseline Estimate that a Typical Corporate Accountant Would Intentionally Account for Items in a Manner that Would Mislead the Users of Their Financial Statements shown by Constituent Group

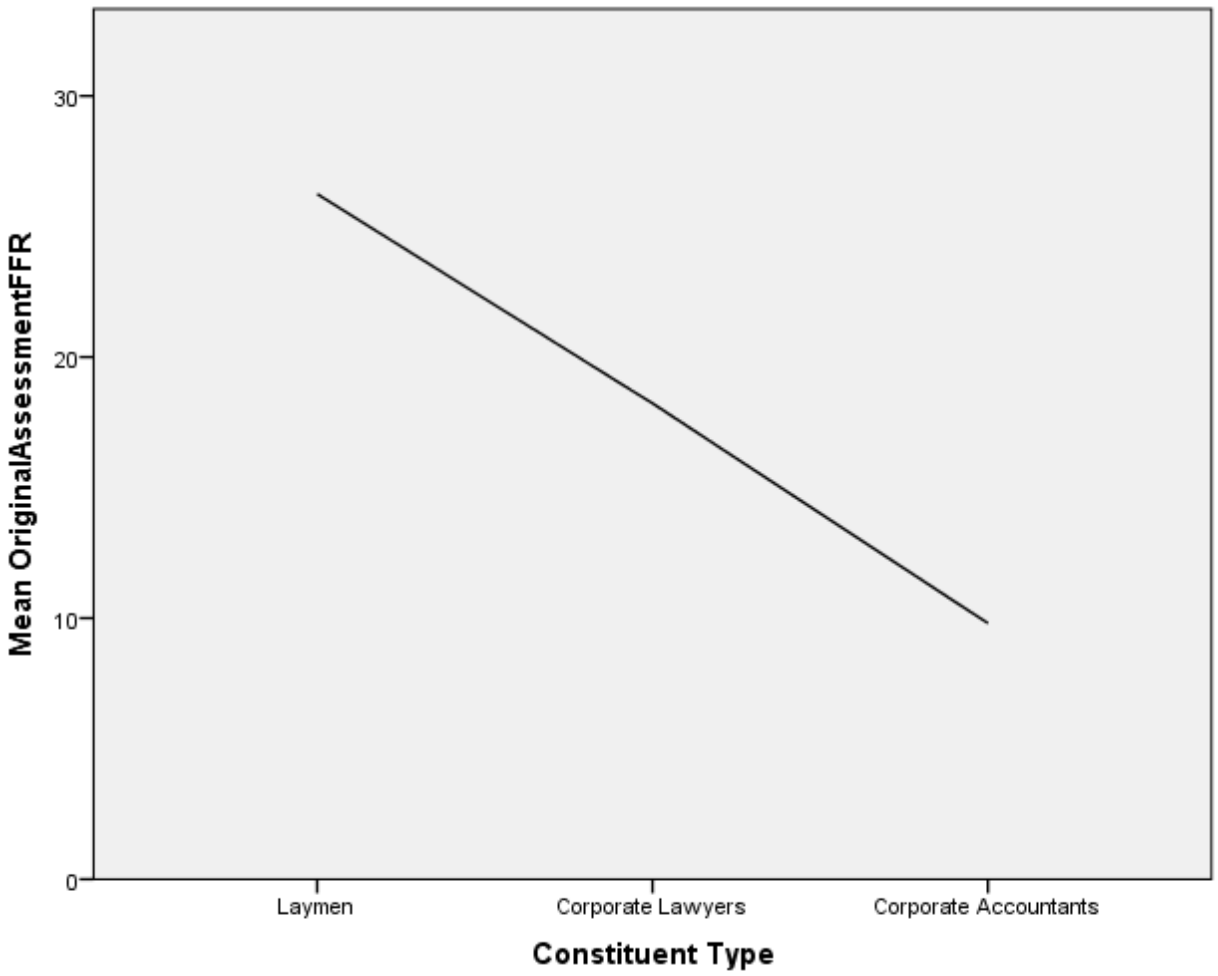


FIGURE 12:

Participant's Scenario Specific Assessment of the Appropriateness of the Action Taken by the Corporate Controllers shown by Constituent Group and Outcome

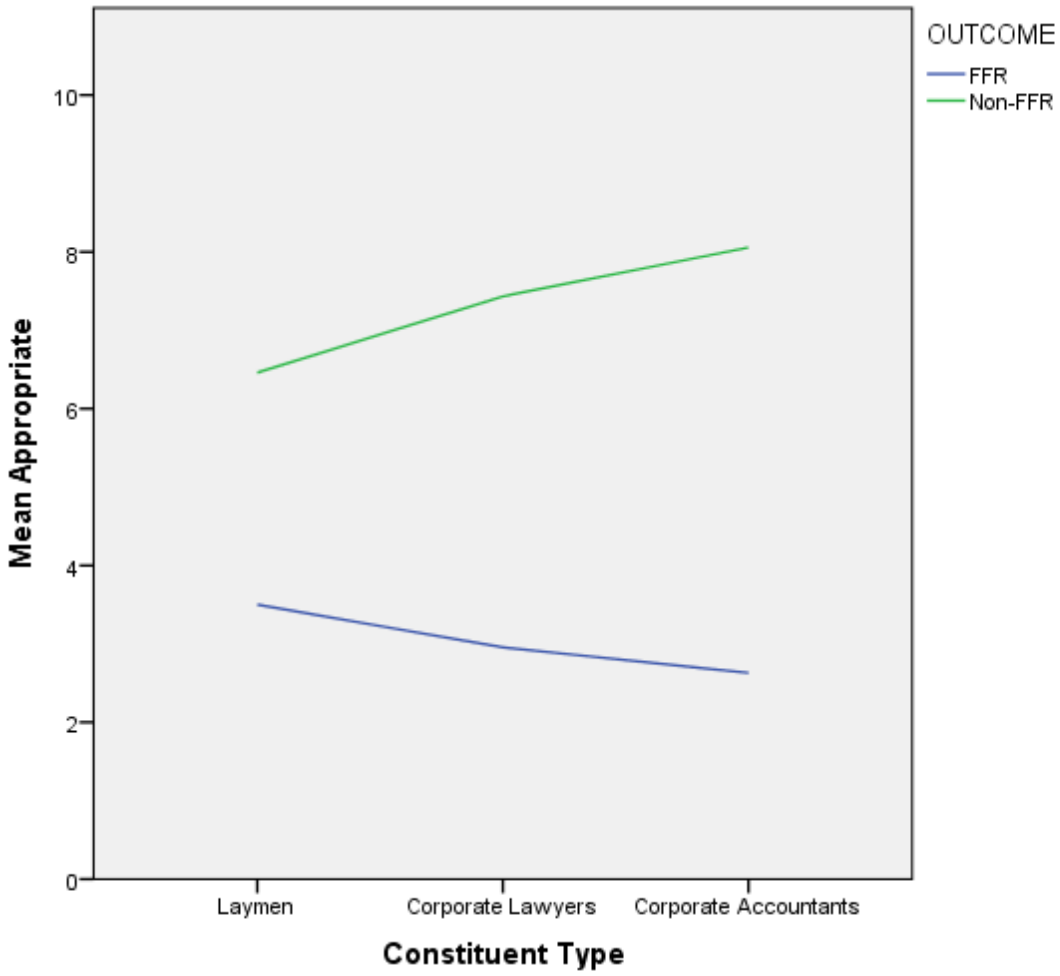


FIGURE 13:

Participants' Adjustments from their Original Baseline Estimate to Scenario Specific Likelihood Estimates Provided Additional Dispositional or Environmental Information shown by Constituent Group

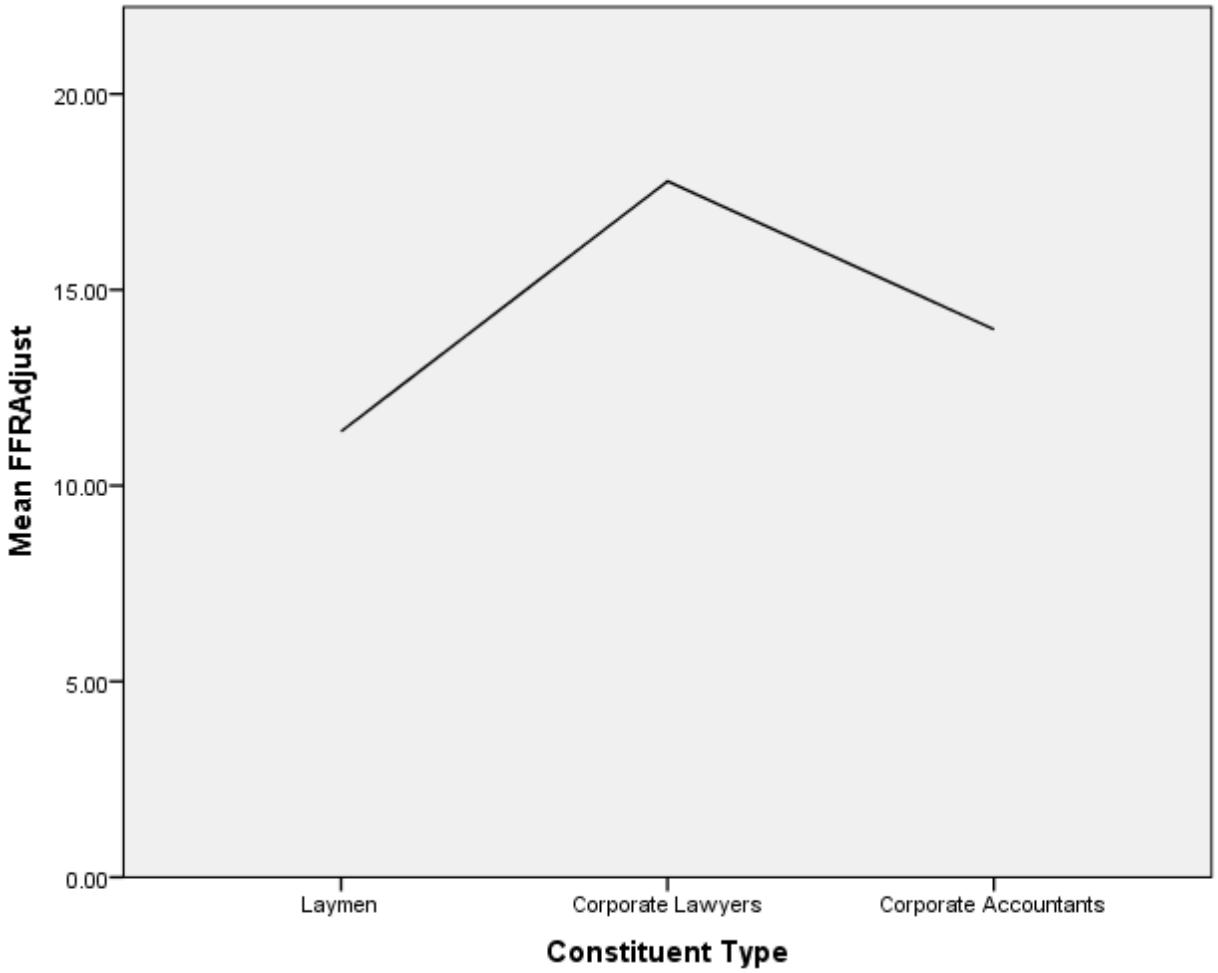
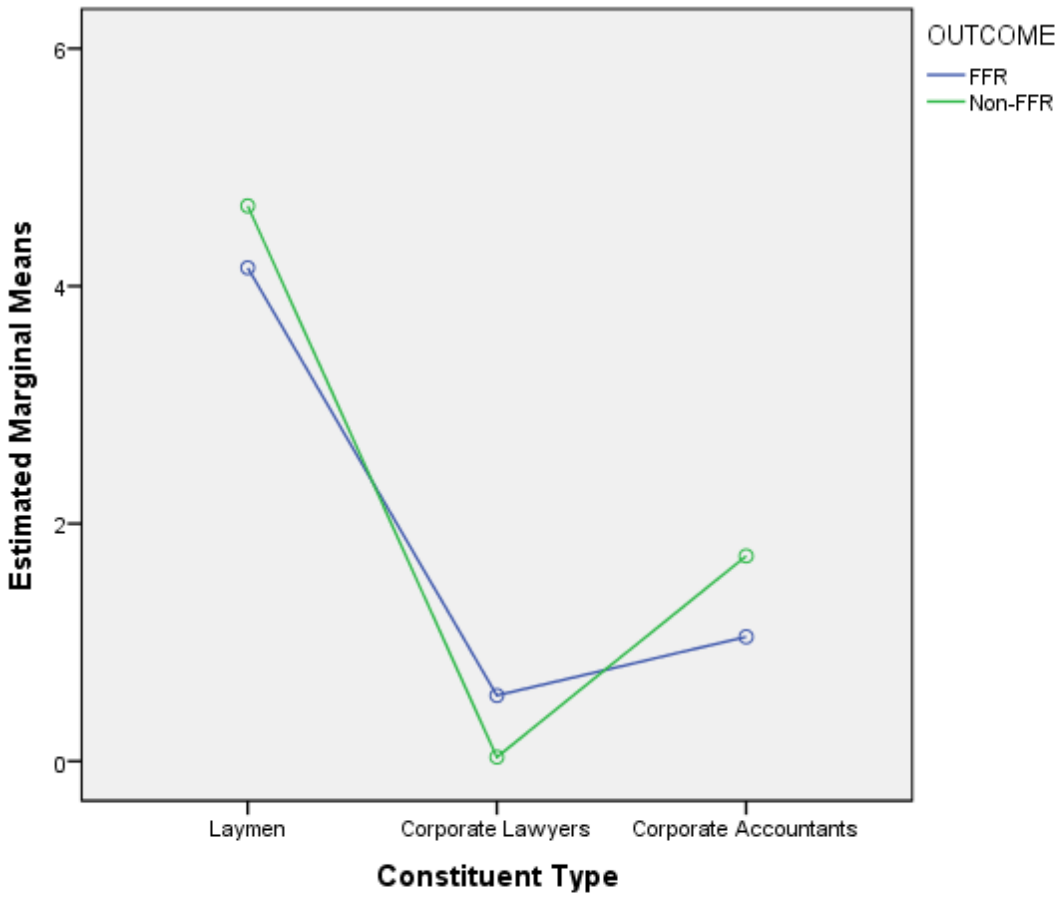


FIGURE 14:

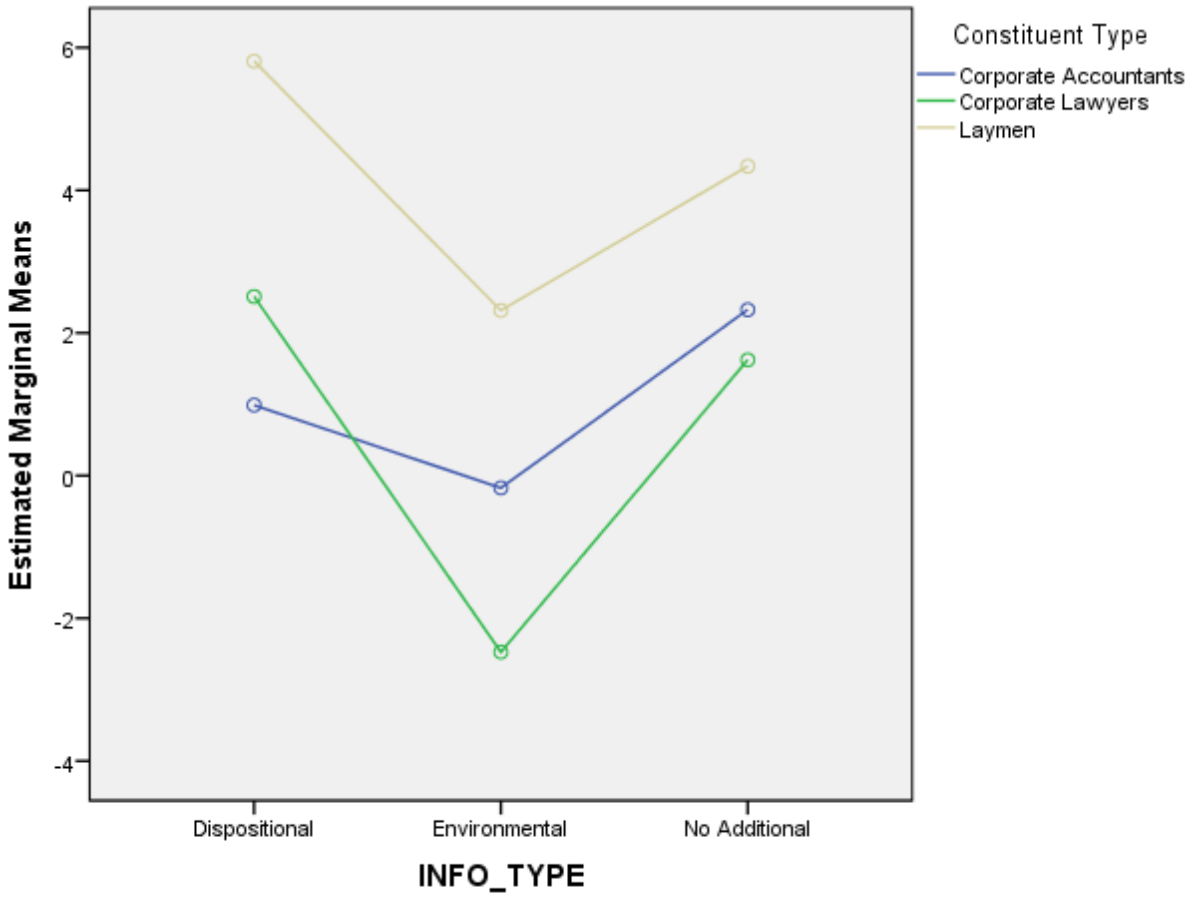
Observed Effects of Constituent Group and Outcome on Internality Assessments Controlling for Potential Causes of Correspondence Bias



Covariates appearing in the model are evaluated at the following values: Factor1 = 3.6731, OriginalAssessmentFFR = 17.24, Appropriate = 5.15

FIGURE 15:

Observed Effects of Information Type and Constituent Group on Internality Assessments for FFR Outcomes Controlling for Causes of Potential Causes of Correspondence Bias



Covariates appearing in the model are evaluated at the following values: Factor1 = 3.6731, OriginalAssessmentFFR = 17.24, Appropriate = 5.15

FIGURE 16:

Screen Plot from the Confirmatory Factor Analysis Performed on the Questions Related to Business Culture

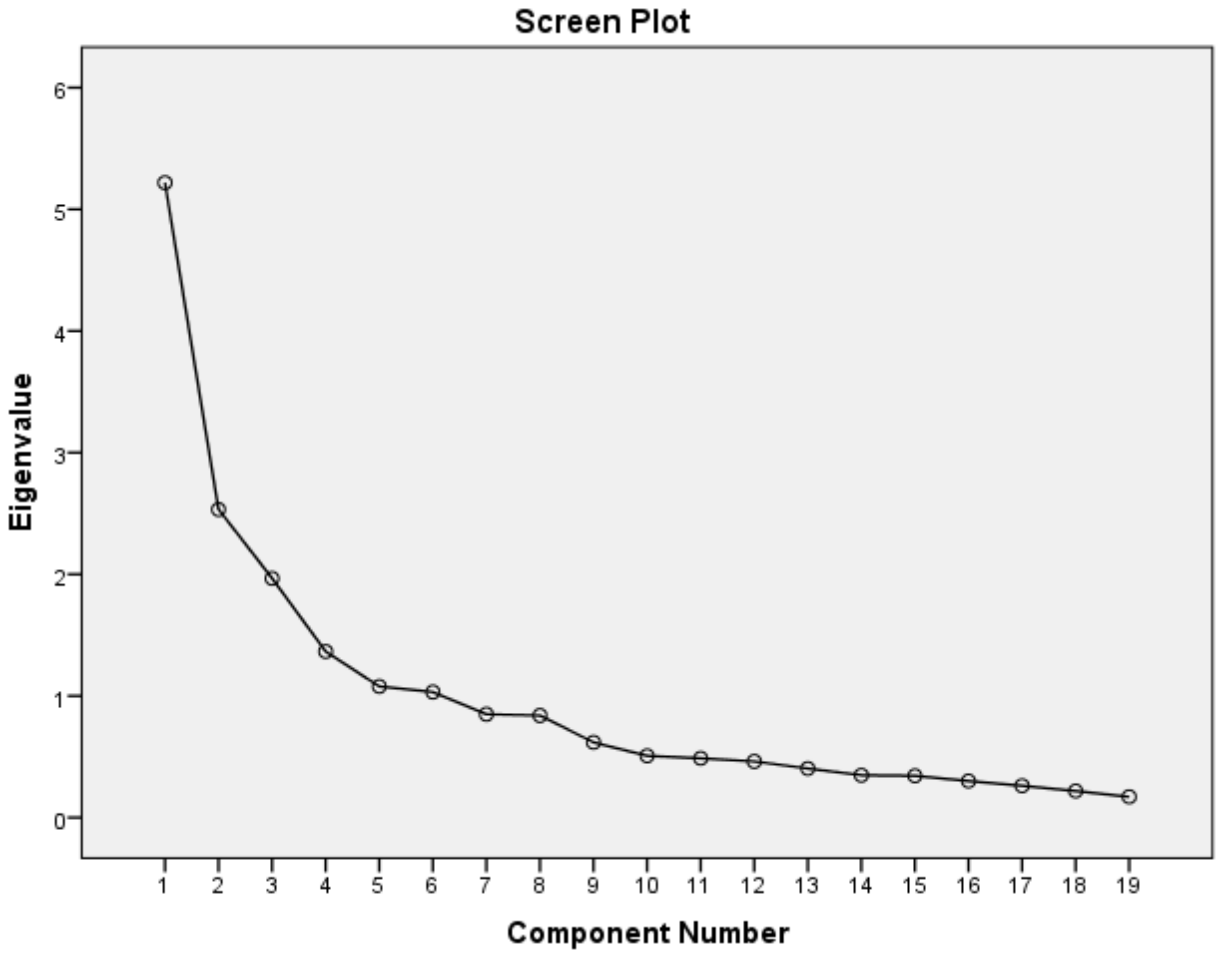


FIGURE 17:

Participant Attributions Specific to (1) the Controller's Technical Knowledge, (2) the Controller's Character, (3) How the Accounting Might Impact the Company's Financial Reporting, and (4) Other People's Attitudes towards Financial Reporting shown by Constituent Group and Outcome

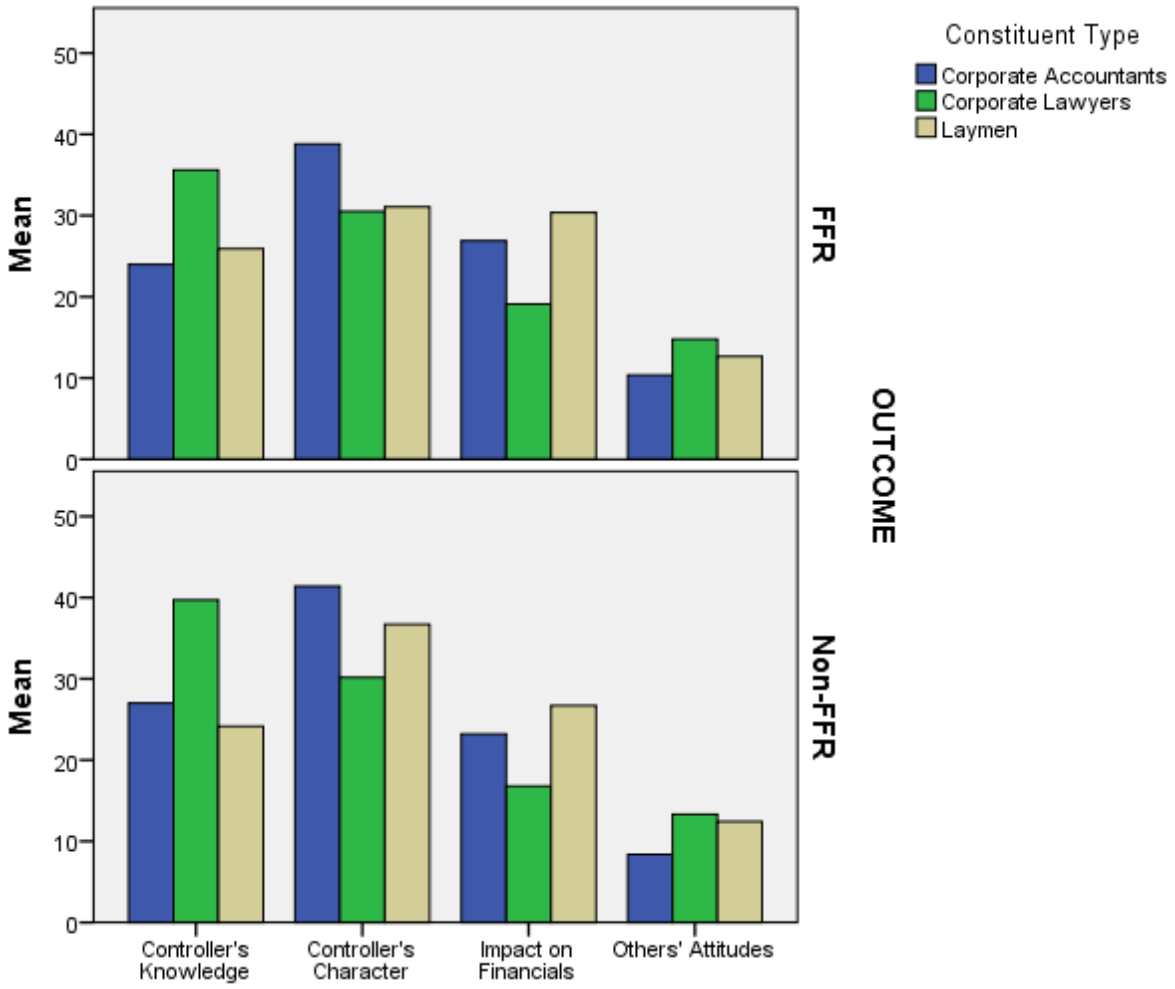


TABLE 1:
Definition and Operationalization of Consensus, Consistency, and Distinctiveness

Intended Informative Effect	Construct Definition (Nisbett and Ross 1980)	Construct Operationalization
Consensus	The degree to which people other than the target actor show the effect.	Other companies in the same industry account for (do not account for) the item as proposed.
Consistency	The degree to which the effect is observed reliably when a particular causal candidate is present.	The corporate controller has (has not) accounted for the item similarly in the past.
Distinctiveness	The degree to which the effect occurs primarily in the presence of one causal candidate and not in the presence of others.	There are other (This is the only) accounting decisions (decision), which, if made, will allow the company to meet its goals.

TABLE 2:
Summary of Information Type Provided, Specific Form Used, and Expected Attribution

Information Type Provided	Specific Form Used in This Study	Expected Attribution
Environmental		
Consensus (High)	Other companies in the industry typically account for the item as proposed.	Environmental attributions are expected since the observed behavior does not vary across other companies. Therefore the observed corporate controller is not a salient cause of the outcome.
Consistency (Low)	The corporate controller has not accounted for the item in this manner in the past.	Environmental attributions are expected since the corporate controller has not demonstrated a consistent record of inappropriate accounting.
Distinctiveness (High)	This is the only accounting decision, which, if made, will allow the company to meet forecasts.	Environmental attributions are expected since there are no other accounting decisions that would allow the company to make forecasts.
Dispositional		
Consensus (Low)	Other companies in the industry do not typically account for the item as proposed.	Dispositional attributions are expected since the observed behavior did not follow industry (social) norms. Therefore the actor is a salient causal force.
Consistency (High)	The corporate controller has consistently accounted for the item in this manner in the past.	Dispositional attributions are expected since the corporate controller demonstrates a pattern of inappropriate accounting decisions, suggestive of a lack of credibility.
Distinctiveness (Low)	There are other accounting decisions, which if made, will allow the company to meet forecasts.	Dispositional attributions are expected since this decision represents the only option the company has to make forecasts.
No Additional	No additional environmental or dispositional information provided	

TABLE 3:
Participant Characteristics by Constituent Group

	Laymen	Corporate Lawyers	Corporate Accountants
# of respondents	41	45	48
% male	24%	68%	69%
Average year of birth	1969	1972	1977
Level of education achieved[1]	3	5	3[2]
% who have given legal advice	7%	100%	8%
Average years in current profession	11.65	13.88	11.79
% who have a CPA license	0%	7%	77%
% who have CFE or CFF	0%	0%	8%
% who have experienced FFR	0%	9%	9%

1. Respondents chose from the following categories: 1 = Did not finish High School, 2 = High School Diploma, 3 = Undergraduate Degree, 4 = Graduate Degree, or 5 = J. D. or Ph.D. The mode response for each constituent group is displayed above.
2. 52% of the Accounting respondents indicated 3 = Undergraduate Degree and 48% indicated 4 = Graduate Degree.

TABLE 4:
Pearson Correlation Matrix of Select Variables

Correlation (p-value)	Constituent Group	InfoType	Decision	Expense	Original Estimate	Scenario Estimate	Appropr. Assessment	Internality Assessment	Gender	Year Born	Education Level	Interruption	FFR Adjust
Constituent Group	1	-.051 .311	.015 .760	.000 1.000	-.309** .000	.236** .000	.037 .457	-.158** .002	-.355** .000	.311** .000	.270** .000	.148** .003	.018 .722
InfoType	-.051 .311	1	.000 1.000	.004 .940	-.025 .620	.082 .101	-.017 .735	.002 .972	.046 .360	-.038 .451	-.020 .690	-.018 .716	-.055 .269
Decision	.015 .760	.000 1.000	1	.030 .542	.008 .872	.008 .871	-.689** .000	-.277** .000	.022 .655	-.022 .661	.018 .715	.056 .263	-.013 .790
Expense	.000 1.000	.004 .940	.030 .542	1	.000 1.000	-.009 .860	.004 .938	-.021 .677	.000 1.000	0.000 1.000	.000 1.000	0.000 1.000	.008 .873
Original Estimate	-.309** .000	-.025 .620	.008 .872	.000 1.000	1	-.273** .000	.003 .955	-.001 .986	.036 .471	-.028 .583	-.152** .002	-.101* .044	-.500** .000
Scenario Estimate	.236** .000	.082 .101	.008 .871	-.009 .860	-.273** .000	1	.037 .460	.068 .170	.004 .930	-.030 .548	-.036 .479	.017 .739	-.697** .000
Appropr. Assessment	.037 .457	-.017 .735	-.689** .000	.004 .938	.003 .955	.037 .460	1	.349** .000	-.030 .545	-.023 .645	-.016 .744	-.014 .785	-.035 .480
Internality Assessment	-.158** .002	.002 .972	-.277** .000	-.021 .677	-.001 .986	.068 .170	.349** .000	1	.004 .940	-.130** .009	-.273** .000	.087 .085	-.061 .222
Gender	-.355** .000	.046 .360	.022 .655	.000 1.000	.036 .471	.004 .930	-.030 .545	.004 .940	1	.007 .890	-.240** .000	-.145** .004	-.031 .542

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

TABLE 4 (continued)

Correlation (p-value)	Constituent Group	InfoType	Decision	Expense	Original Estimate	Scenario Estimate	Appropr. Assessment	Internality Assessment	Gender	Year Born	Education Level	Interruption	FFR Adjust
Year Born	.311**	-.038	-.022	0.000	-.028	-.030	-.023	-.130**	.007	1	.049	.037	.048
	.000	.451	.661	1.000	.583	.548	.645	.009	.890		.329	.464	.343
Education Level	.270**	-.020	.018	.000	-.152**	-.036	-.016	-.273**	-.240**	.049	1	.091	.144**
	.000	.690	.715	1.000	.002	.479	.744	.000	.000	.329		.070	.004
Interruption	.148**	-.018	.056	0.000	-.101*	.017	-.014	.087	-.145**	.037	.091	1	.060
	.003	.716	.263	1.000	.044	.739	.785	.085	.004	.464	.070		.236
FFR Adjust	.018	-.055	-.013	.008	-.500**	-.697**	-.035	-.061	-.031	.048	.144**	.060	1
	.722	.269	.790	.873	.000	.000	.480	.222	.542	.343	.004	.236	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

TABLE 5:
Results of the Full Mixed Model

Panel A: Mixed Model Results for Relationship Type, Information Type, and Outcome[1]

Variable	Num. df	Den. df	F stat	P value (two-tailed)
Relationship Type	1	131	0.22	.640
Information Type	2	286	1.22	.298
Outcome	1	297	55.41	.000
Relationship Type x Information Type	2	286	0.39	.676
Relationship Type x Outcome	1	297	4.20	.041
Information Type x Outcome	2	292	1.67	.191
Relationship Type x Information Type x Outcome	2	292	0.85	.427

Panel B: Mixed Model Results for Constituent Group, Information Type, and Outcome[1]

Variable	Num. df	Den. df	F stat	P value (two-tailed)
Constituent Group	2	130	8.01	.001
Information Type	2	286	1.50	.226
Outcome	1	291	48.28	.000
Constituent Group x Information Type	4	286	0.94	.441
Constituent Group x Outcome	2	291	2.47	.086
Information Type x Outcome	2	292	2.31	.101
Constituent Group x Information Type x Outcome	4	292	0.60	.661

1. When running the model and controlling for gender, age, mood, and previous exposure to fraud, all inferences remain the same.

TABLE 6:
Internality Assessments by Constituent Group and Outcome (H1)

Panel A: Means (Standard Deviations)

	FFR	**Non-FFR**	**Totals**
Laymen	2.95 (5.74) n = 60	5.41 (4.80) n = 63	4.21 (5.40) n = 123
Corporate Lawyers	-0.88 (5.60) n = 68	1.76 (5.78) n = 67	0.43 (5.82) n = 135
Corporate Accountants	-0.33 (5.94) n = 73	4.00 (4.62) n = 71	1.81 (5.74) n = 144
Totals	0.46 (5.97) n = 201	3.70 (5.28) n = 201	2.08 (5.85) n = 402

Panel B: Mixed Model Results for Constituent Group ($H1_a$ – FFR Outcomes)[1, 2]

Variable	**Num. df**	**Den. df**	**F stat**	**P value (two-tailed)**
Constituent Group	2	119	4.50	.013

Panel C: Mixed Model Results for Constituent Group ($H1_b$ –Non-FFR Outcomes)[1, 2]

Variable	**Num. df**	**Den. df**	**F stat**	**P value (two-tailed)**
Constituent Group	2	125	5.59	.005

TABLE 6 (continued)

Panel D: Mixed Model Results for Constituent Group and Outcome ($H1_c$)[1]

Variable	Num. df	Den. df	F stat	P value (two-tailed)
Constituent Group	2	131	7.98	.001
Outcome	1	301	52.06	.000
Constituent Group x Outcome	2	301	2.16	.117

1. When running the model and controlling for gender, age, mood, and previous exposure to fraud, all inferences remain the same.
2. Results of a Kruskal Wallis ANOVA lead to similar conclusions.

TABLE 7:
Internality Assessments by Constituent Group and Information Type (H2)

Panel A: Means (Standard Deviations) for FFR Outcomes ($H2_a$)

	Dispositional	**Environmental**	**No Additional**	**Totals**
Laymen	4.00 (5.67) n = 17	2.53 (5.23) n = 17	2.54 (6.21) n = 26	2.95 (5.74) n = 60
Corporate Lawyers	1.18 (5.27) n = 22	-3.4 (4.52) n = 25	-0.05 (6.15) n = 21	-0.88 (5.60) n = 68
Corporate Accountants	-0.65 (6.00) n = 26	-1.08 (6.26) n = 25	0.91 (5.55) n = 22	-0.33 (5.94) n = 73
Totals	1.18 (5.89) n = 65	-1.03 (5.81) n = 67	1.23 (6.00) n = 69	0.46 (5.97) n = 201

Panel B: Mixed Model Results for Constituent Group and Information Type ($H2_a$ – FFR Outcomes)[1]

Variable	**df**	**MSE**	**F stat**	**P value (two-tailed)**
Constituent Group	2	119	4.79	.010
Information Type	2	95	3.34	.040
Constituent Group x Information Type	4	95	1.30	.276

1. When running the model and controlling for gender, age, mood, and previous exposure to fraud, all inferences remain the same.

TABLE 7 (continued)

Panel C: Means (Standard Deviations) for Non-FFR Outcomes ($H2_{b\&c}$)

	Dispositional	**Environmental**	**No Additional**	**Totals**
Laymen	6.63 (3.11) n = 19	5.57 (4.97) n = 23	4.14 (5.70) n = 21	5.41 (4.80) n = 63
Corporate Lawyers	0.95 (6.19) n = 22	2.57 (5.13) n = 23	1.73 (6.14) n = 22	1.76 (5.78) n = 67
Corporate Accountants	3.41 (3.91) n = 22	4.00 (4.59) n = 25	4.54 (5.33) n = 24	4.00 (4.62) n = 71
Totals	3.52 (5.13) n = 63	4.04 (4.98) n = 71	3.49 (5.77) n = 67	3.70 (5.28) n = 201

Panel D: Mixed Model Results for Constituent Group and Information Type ($H2_{b\&c}$ – Non-FFR Outcomes)[1]

Variable	**df**	**MSE**	**F stat**	**P value (two-tailed)**
Constituent Group	2	123	5.64	.005
Information Type	2	104	0.10	.906
Constituent Group x Information Type	4	104	0.49	.743

1. When running the model and controlling for gender, age, mood, and previous exposure to fraud, all inferences remain the same.

TABLE 8:
Business Culture Variables: Means (Standard Deviations) and ANOVAs

Variables	**Scale**		**Constituent Group**			**ANOVA-F (p value)**
		Overall Means n = (134)	Laymen (n = 41)	Lawyers (n = 44)	Accountants (n = 48)	**Bold are Significant at p < .05**
In your opinion, how frequently do situations arise where corporate controllers (i.e., accountants responsible for financial reporting) have the opportunity to knowingly misreport their financial statements?	1 = Very Frequently 9 = Very Infrequently	3.68 (2.42)	4.46 (2.50)	3.39 (2.36)	3.29 (2.30)	**3.185** **(0.045)**
How likely is it that a corporate controller will get away with knowingly misreporting financial statements in today's business environment?	1 = Very Likely 9 = Very Unlikely	4.96 (2.10)	4.39 (2.07)	5.07 (2.14)	5.35 (2.04)	2.455 (0.090)
In your opinion, have the opportunities for corporate controllers to knowingly misreport financial statements increased or decreased over the past twenty to thirty years?	1 = Significantly Increased 5 = Remained Relatively the Same 9 = Significantly Decreased	5.11 (1.97)	4.59 (1.85)	5.02 (2.11)	5.60 (1.85)	3.003 (0.053)
In your opinion, have controls over financial reporting gotten stronger, weaker, or remained relatively the same over the past twenty to thirty years?	1 = Much Weaker 5 = Remained Relatively the Same 9 = Much Stronger	6.36 (1.60)	5.65 (1.63)	6.27 (1.60)	7.04 (1.30)	**9.398** **(0.000)**

TABLE 8 (continued)

Variables	Scale		Constituent Group			ANOVA-F (p value)
		Overall Means n = (134)	Laymen (n = 41)	Lawyers (n = 44)	Accountants (n = 48)	**Bold are Significant at p < .05**
In your opinion, is the overall business culture today weaker, stronger, or relatively the same as it was twenty to thirty years ago?	1 = Weaker 2 = Remains relatively the same 3 = Stronger	2.142 (0.76)	1.902 (0.70)	2.067 (0.78)	2.417 (0.71)	**5.823** **(0.004)**
In your opinion, is the overall commitment to ethical financial reporting weaker, stronger, or relatively the same as it was twenty to thirty years ago?	1 = Weaker 2 = Remains relatively the same 3 = Stronger	2.134 (0.78)	1.707 (0.68)	2.044 (0.82)	2.583 (0.58)	**17.909** **(0.000)**
Recently enacted laws which are intended to curb corporate misreporting (e.g., the Sarbanes-Oxley Act, the Dodd-Frank Act, etc.) have drastically reduced the prevalence of inappropriate behavior related to financial reporting.	1 = Strongly Agree 9 = Strong Disagree	4.65 (1.76)	4.88 (1.79)	4.84 (1.49)	4.29 (1.93)	1.607 (0.204)
Recently enacted laws which are intended to curb corporate misreporting (e.g., the Sarbanes-Oxley Act, the Dodd-Frank Act, etc.) have effectively reduced shortcomings in business culture.	1 = Strongly Agree 9 = Strong Disagree	5.06 (1.76)	5.07 (1.72)	5.39 (1.79)	4.75 (1.74)	1.512 (0.224)
Recently enacted laws which are intended to curb corporate misreporting (e.g., the Sarbanes-Oxley Act, the Dodd-Frank Act, etc.) have increased awareness of the need for strong governance.	1 = Strongly Agree 9 = Strong Disagree	3.76 (1.76)	4.27 (1.87)	3.73 (1.87)	3.35 (1.45)	**3.093** **(0.049)**[1]

1. Kruskal Wallis ANOVA shows p = .081

TABLE 8 (continued)

Variables	Scale		Constituent Group			ANOVA-F (p value)
		Overall Means n = (134)	Laymen (n = 41)	Lawyers (n = 44)	Accountants (n = 48)	**Bold are Significant at p < .05**
Recently enacted laws which are intended to curb corporate misreporting (e.g., the Sarbanes-Oxley Act, the Dodd-Frank Act, etc.) have improved corporate governance.	1 = Strongly Agree 9 = Strong Disagree	4.20 (1.73)	4.51 (1.73)	4.61 (1.99)	3.52 (1.22)	**5.841 (0.004)**
Recent increases in the level of controls over financial reporting have been effective in preventing companies from intentionally misstating their financials.	1 = Strongly Agree 9 = Strong Disagree	4.47 (1.76)	4.78 (1.83)	4.55 (1.53)	4.15 (1.88)	1.462 (0.236)
Continuing to increase controls over financial reporting will help to further prevent financial reporting fraud.	1 = Strongly Agree 9 = Strong Disagree	4.41 (1.94)	4.37 (2.19)	4.27 (1.70)	4.57 (1.95)	0.286 (0.752)
Regulators and prosecutors should continue to increase their enforcement actions against individuals and companies who misreport their financials.	1 = Strongly Agree 9 = Strong Disagree	2.76 (1.68)	2.88 (1.81)	2.86 (1.94)	2.57 (1.26)	0.462 (0.631)
Legislators should continue to develop and enact laws that target intentional financial misreporting.	1 = Strongly Agree 9 = Strong Disagree	3.65 (2.12)	3.29 (2.14)	3.86 (2.49)	3.73 (1.69)	0.807 (0.449)
In general, I feel like I can trust corporate controllers (i.e., accountants responsible for financial reporting) to do the right thing when making decisions related to financial reporting.	1 = Strongly Agree 9 = Strong Disagree	3.80 (1.85)	4.68 (1.78)	3.91 (2.04)	2.91 (1.27)	**11.758 (0.000)**

TABLE 8 (continued)

Variables	Scale		Constituent Group			ANOVA-F (p value)
		Overall Means n = (134)	Laymen (n = 41)	Lawyers (n = 44)	Accountants (n = 48)	**Bold Significant at p < .05**
In general, individuals who decide to intentionally misreport their company's financials choose to do so because they are inherently bad people.	1 = Strongly Agree 9 = Strong Disagree	5.69 (1.89)	5.38 (2.02)	6.25 (1.83)	5.44 (1.76)	**2.989** **(0.054)[2]**
In general, individuals who decide to intentionally misreport their company's financials choose to do so because of situational pressures.	1 = Strongly Agree 9 = Strong Disagree	3.12 (1.51)	3.41 (1.45)	3.05 (1.48)	2.96 (1.60)	1.044 (0.355)
Do you feel more can be done within the <u>overall financial reporting environment</u> to better prevent financial reporting fraud? In other words, can anything else be done by key stakeholders (e.g., regulators, law enforcement, auditors, Congress, etc.) to better prevent financial reporting fraud?	1 = Yes - more can be done to prevent FFR 2 = No - recent changes in the financial reporting environment are enough	1.38 (0.49)	1.29 (0.46)	1.32 (0.47)	1.52 (0.50)	**3.100** **(0.048)**

2. Kruskal Wallis ANOVA shows p = .043

TABLE 8 (continued)

Variables	**Scale**		**Constituent Group**			**ANOVA-F (p value)**
		Overall Means n = (134)	Laymen (n = 41)	Lawyers (n = 44)	Accountants (n = 48)	**Bold are Significant at p < .05**
Do you feel more should be done in the aftermath of an occurrence of financial reporting fraud to better understand the complete set of its causal factors? In other words, should more be done by key stakeholders (e.g., regulators, law enforcement, auditors, Congress, etc.) to better understand what caused the financial reporting fraud?	1 = Yes - more can be done in the aftermath to better understand the causal factors 2 = No - what is currently done is enough	1.32 (0.47)	1.20 (0.41)	1.42 (0.50)	1.34 (0.48)	2.345 (0.100)

TABLE 9:
Internality Assessments by Constituent Group and Outcome Controlling for Potential Causes of Correspondence Bias

Panel A: Estimated Marginal Means (Standard Errors)

	FFR	**Non-FFR**	**Totals**
Laymen	4.18 (0.76) n = 59	4.93 (0.71) n = 61	4.55 (0.54) n = 120
Corporate Lawyers	-0.03 (0.69) n = 66	-0.02 (0.70) n = 66	-0.03 (0.46) n = 132
Corporate Accountants	.877 (0.70) n = 71	2.09 (0.74) n = 67	1.48 (0.48) n = 138
Totals	1.67 (0.45) n = 196	2.33 (0.45) n = 194	2.00 (0.26) n = 390

Panel B: ANCOVA Results for Constituent Group and Outcome Controlling for Potential Causes of Correspondence Bias, Gender, and Age

Variable	**df**	**MSE**	**F stat**	**P value (two-tailed)**
Constituent Group	2	536.52	20.01	.000
Outcome	1	22.49	0.84	.360
Constituent Group x Outcome	2	12.19	0.45	.635
Covariates:				
Lack of Awareness (Factor 1)	1	110.83	4.13	.043
Unrealistic Expectations (Baseline Estimate)	1	118.09	4.41	.036
Inflated Categorizations (Appropriateness)	1	683.03	25.48	.000
Gender	1	110.14	4.11	.043
Age	1	102.20	3.81	.052

TABLE 10:
Internality Assessments by Constituent Group and Information Type Controlling for Potential Causes of Correspondence Bias

Panel A: Estimated Marginal Means (Standard Errors) for FFR Outcomes

	Dispositional	**Environmental**	**No Additional**	**Totals**
Laymen	4.38 (1.42) n = 17	1.29 (1.47) n = 16	2.78 (1.17) n = 26	2.82 (0.85) n = 59
Corporate Lawyers	0.59 (1.22) n = 21	-3.98 (1.11) n = 25	0.01 (1.24) n = 20	-1.13 (0.69) n = 66
Corporate Accountants	-0.25 (1.10) n = 26	-1.47 (1.16) n = 24	0.73 (1.27) n = 21	-0.33 (0.73) n = 71
Totals	1.57 (0.70) n = 64	-1.39 (0.72) n = 65	1.17 (0.68) n = 67	0.45 (0.39) n = 196

Panel B: ANCOVA Results for Constituent Group, Information Type, and Outcome Controlling for Potential Causes of Correspondence Bias, Gender, and Age

Variable	**df**	**MSE**	**F stat**	**P value (two-tailed)**
Constituent Group	2	189.71	6.29	.002
Information Type	2	148.96	4.94	.008
Constituent Group x Information Type	4	23.92	0.79	.531
Covariates:				
Lack of Awareness (Factor 1)	1	98.19	3.26	.073
Unrealistic Expectations (Baseline Estimate)	1	87.46	2.90	.090
Inflated Categorizations (Appropriateness)	1	177.48	5.89	.016
Gender	1	26.86	0.89	.346
Age	1	71.55	2.37	.125

TABLE 11:
Factor Loadings for Business Culture Variables

	Variable Name	Statement	Component Loading			
			1	2	3	4
Factor 1	DrasticReduceBehavior	Recently enacted laws which are intended to curb corporate misreporting (e.g., the Sarbanes-Oxley Act, the Dodd-Frank Act, etc.) have drastically reduced the prevalence of inappropriate behavior related to financial reporting.	.839			
	BusCultureShortcoming	Recently enacted laws which are intended to curb corporate misreporting (e.g., the Sarbanes-Oxley Act, the Dodd-Frank Act, etc.) have effectively reduced shortcomings in business culture.	.807			
	ControlsPreventCompanies	Recent increases in the level of controls over financial reporting have been effective in preventing companies from intentionally misstating their financials.	.801			
	ImprovedGovernance	Recently enacted laws which are intended to curb corporate misreporting (e.g., the Sarbanes-Oxley Act, the Dodd-Frank Act, etc.) have improved corporate governance.	.751	-.338		
	AwarenessGovernance	Recently enacted laws which are intended to curb corporate misreporting (e.g., the Sarbanes-Oxley Act, the Dodd-Frank Act, etc.) have increased awareness of the need for strong governance.	.654	-.311		
	ControlsPreventFFR	Continuing to increase controls over financial reporting will help to further prevent financial reporting fraud.	.599		.400	

TABLE 11 (continued)

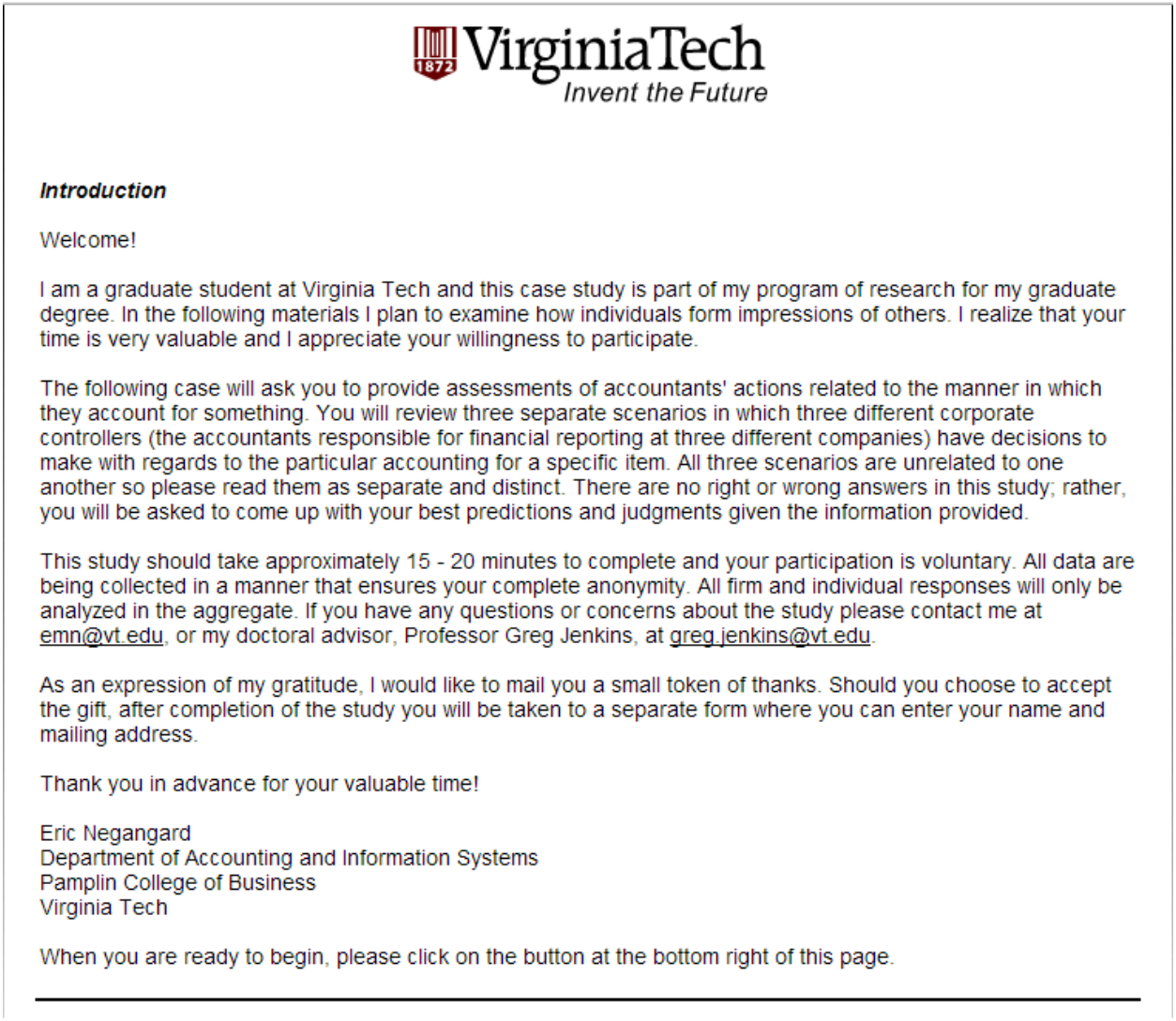
	Variable Name	Statement	Component Loading			
			1	2	3	4
Factor 2	OpportIncDec	In your opinion, have the opportunities for corporate controllers to knowingly misreport financial statements increased or decreased over the past twenty to thirty years?		.791		
	ControlsStongWeak	In your opinion, have controls over financial reporting gotten stronger, weaker, or remained relatively the same over the past twenty to thirty years?		.757		
	CommitmentEthical	In your opinion, is the overall commitment to ethical financial reporting weaker, stronger, or relatively the same as it was twenty to thirty years ago?		.698		
	BusCultureStrongWeak	In your opinion, is the overall business culture today weaker, stronger, or relatively the same as it was twenty to thirty years ago?		.633		
	TrustControllers	In general, I feel like I can trust corporate controllers (i.e., accountants responsible for financial reporting) to do the right thing when making decisions related to financial reporting.	.420	-.528		
Factor 3	MoreFraudAftermath	Do you feel more should be done in the aftermath of an occurrence of financial reporting fraud to better understand the complete set of its causal factors? In other words, should more be done by key stakeholders (e.g., regulators, law enforcement, auditors, Congress, etc.) to better understand what caused the financial reporting fraud?			.730	
	ContinueEnactLaws	Legislators should continue to develop and enact laws that target intentional financial misreporting.	.314		.716	

TABLE 11 (continued)

	Variable Name	Statement	Component Loading			
			1	2	3	4
Factor 3 (cont.)	IncreaseEnforcementAction	Regulators and prosecutors should continue to increase their enforcement actions against individuals and companies who misreport their financials.	.328		.682	
	MoreWithinEnviron	Do you feel more can be done within the overall financial reporting environment to better prevent financial reporting fraud? In other words, can anything else be done by key stakeholders (e.g., regulators, law enforcement, auditors, Congress, etc.) to better prevent financial reporting fraud?			.658	
Factor 4	SituationalPressures	In general, individuals who decide to intentionally misreport their company's financials choose to do so because of situational pressures.				.678
	FrequentOpportunity	In your opinion, how frequently do situations arise where corporate controllers (i.e., accountants responsible for financial reporting) have the opportunity to knowingly misreport their financial statements?				.656
	LikelyGetAway	How likely is it that a corporate controller will get away with knowingly misreporting financial statements in today's business environment?		.319		.640
	BadPeople	In general, individuals who decide to intentionally misreport their company's financials choose to do so because they are inherently bad people.				-.576

APPENDIX A: Experimental Instrument

Exhibit 1: Welcome Screen



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Introduction

Welcome!

I am a graduate student at Virginia Tech and this case study is part of my program of research for my graduate degree. In the following materials I plan to examine how individuals form impressions of others. I realize that your time is very valuable and I appreciate your willingness to participate.

The following case will ask you to provide assessments of accountants' actions related to the manner in which they account for something. You will review three separate scenarios in which three different corporate controllers (the accountants responsible for financial reporting at three different companies) have decisions to make with regards to the particular accounting for a specific item. All three scenarios are unrelated to one another so please read them as separate and distinct. There are no right or wrong answers in this study; rather, you will be asked to come up with your best predictions and judgments given the information provided.

This study should take approximately 15 - 20 minutes to complete and your participation is voluntary. All data are being collected in a manner that ensures your complete anonymity. All firm and individual responses will only be analyzed in the aggregate. If you have any questions or concerns about the study please contact me at emn@vt.edu, or my doctoral advisor, Professor Greg Jenkins, at greg.jenkins@vt.edu.

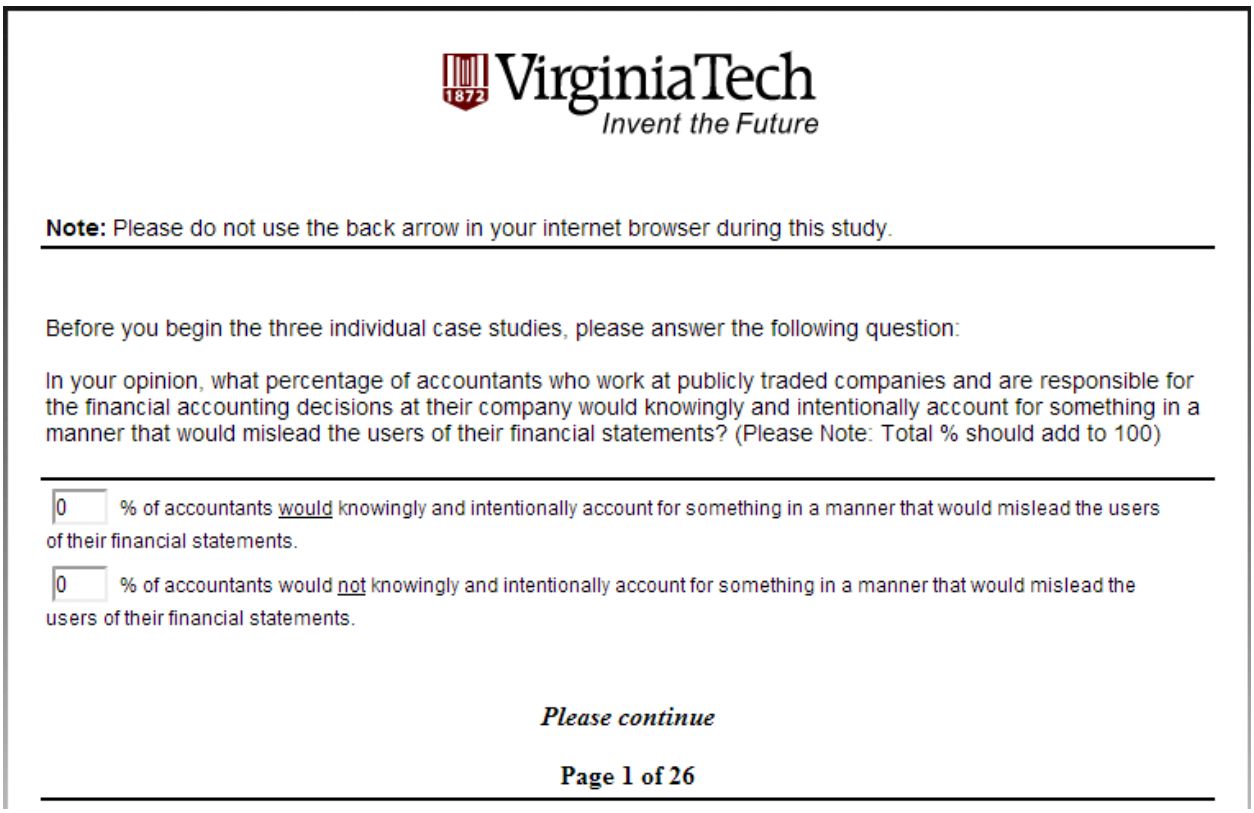
As an expression of my gratitude, I would like to mail you a small token of thanks. Should you choose to accept the gift, after completion of the study you will be taken to a separate form where you can enter your name and mailing address.

Thank you in advance for your valuable time!

Eric Negangard
Department of Accounting and Information Systems
Pamplin College of Business
Virginia Tech

When you are ready to begin, please click on the button at the bottom right of this page.

Exhibit 2: Initial Estimate of Financial Reporting Fraud



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Note: Please do not use the back arrow in your internet browser during this study.

Before you begin the three individual case studies, please answer the following question:

In your opinion, what percentage of accountants who work at publicly traded companies and are responsible for the financial accounting decisions at their company would knowingly and intentionally account for something in a manner that would mislead the users of their financial statements? (Please Note: Total % should add to 100)

0 % of accountants would knowingly and intentionally account for something in a manner that would mislead the users of their financial statements.

0 % of accountants would not knowingly and intentionally account for something in a manner that would mislead the users of their financial statements.

Please continue

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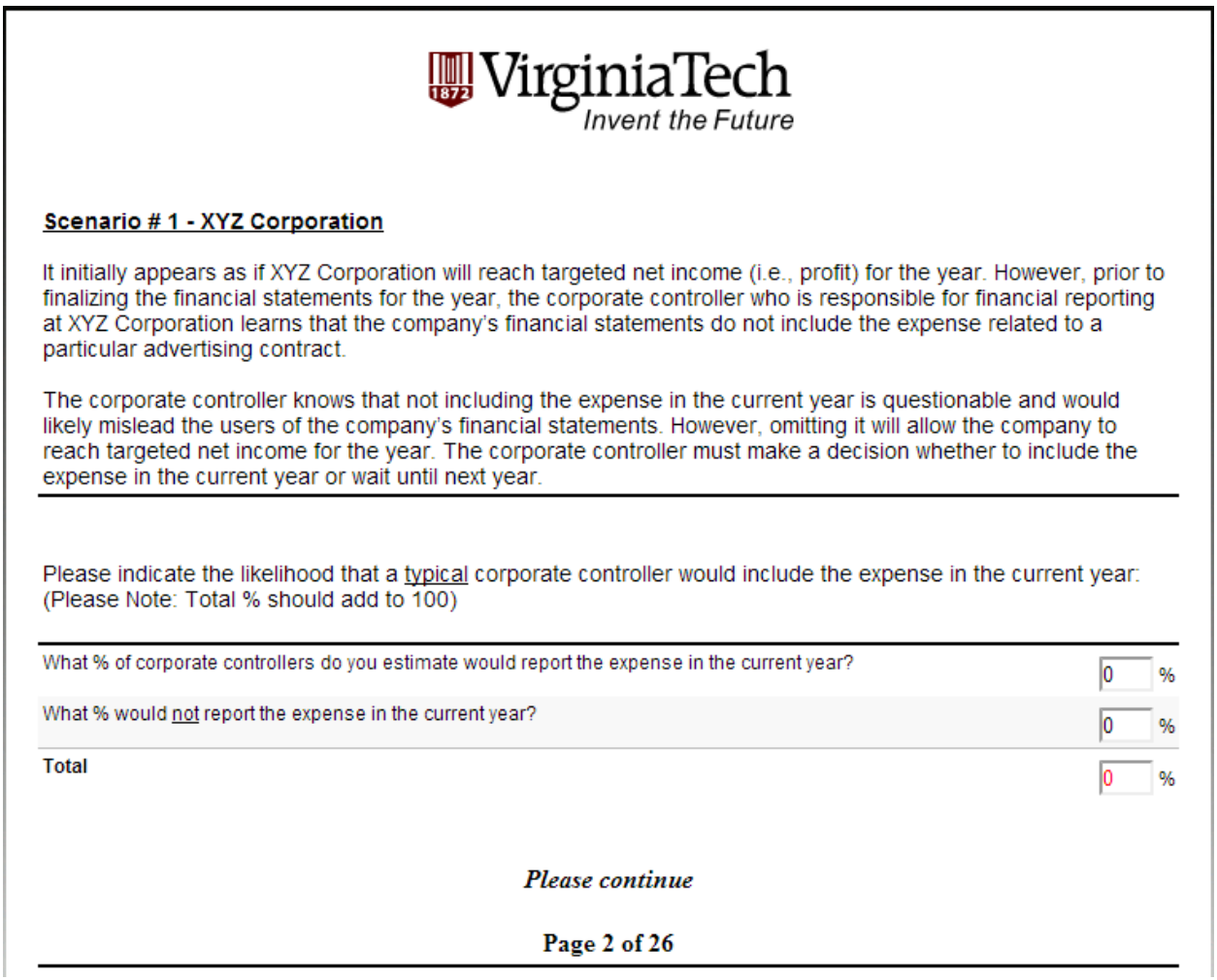
Exhibit 3: Scenario # 1 Introduction



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Scenario # 1 - XYZ Corporation

It initially appears as if XYZ Corporation will reach targeted net income (i.e., profit) for the year. However, prior to finalizing the financial statements for the year, the corporate controller who is responsible for financial reporting at XYZ Corporation learns that the company's financial statements do not include the expense related to a particular advertising contract.

The corporate controller knows that not including the expense in the current year is questionable and would likely mislead the users of the company's financial statements. However, omitting it will allow the company to reach targeted net income for the year. The corporate controller must make a decision whether to include the expense in the current year or wait until next year.

Please indicate the likelihood that a typical corporate controller would include the expense in the current year: (Please Note: Total % should add to 100)

What % of corporate controllers do you estimate would report the expense in the current year?	0 %
What % would not report the expense in the current year?	0 %
Total	0 %

Please continue

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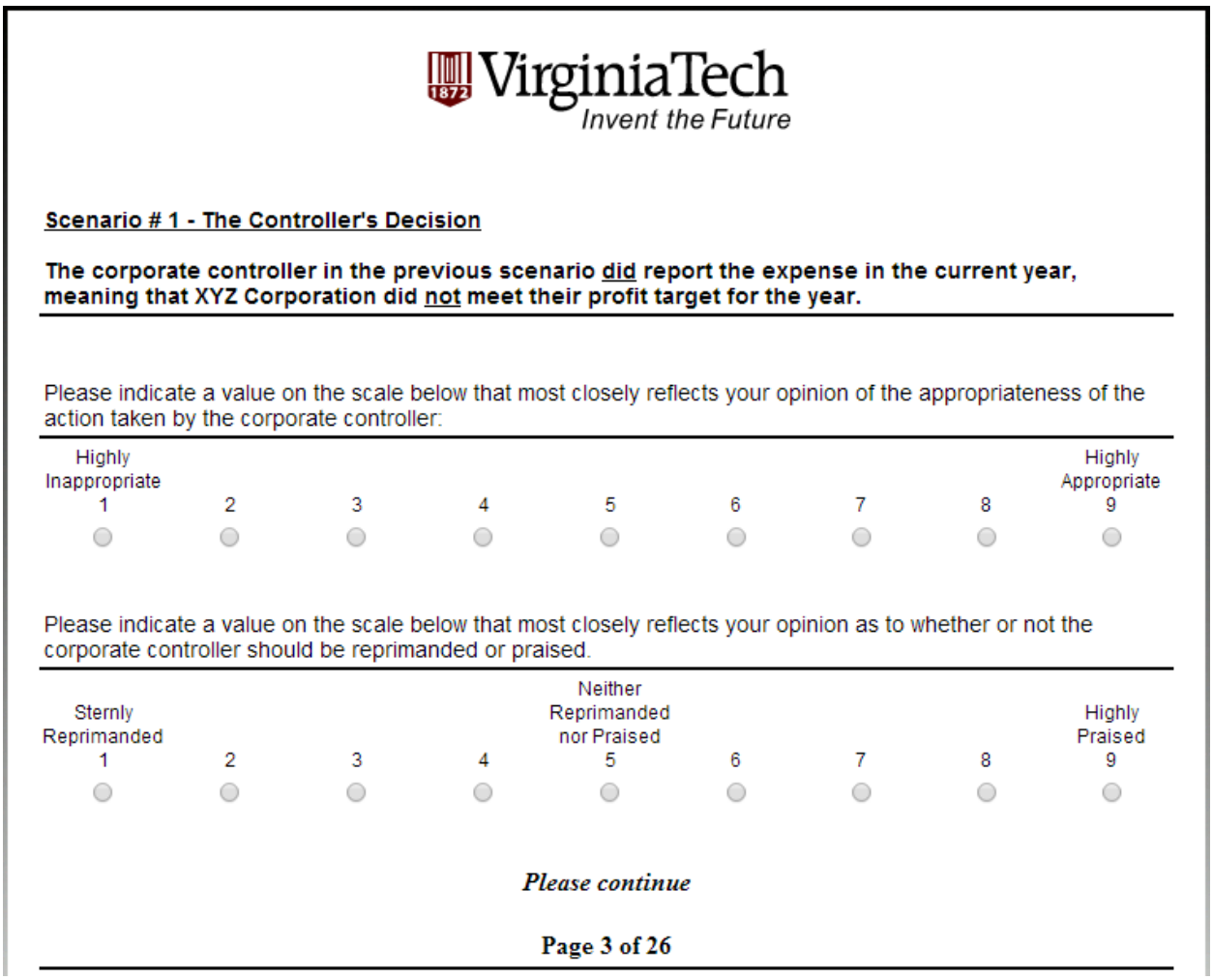
Exhibit 4: Scenario # 1 The Controller's Decision



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Scenario # 1 - The Controller's Decision

The corporate controller in the previous scenario did report the expense in the current year, meaning that XYZ Corporation did not meet their profit target for the year.

Please indicate a value on the scale below that most closely reflects your opinion of the appropriateness of the action taken by the corporate controller:

Highly Inappropriate								Highly Appropriate
1	2	3	4	5	6	7	8	9

Please indicate a value on the scale below that most closely reflects your opinion as to whether or not the corporate controller should be reprimanded or praised.

Sternly Reprimanded				Neither Reprimanded nor Praised				Highly Praised
1	2	3	4	5	6	7	8	9

Please continue

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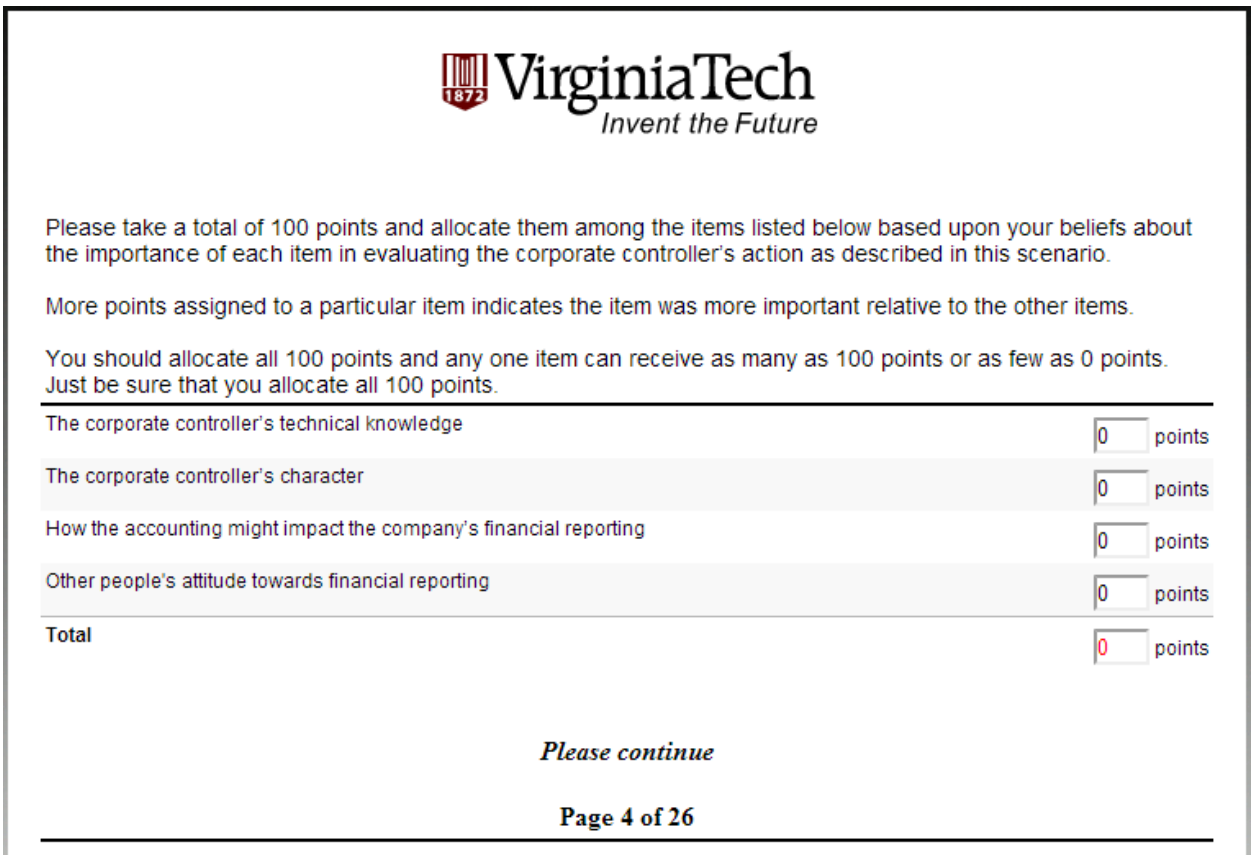
Exhibit 5: Scenario # 1 Points Assignment



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Please take a total of 100 points and allocate them among the items listed below based upon your beliefs about the importance of each item in evaluating the corporate controller's action as described in this scenario.

More points assigned to a particular item indicates the item was more important relative to the other items.

You should allocate all 100 points and any one item can receive as many as 100 points or as few as 0 points. Just be sure that you allocate all 100 points.

The corporate controller's technical knowledge	0 points
The corporate controller's character	0 points
How the accounting might impact the company's financial reporting	0 points
Other people's attitude towards financial reporting	0 points
Total	0 points

Please continue

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Exhibit 6: Scenario # 1 Internality Scale

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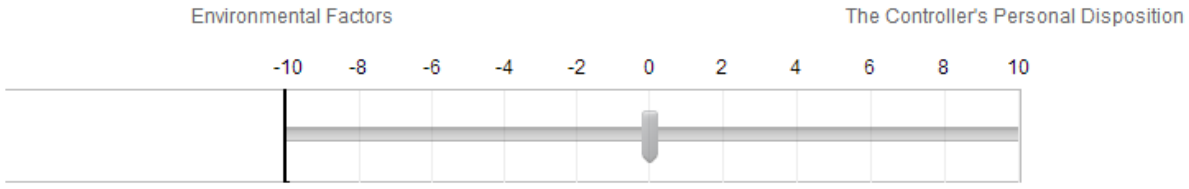
Please indicate on the scale below whether you think the corporate controller's decision related to the treatment of expenses in this scenario was primarily determined by environmental factors or personal disposition:



Please continue

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Exhibit 7: Scenario # 2 Introduction

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Scenario # 2 - ABC Corporation

It initially appears as if ABC Corporation will reach targeted net income (i.e., profit) for the year. However, prior to finalizing the financial statements for the year, the corporate controller who is responsible for financial reporting at ABC Corporation learns that the company's financial statements do not include the expense related to a particular ongoing consulting engagement.

The corporate controller knows that not including the expense in the current year is questionable and would likely mislead the users of the company's financial statements. However, omitting it will allow the company to reach targeted net income for the year. The corporate controller must make a decision whether to include the expense in the current year or wait until next year.

Additional Information:

1. Other companies' accountants in the industry typically include similar expenses in the current year.
2. The corporate controller has consistently excluded similar expenses in the past.
3. There are other accounting decisions, which, if made, will allow the company to meet targeted net income.

Please indicate the likelihood that a typical corporate controller would include the expense in the current year: (Please Note: Total % should add to 100)

What % of corporate controllers do you estimate would report the expense in the current year?	0 %
What % would not report the expense in the current year?	0 %
Total	0 %

Please continue

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Exhibit 8: Scenario # 2 The Controller's Decision

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Scenario # 2 - The Controller's Decision

The corporate controller in the previous scenario did not report the expense in the current year, meaning that ABC Corporation did meet their profit target for the year.

Please indicate a value on the scale below that most closely reflects your opinion of the appropriateness of the action taken by the corporate controller:

Highly Inappropriate								Highly Appropriate
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Please indicate a value on the scale below that most closely reflects your opinion as to whether or not the corporate controller should be reprimanded or praised.

Sternly Reprimanded				Neither Reprimanded nor Praised				Highly Praised
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Please continue

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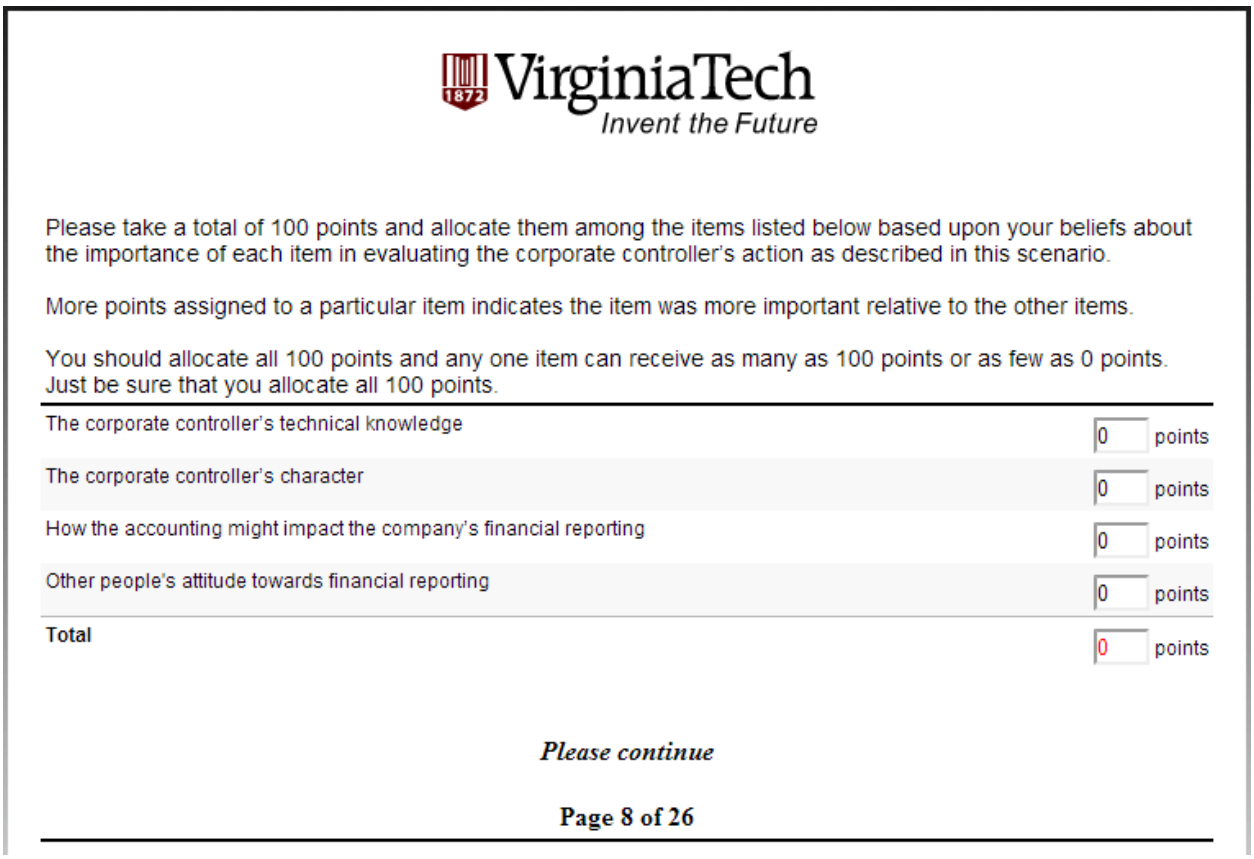
Exhibit 9: Scenario # 2 Points Assignment



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Please take a total of 100 points and allocate them among the items listed below based upon your beliefs about the importance of each item in evaluating the corporate controller's action as described in this scenario.

More points assigned to a particular item indicates the item was more important relative to the other items.

You should allocate all 100 points and any one item can receive as many as 100 points or as few as 0 points. Just be sure that you allocate all 100 points.

The corporate controller's technical knowledge	0 points
The corporate controller's character	0 points
How the accounting might impact the company's financial reporting	0 points
Other people's attitude towards financial reporting	0 points
Total	0 points

Please continue

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Exhibit 10: Scenario # 2 Internality Scale

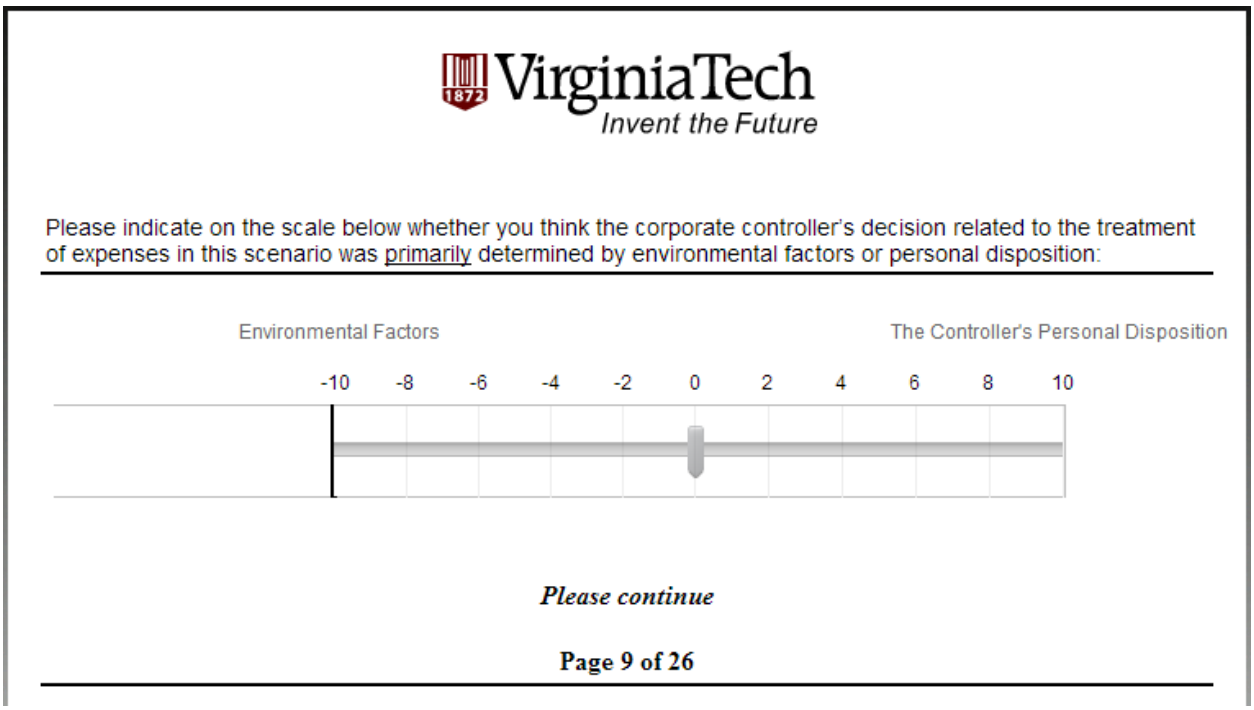
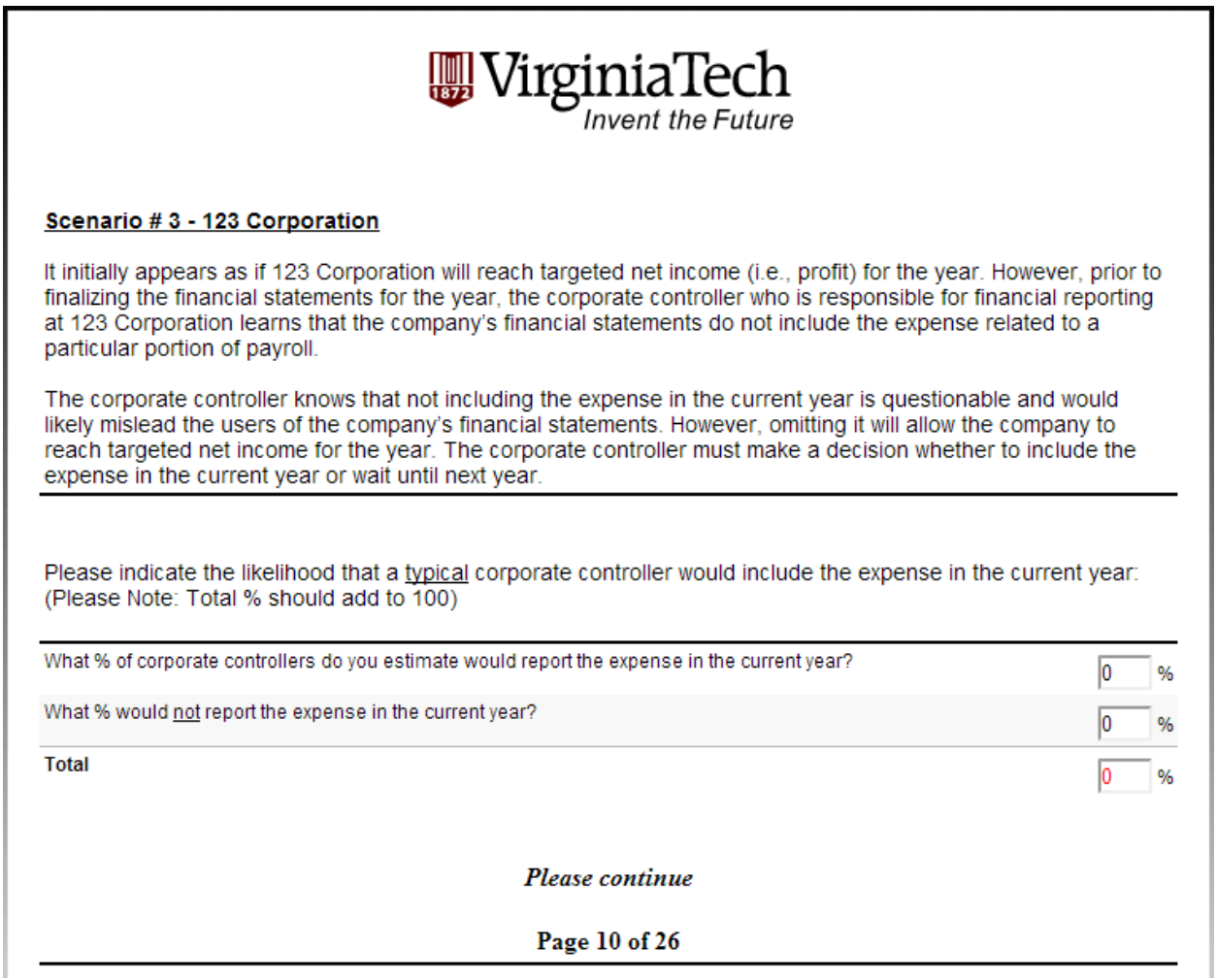


Exhibit 11: Scenario # 3 Introduction



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Scenario # 3 - 123 Corporation

It initially appears as if 123 Corporation will reach targeted net income (i.e., profit) for the year. However, prior to finalizing the financial statements for the year, the corporate controller who is responsible for financial reporting at 123 Corporation learns that the company's financial statements do not include the expense related to a particular portion of payroll.

The corporate controller knows that not including the expense in the current year is questionable and would likely mislead the users of the company's financial statements. However, omitting it will allow the company to reach targeted net income for the year. The corporate controller must make a decision whether to include the expense in the current year or wait until next year.

Please indicate the likelihood that a typical corporate controller would include the expense in the current year: (Please Note: Total % should add to 100)

What % of corporate controllers do you estimate would report the expense in the current year?	0 %
What % would not report the expense in the current year?	0 %
Total	0 %

Please continue

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Exhibit 12: Scenario # 3 The Controller's Decision

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Scenario # 3 - The Controller's Decision

The corporate controller in the previous scenario did not report the expense in the current year, meaning that 123 Corporation did meet their profit target for the year.

Please indicate a value on the scale below that most closely reflects your opinion of the appropriateness of the action taken by the corporate controller:

Highly Inappropriate								Highly Appropriate
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Please indicate a value on the scale below that most closely reflects your opinion as to whether or not the corporate controller should be reprimanded or praised.

Sternly Reprimanded				Neither Reprimanded nor Praised				Highly Praised
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Please continue

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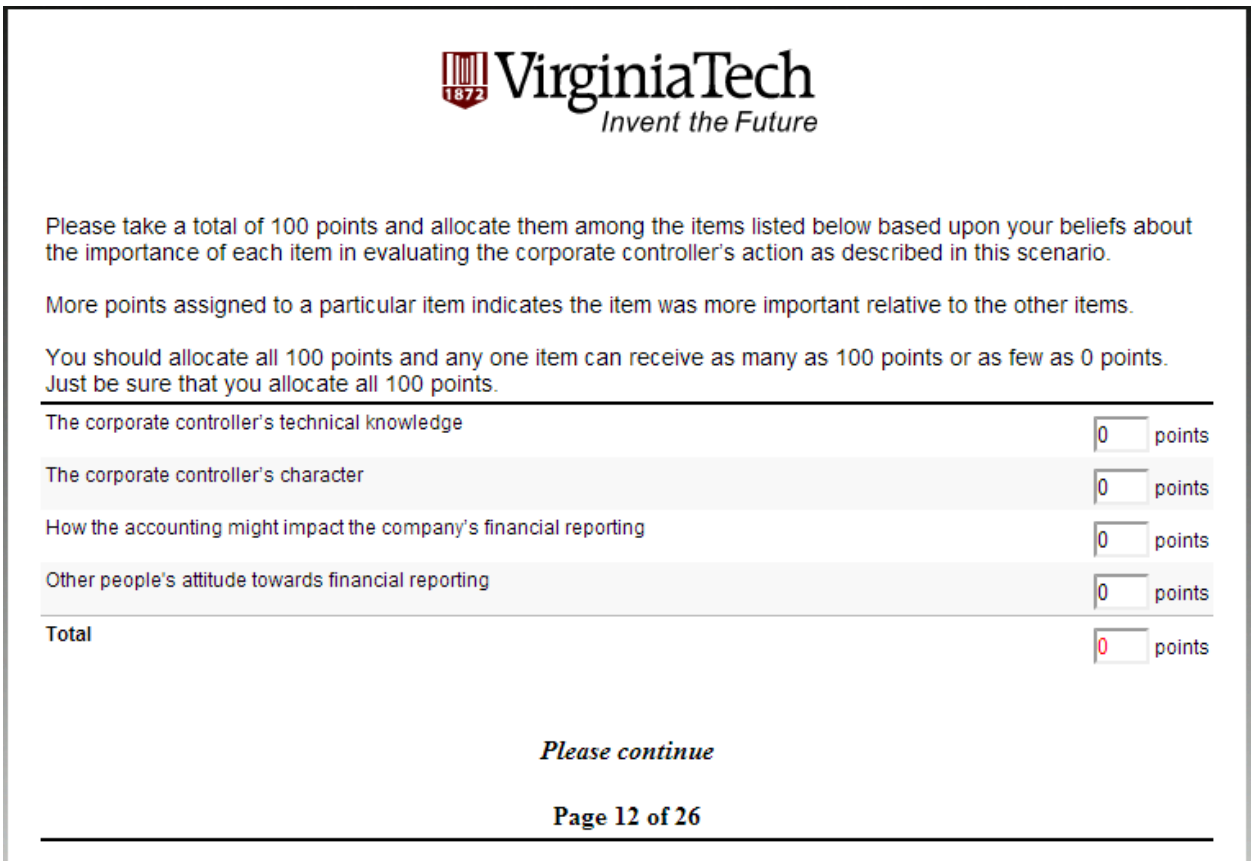
Exhibit 13: Scenario # 3 Points Assignment



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Please take a total of 100 points and allocate them among the items listed below based upon your beliefs about the importance of each item in evaluating the corporate controller's action as described in this scenario.

More points assigned to a particular item indicates the item was more important relative to the other items.

You should allocate all 100 points and any one item can receive as many as 100 points or as few as 0 points. Just be sure that you allocate all 100 points.

The corporate controller's technical knowledge	0 points
The corporate controller's character	0 points
How the accounting might impact the company's financial reporting	0 points
Other people's attitude towards financial reporting	0 points
Total	0 points

Please continue

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Exhibit 14: Scenario # 3 Internality Scale

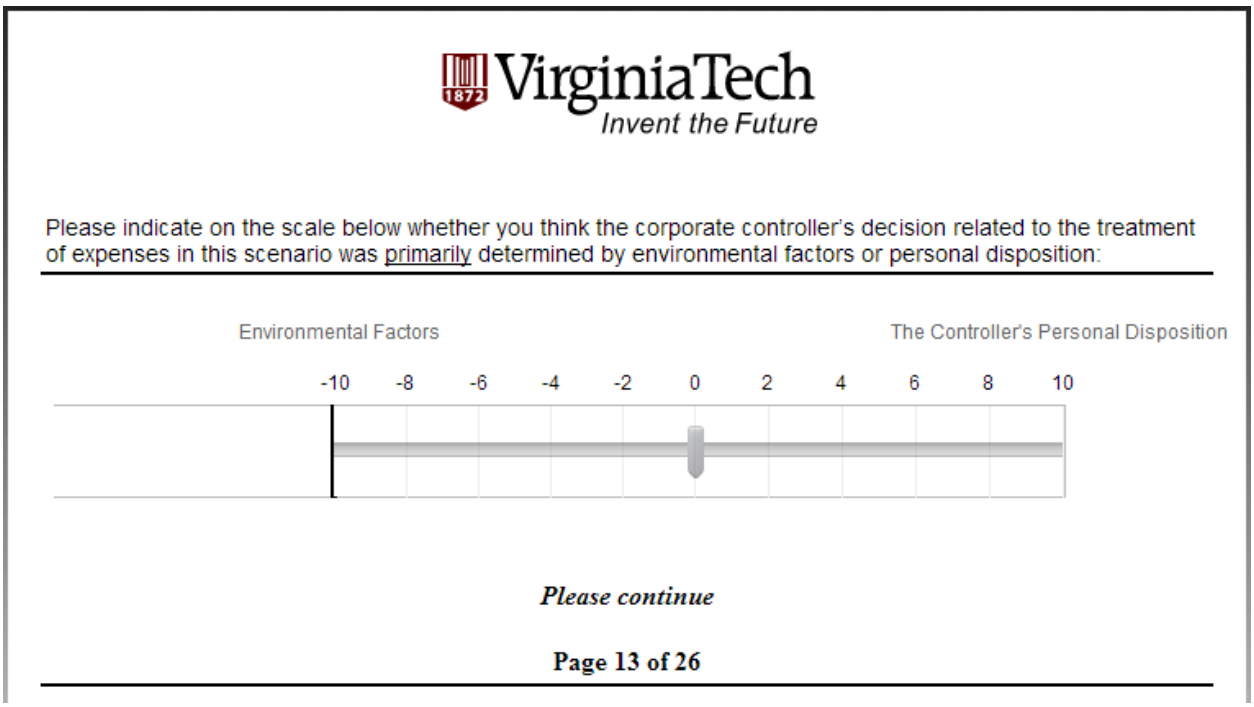


Exhibit 15: Demographic Questions

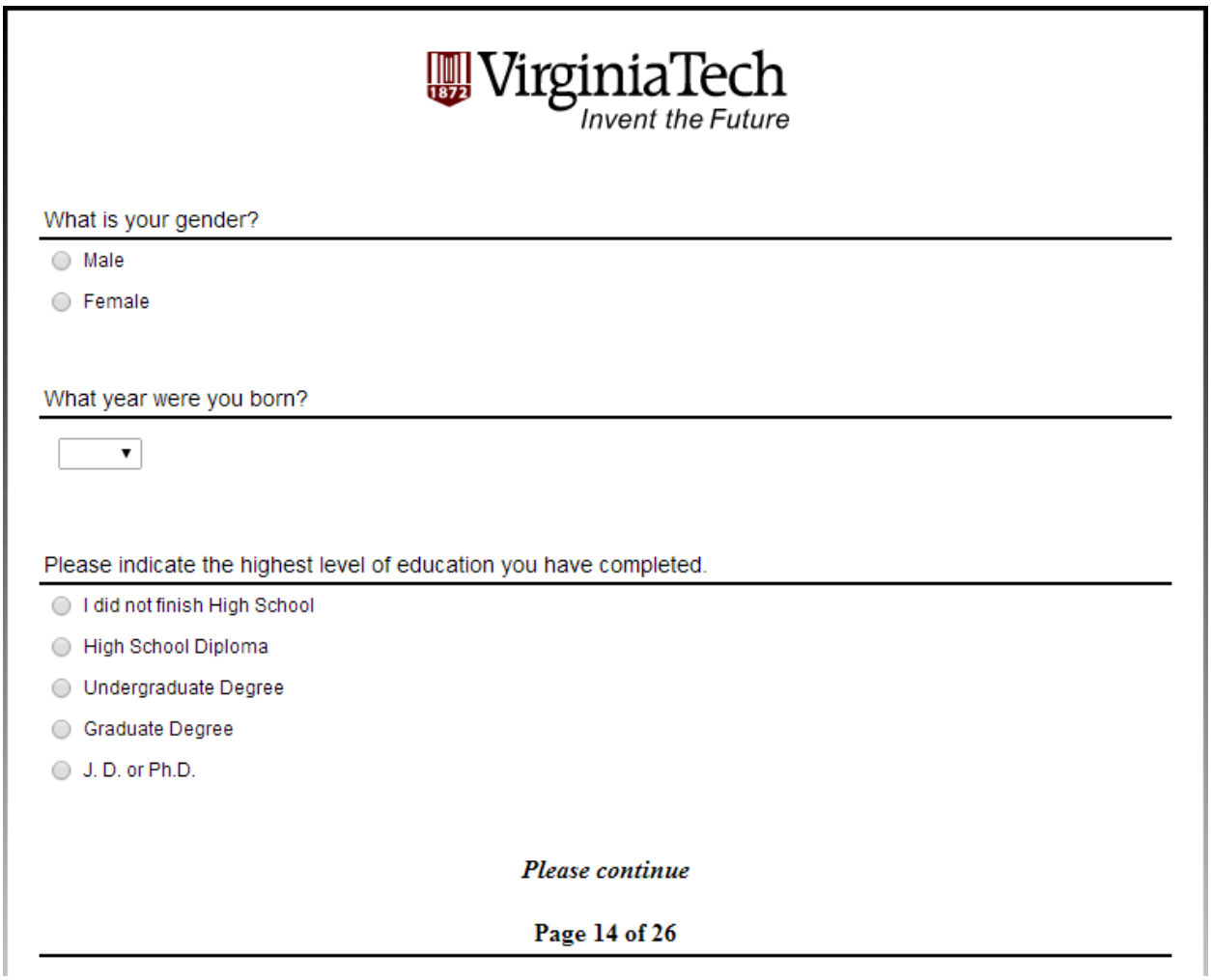
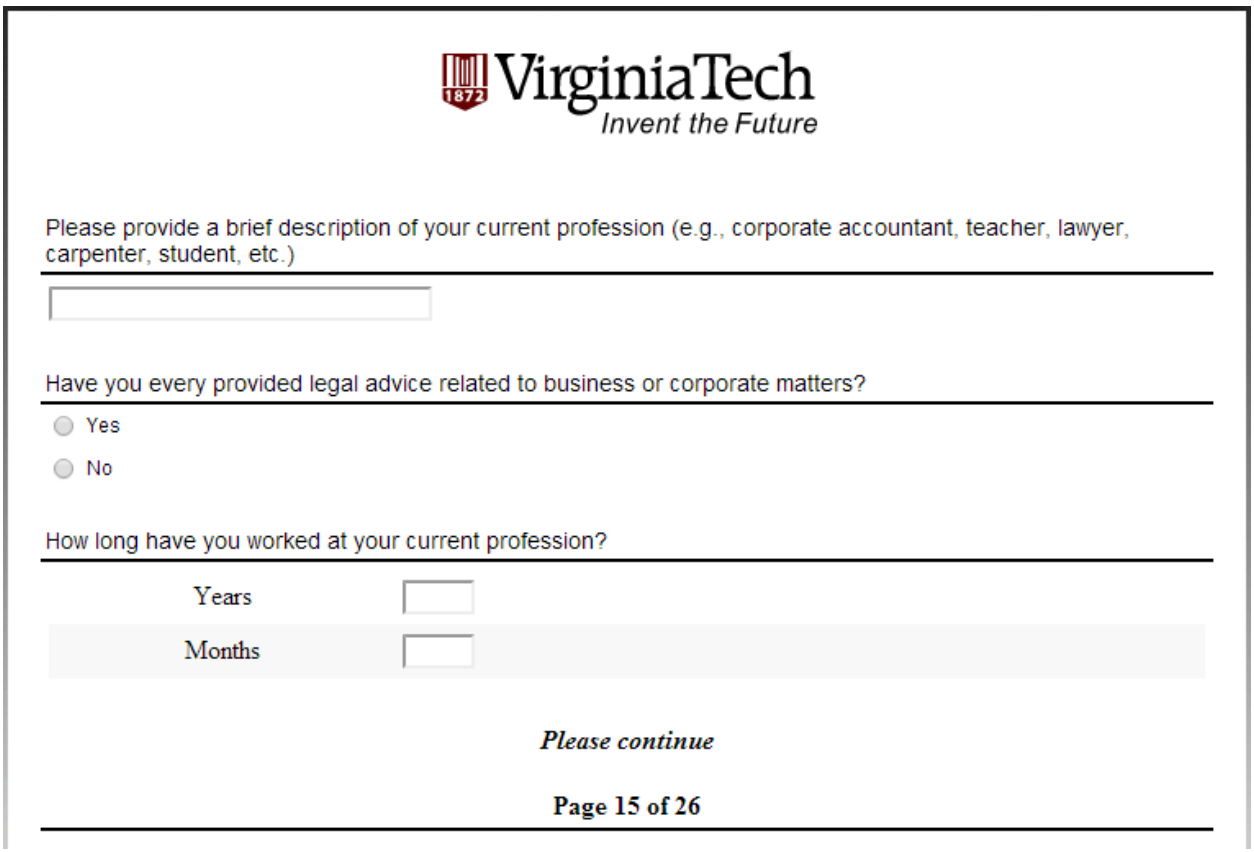


Exhibit 16: Demographic Questions (continued)



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Please provide a brief description of your current profession (e.g., corporate accountant, teacher, lawyer, carpenter, student, etc.)

Have you every provided legal advice related to business or corporate matters?

- Yes
- No

How long have you worked at your current profession?

Years	
Months	

Please continue

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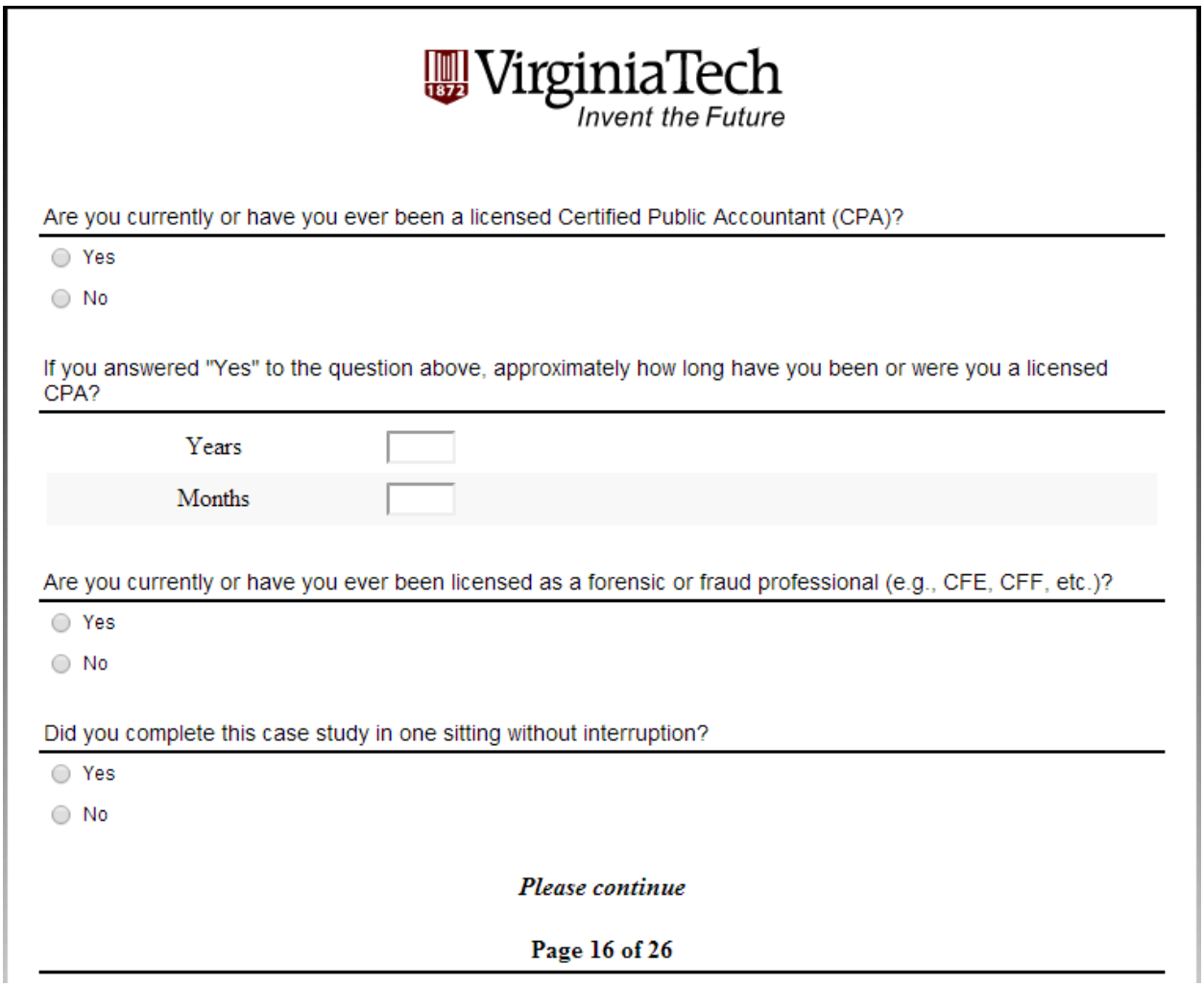
Exhibit 17: Demographic Questions (continued)



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Are you currently or have you ever been a licensed Certified Public Accountant (CPA)?

- Yes
- No

If you answered "Yes" to the question above, approximately how long have you been or were you a licensed CPA?

Years	
Months	

Are you currently or have you ever been licensed as a forensic or fraud professional (e.g., CFE, CFF, etc.)?

- Yes
- No

Did you complete this case study in one sitting without interruption?

- Yes
- No

Please continue

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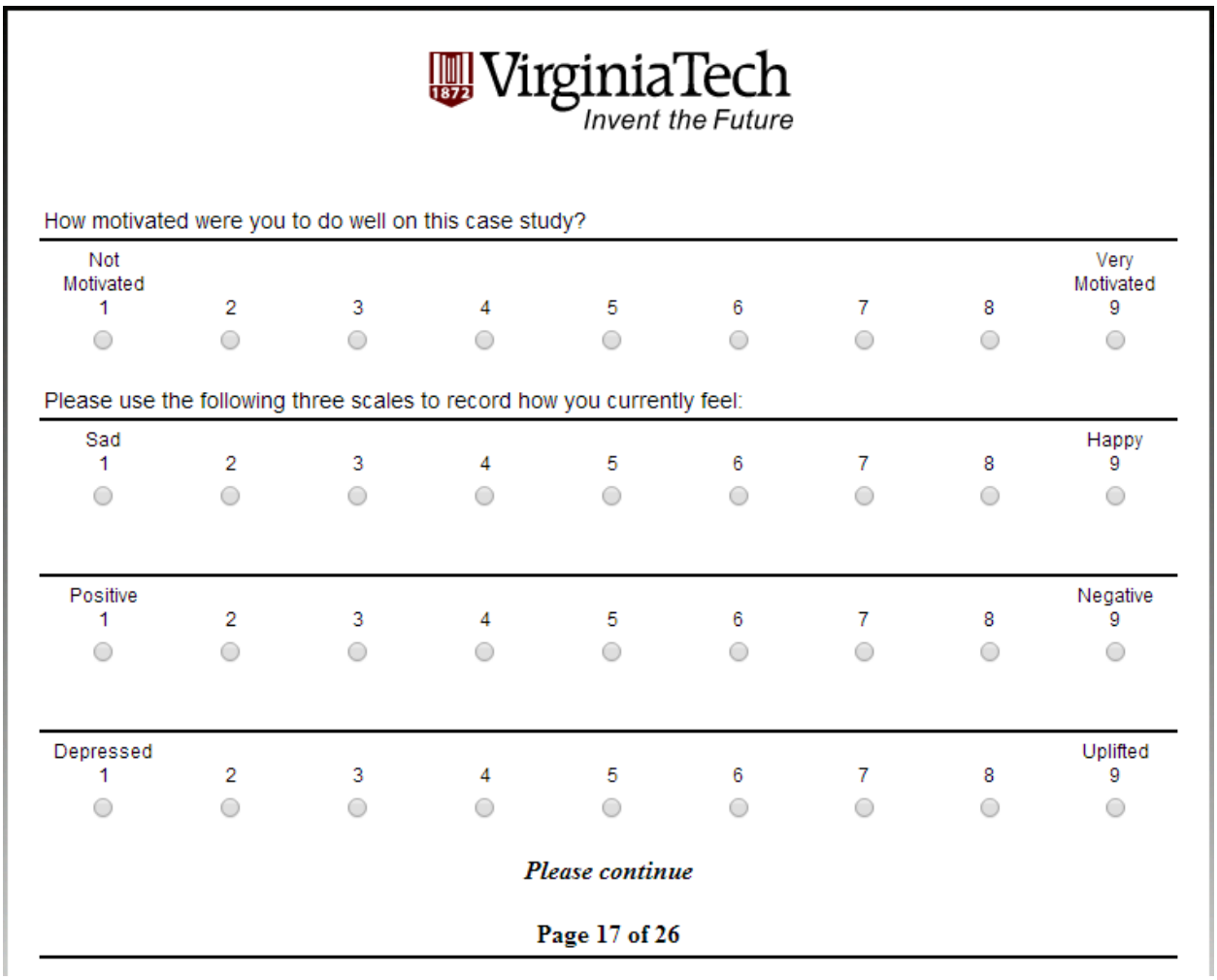
Exhibit 18: Motivation and Mood Questions



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How motivated were you to do well on this case study?

Not Motivated								Very Motivated
1	2	3	4	5	6	7	8	9

Please use the following three scales to record how you currently feel:

Sad								Happy
1	2	3	4	5	6	7	8	9

Positive								Negative
1	2	3	4	5	6	7	8	9

Depressed								Uplifted
1	2	3	4	5	6	7	8	9

Please continue

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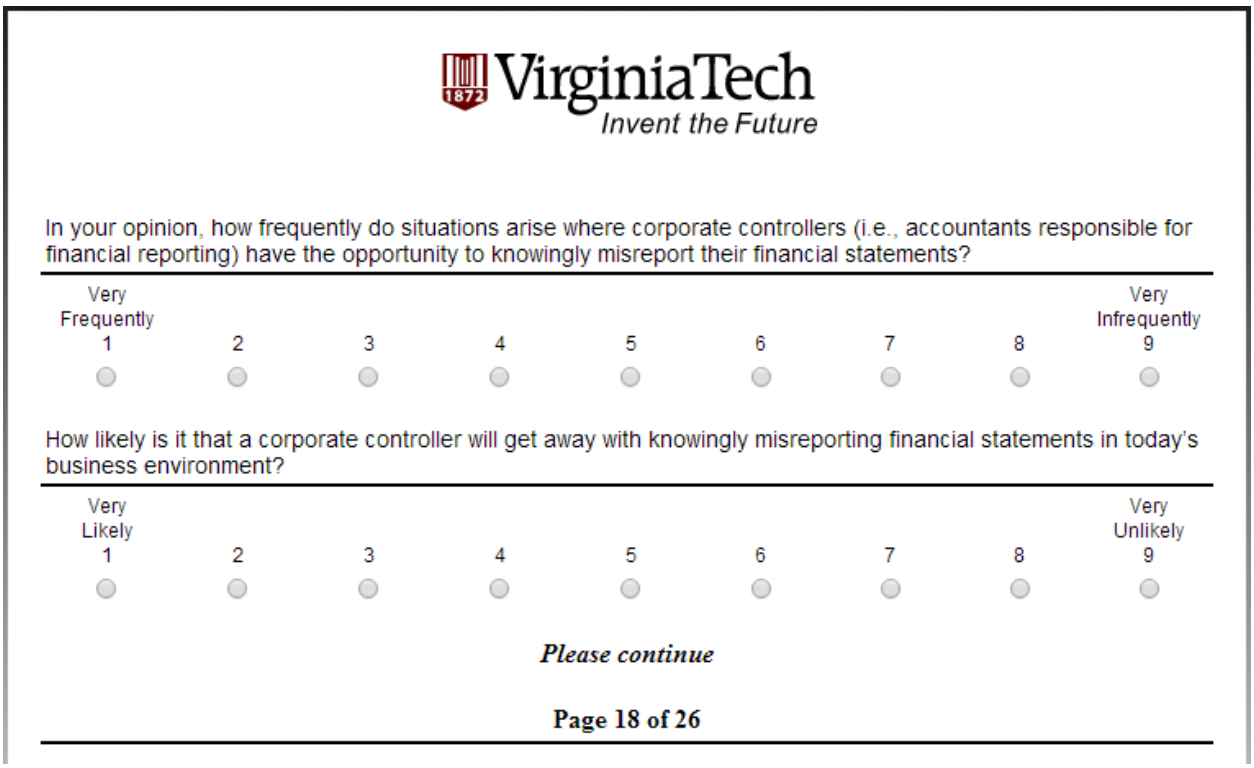
Exhibit 19: Business Culture Questions



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In your opinion, how frequently do situations arise where corporate controllers (i.e., accountants responsible for financial reporting) have the opportunity to knowingly misreport their financial statements?

Very Frequently								Very Infrequently
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

How likely is it that a corporate controller will get away with knowingly misreporting financial statements in today's business environment?

Very Likely								Very Unlikely
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Please continue

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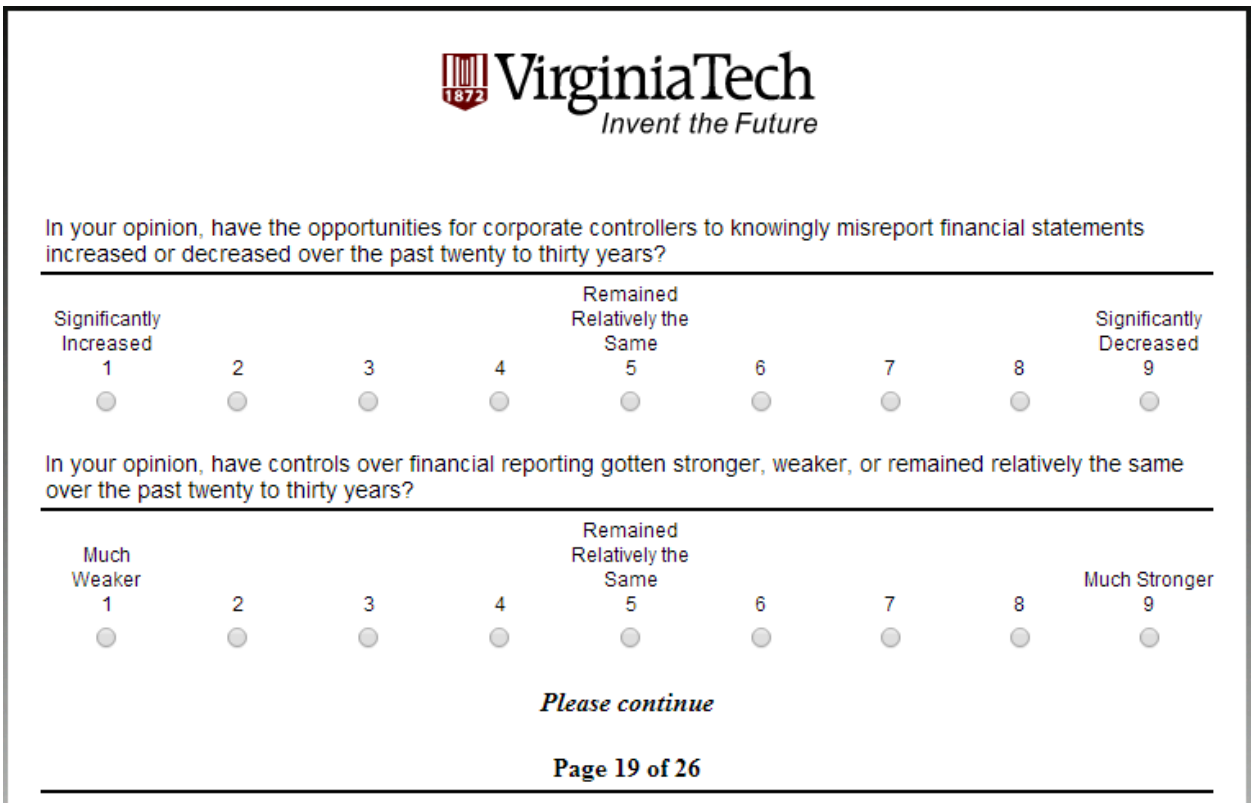
Exhibit 20: Business Culture Questions (continued)



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In your opinion, have the opportunities for corporate controllers to knowingly misreport financial statements increased or decreased over the past twenty to thirty years?

Significantly Increased				Remained Relatively the Same				Significantly Decreased
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

In your opinion, have controls over financial reporting gotten stronger, weaker, or remained relatively the same over the past twenty to thirty years?

Much Weaker				Remained Relatively the Same				Much Stronger
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Please continue

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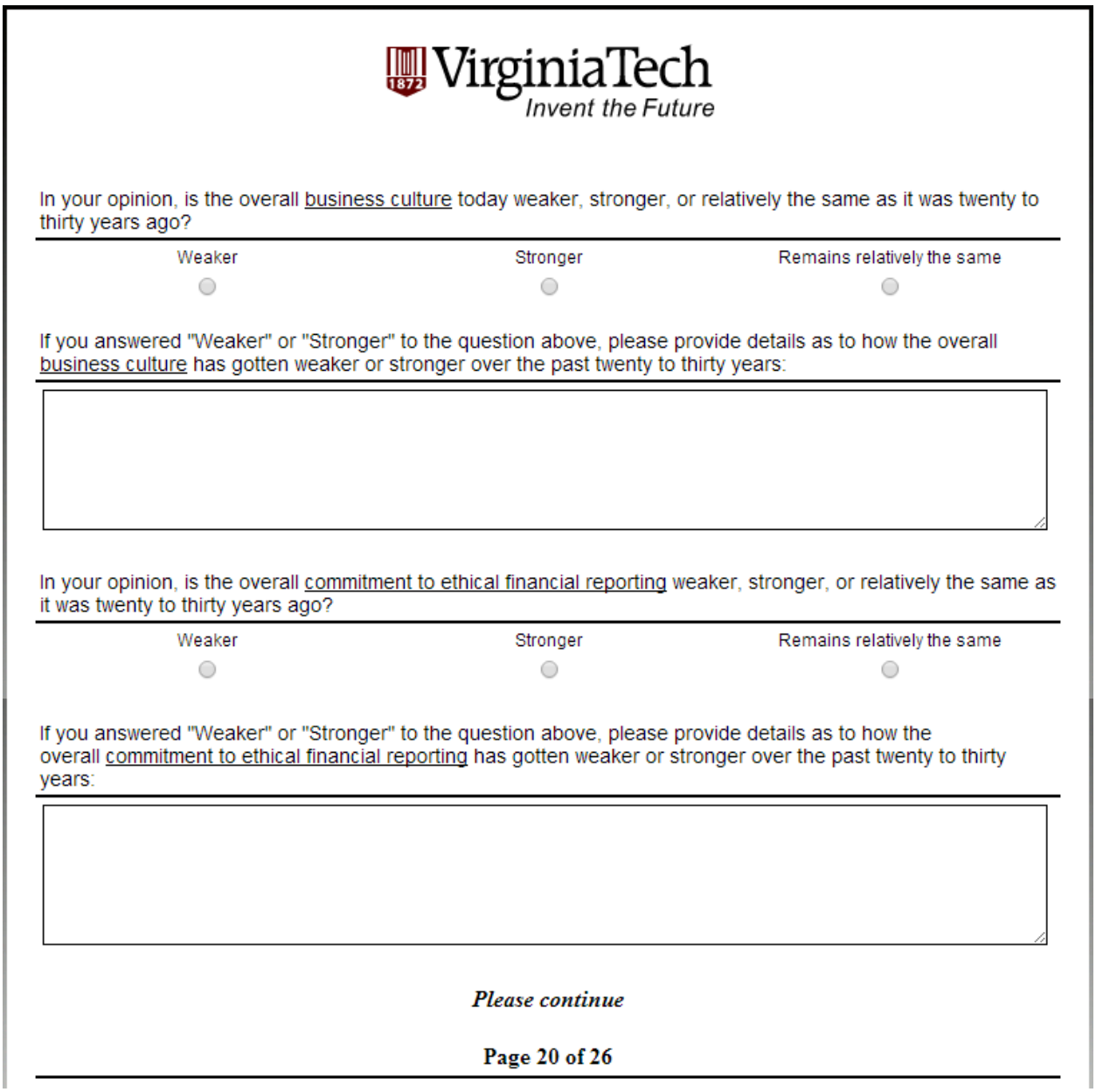
Exhibit 21: Business Culture Questions (continued)



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In your opinion, is the overall business culture today weaker, stronger, or relatively the same as it was twenty to thirty years ago?

Weaker ○ Stronger ○ Remains relatively the same ○

If you answered "Weaker" or "Stronger" to the question above, please provide details as to how the overall business culture has gotten weaker or stronger over the past twenty to thirty years:

In your opinion, is the overall commitment to ethical financial reporting weaker, stronger, or relatively the same as it was twenty to thirty years ago?

Weaker ○ Stronger ○ Remains relatively the same ○

If you answered "Weaker" or "Stronger" to the question above, please provide details as to how the overall commitment to ethical financial reporting has gotten weaker or stronger over the past twenty to thirty years:

Please continue

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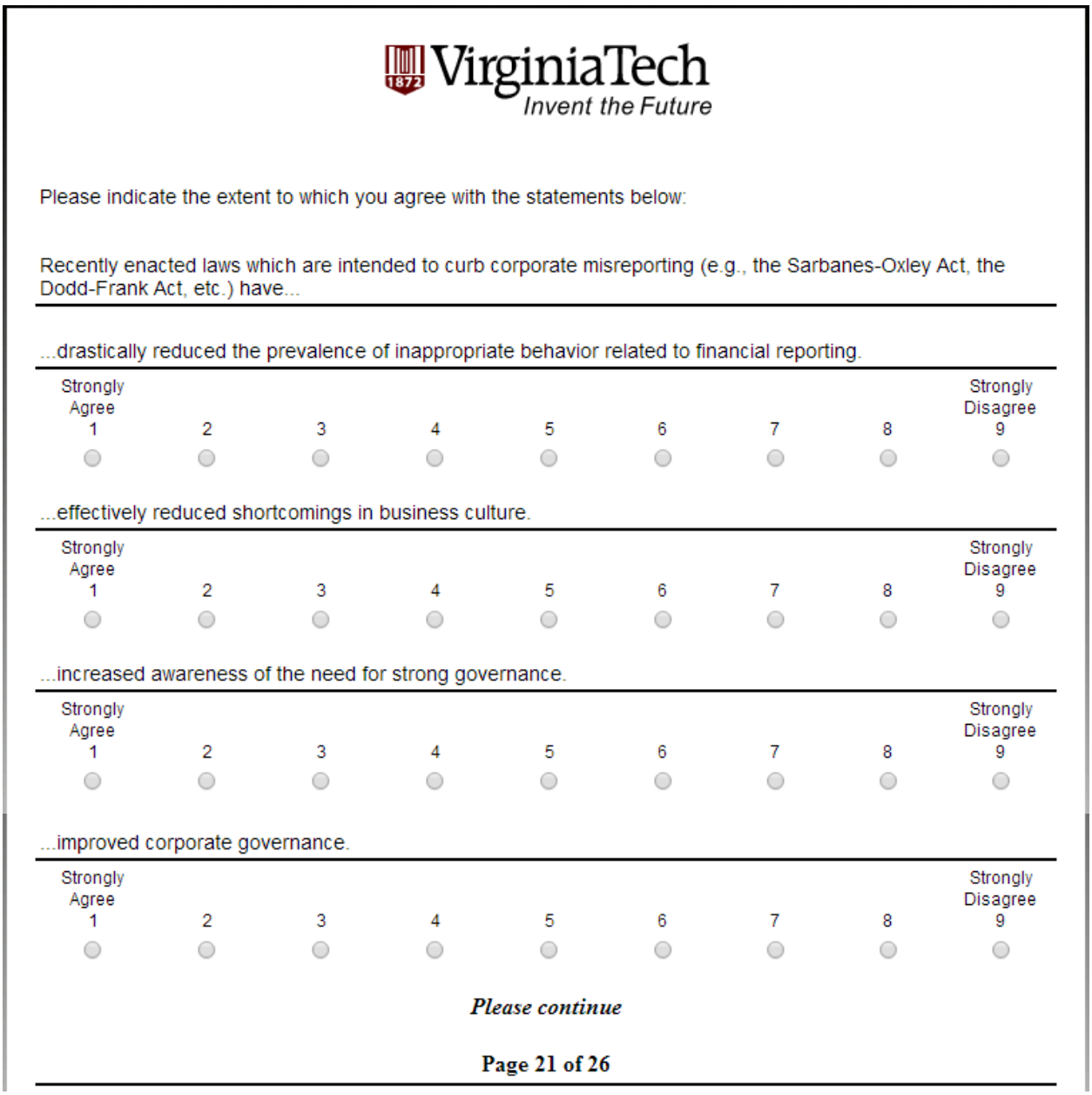
Exhibit 22: Business Culture Questions (continued)



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Please indicate the extent to which you agree with the statements below:

Recently enacted laws which are intended to curb corporate misreporting (e.g., the Sarbanes-Oxley Act, the Dodd-Frank Act, etc.) have...

...drastically reduced the prevalence of inappropriate behavior related to financial reporting.

Strongly Agree								Strongly Disagree
1	2	3	4	5	6	7	8	9

...effectively reduced shortcomings in business culture.

Strongly Agree								Strongly Disagree
1	2	3	4	5	6	7	8	9

...increased awareness of the need for strong governance.

Strongly Agree								Strongly Disagree
1	2	3	4	5	6	7	8	9

...improved corporate governance.

Strongly Agree								Strongly Disagree
1	2	3	4	5	6	7	8	9

Please continue

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Exhibit 23: Business Culture Questions (continued)

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Please indicate the extent to which you agree with the statements below:

Recent increases in the level of controls over financial reporting have been effective in preventing companies from intentionally misstating their financials.

Strongly Agree								Strongly Disagree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Continuing to increase controls over financial reporting will help to further prevent financial reporting fraud.

Strongly Agree								Strongly Disagree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Regulators and prosecutors should continue to increase their enforcement actions against individuals and companies who misreport their financials.

Strongly Agree								Strongly Disagree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Legislators should continue to develop and enact laws that target intentional financial misreporting.

Strongly Agree								Strongly Disagree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

In general, I feel like I can trust corporate controllers (i.e., accountants responsible for financial reporting) to do the right thing when making decisions related to financial reporting.

Strongly Agree								Strongly Disagree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Please continue

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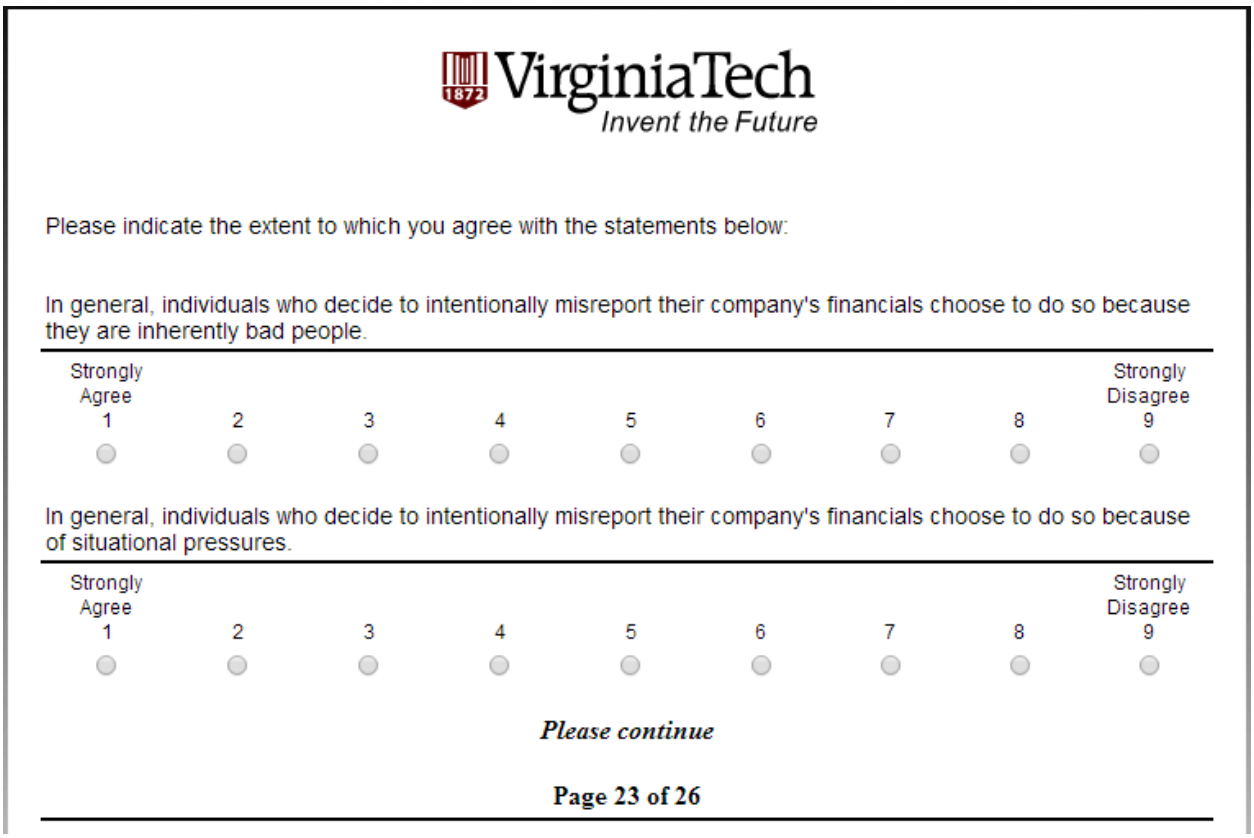
Exhibit 24: Business Culture Questions (continued)



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Please indicate the extent to which you agree with the statements below:

In general, individuals who decide to intentionally misreport their company's financials choose to do so because they are inherently bad people.

Strongly Agree								Strongly Disagree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

In general, individuals who decide to intentionally misreport their company's financials choose to do so because of situational pressures.

Strongly Agree								Strongly Disagree
1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

Please continue

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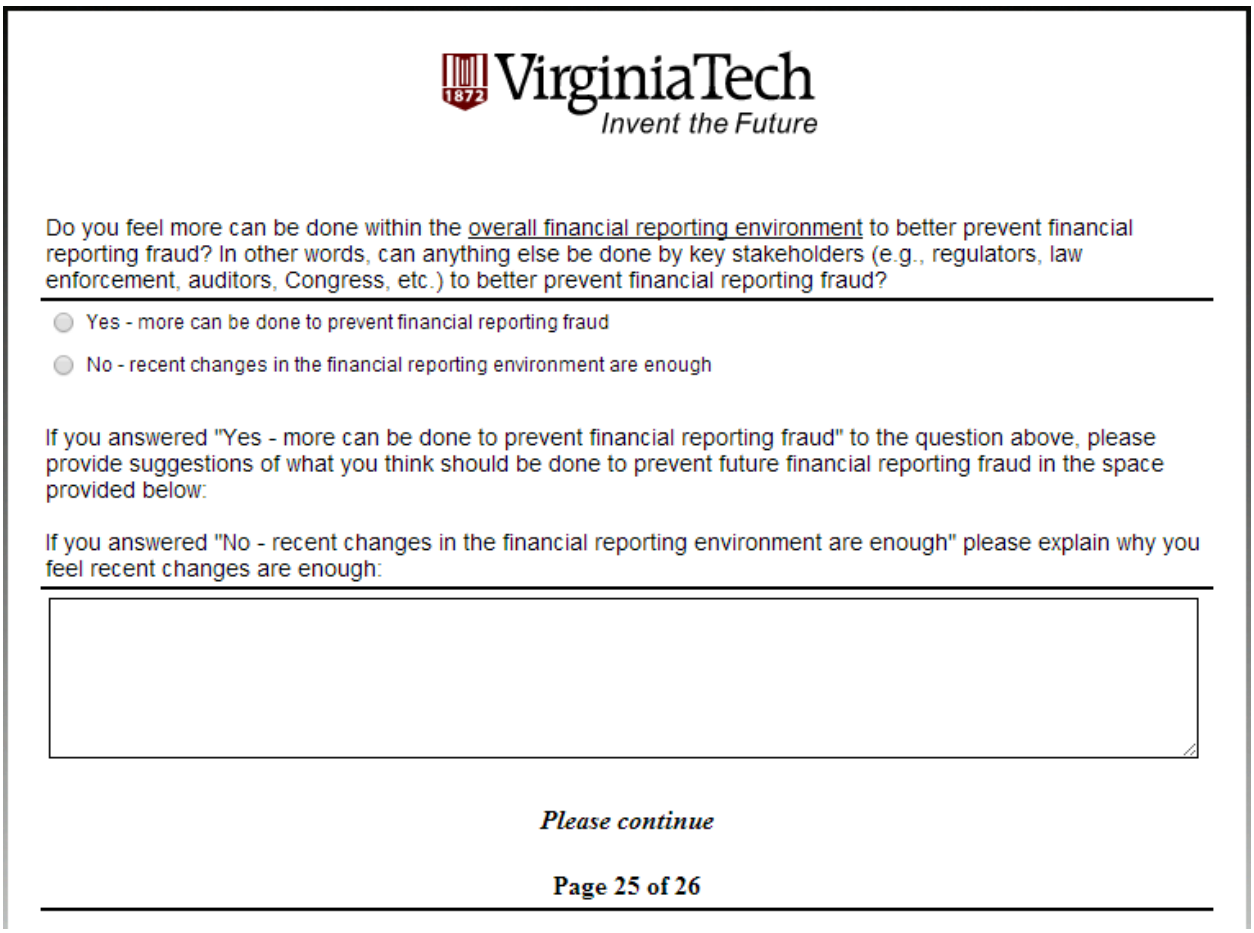
Exhibit 25: Experienced Fraud Question

Exhibit 26: Overall Financial Reporting Environment Question



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Do you feel more can be done within the overall financial reporting environment to better prevent financial reporting fraud? In other words, can anything else be done by key stakeholders (e.g., regulators, law enforcement, auditors, Congress, etc.) to better prevent financial reporting fraud?

- Yes - more can be done to prevent financial reporting fraud
- No - recent changes in the financial reporting environment are enough

If you answered "Yes - more can be done to prevent financial reporting fraud" to the question above, please provide suggestions of what you think should be done to prevent future financial reporting fraud in the space provided below:

If you answered "No - recent changes in the financial reporting environment are enough" please explain why you feel recent changes are enough:

Please continue

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Exhibit 27: Aftermath of Financial Reporting Fraud Question