An Examination of Trust and Distrust in Auditor-Client Relationships

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ABSTRACT

The auditing literature generally conceptualizes trust and distrust as opposite poles of a unidimensional construct. However, research in other fields suggests that trust and distrust are related but functionally distinct. The present study proposes that this two-dimensional approach is appropriate for examining trust and distrust in auditor-client relationships. One factor that may influence auditors' feelings of trust and distrust toward their clients is the receipt of client-provided evidence that is inconsistent with prior evidence obtained. We conduct an experiment to examine whether the timing of inconsistent evidence influences planned audit effort by affecting auditors' trust and distrust toward client management. Results reveal that auditors who receive inconsistent evidence later in a series of management representations plan significantly more audit effort than do auditors who receive the same inconsistent evidence earlier. Importantly, auditors' feelings of trust and distrust toward the client operate separately to help explain this effect.

Keywords: trust; distrust; auditor-client relationship; evidence consistency

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INTRODUCTION

In order to perform efficient and effective audits, auditors must exhibit both trust and distrust toward their clients.[1] Auditors must trust their clients to some extent to fulfill the requirements of an audit (Shaub 1996; Richard 2006; Rennie, Kopp, and Lemon 2010). However, bias caused by trust in client management is often suggested as one reason auditors overrely on client-provided evidence and fail to apply sufficient levels of professional skepticism (Rose 2007; PCAOB 2012). Therefore, auditors must also maintain some level of distrust in client management in order to remain professionally skeptical when evaluating client-provided audit evidence.[2] Yet, too much distrust could lead to inefficient overauditing (Nelson 2009). The dynamics of trust and distrust in the auditor-client relationship affect auditors' judgments and decisions and can ultimately impact important audit outcomes.

In the auditing literature, auditors' trust and distrust toward their clients are generally viewed as opposite poles of a unidimensional construct (e.g., Shaub 1996; Shaub and Lawrence 1996; Choo and Tan 2000; Quadackers, Groot, and Wright 2014). However, management research points out that there are benefits of examining trust and distrust as separate yet related constructs (e.g., Lewicki et al. 1998) and that many relationships are not only valid, but even healthy, when both trust and distrust are operating (Lewicki et al. 2006). We contend that this two-dimensional approach (i.e., conceptualizing trust and distrust as separate constructs) reflects the operation of trust and distrust in auditor-client relationships. Using an experiment, we test

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[1] Extant literature on trust and distrust defines and conceptualizes these constructs in multiple ways (see Lewicki, McAllister, and Bies 1998; Lewicki and Weithoff 2000; Lewicki, Tomlinson, and Gillespie 2006). As our interest is in auditors' feelings of interpersonal trust and distrust toward clients, we define trust as relating to "positive expectations regarding another's conduct" and distrust as relating to "negative expectations regarding another's conduct" (Lewicki et al. 1998, 439).

[2] Recently, researchers and regulators tend to favor a presumptive doubt perspective of professional skepticism, where some level of management dishonesty or bias is assumed until the audit evidence collected indicates otherwise (Bell, Peecher, and Solomon 2005; Nelson 2009). That is, the presumptive doubt view of professional skepticism is characterized by distrust.

this contention and investigate whether examining trust and distrust separately can enhance our understanding of auditors' judgment and decision-making processes.

Our experiment employs an order effects setting in which participants evaluate a series of management representations and make audit effort planning decisions. In the course of an audit, client management may provide auditors with evidence that is inconsistent with previous evidence obtained and/or previously-developed expectations. Receiving such inconsistent evidence increases the risk of material misstatement due to error or fraud. For this reason, when an auditor receives inconsistent evidence, standards require the auditor to reevaluate the reliability of other evidence received that may also be deemed unreliable and adjust the audit plan accordingly (PCAOB 2016a, 2016b, 2016c). Therefore, whether a given piece of inconsistent evidence is received earlier or later in the course of the audit should not be relevant to determining overall audit effort. Prior research suggests, however, that *when* inconsistent evidence is evaluated (i.e., *timing*) may impact audit effort. Order effects research in auditing generally shows that auditors are more sensitive to the most recently received information (cf. Trotman and Wright 2000). This suggests that auditors who receive inconsistent evidence later in a series of evidence items will plan more audit effort than those who receive the same inconsistent evidence earlier.

Receiving inconsistent evidence from the client is likely to reduce auditors' feelings of trust and increase auditors' feelings of distrust toward client management, particularly if the auditor assumes some level of honesty from management. Research on breaches of trust suggests that the extent to which a breach impacts feelings of trust and distrust depends on the levels of trust and distrust previously established in the relationship (Robinson, Dirks, and Ozcelik 2004; Lount, Zhong, Sivanathan, and Murnighan 2008). Thus, we predict that the timing of

inconsistent evidence evaluation affects how auditors' feelings of trust and distrust toward client management develop and change over repeated interactions (i.e., the dynamics of trust and distrust), which, in turn, can help explain why the timing of inconsistent evidence influences planned audit effort.

In our experiment, 194 auditing students play the role of staff auditors.[3] Participants evaluate a series of five representations made by the controller of a hypothetical client company in response to inquiries regarding fluctuations in account balances. Four of the controller's representations are consistent with previous evidence obtained, and one representation is inconsistent with previous evidence obtained. Timing of inconsistent evidence is manipulated by varying the order of the representations such that the inconsistent representation is received either *first*, third (i.e., the *middle*), or *last*. The informational content of the representations is held constant across experimental conditions because all participants receive the same five representations. After reading each representation, participants assess their levels of trust and distrust for the client controller and indicate how much follow up work is necessary. After responding to all five representations, participants have the opportunity to review and revise their assessments of the amount of follow up work necessary for each representation. The revised total amount of follow up work necessary serves as the dependent measure of planned audit effort.

The effect of timing of inconsistent evidence on planned audit effort is consistent with order effects literature in auditing. We document a recency effect whereby participants indicate significantly more follow up work is necessary when inconsistent evidence is received later in a series of representations compared to when inconsistent evidence is received earlier. By

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[3] Appropriate approvals from the Institutional Review Board were obtained prior to running the experiment.

replicating this common finding from the order effects literature, we establish a context in which the dynamics of trust and distrust in the auditor-client relationship can be examined.

Analyses of participants' ratings of trust and distrust for the client controller support our contention that trust and distrust operate as separate constructs in the audit setting. Our measures of trust and distrust load on separate factors using principal components analysis. Additionally, confirmatory factor analysis reveals that a two factor measurement model, where our trust and distrust measurement items load on separate latent variables, provides superior model fit when compared to a one factor model. Using this validated two-dimensional model of trust and distrust, we investigate whether the dynamics of trust and distrust help to explain the effect of timing of inconsistent evidence on planned audit effort.

As expected, participants' feelings of trust and distrust toward the client controller are affected by the receipt of inconsistent evidence. When inconsistent evidence is received, trust is reduced and distrust is elevated. Yet, the extent to which trust and distrust are affected depends on the timing of the receipt of inconsistent evidence. Specifically, we observe that the impact of receiving inconsistent evidence on ratings of trust and distrust is most extreme for participants in the *first* condition and least extreme for participants in the *last* condition. This pattern of results is consistent with a "Love is Blind" perspective of trust, wherein a breach of trust has less (more) effect on subsequent feelings of trust and distrust when a trusting relationship has been (has not been) previously established (cf. Robinson et al. 2004).

We employ multi-group structural equations modeling to examine how the dynamics of trust and distrust over the course of the experiment influence planned audit effort. Results of these analyses reveal that participants' feelings of distrust drive planned audit effort when inconsistent evidence is received *first*, and feelings of trust drive planned audit effort when

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inconsistent evidence is received *last*. Both trust and distrust help to explain the audit effort

planning decisions of participants in the *middle* condition. These results generally align with

prior research demonstrating that a breach of trust plants a "seed of distrust" that can have a

long-lasting influence throughout a relationship (Lount et al. 2008, 1611).

Although auditors interact with clients frequently and auditors' decisions are likely

influenced by trust in their clients, Asare, Wright, and Zimbelman (2015) point out that research

specifically related to auditor trust in client management is fairly scarce. The present study

advances our understanding of auditor-client relationships by introducing the two-dimensional

approach to trust and distrust and providing empirical evidence demonstrating that these are

functionally distinct constructs in the auditing context. Similar to recent research by Aschauer,

Fink, Moro, van Bakel-Auer, and Warming-Rasmussen (2017), who argue that trust and

professional skepticism should not be viewed as mutually exclusive concepts, we contend that

richer insights into auditor judgment and decision making can be gleaned by separate

consideration of auditors' trust and distrust toward their clients. Because both trust and distrust

are important to the proper functioning of auditor-client relationships, future research in auditing

should continue to examine trust and distrust concurrently. We also note that there is no

generally accepted method for measuring trust and distrust in the auditing context. The present

study further contributes to the auditing literature by developing and testing scales to measure

trust and distrust, which can serve as a starting point for future research in this area.

This study also demonstrates that interpersonal dynamics of auditor-client relationships

related to trust and distrust can develop in a very short amount of time. Researchers suggesting

that auditor-client relationships may result in too much trust tend to argue that this trust develops

over long periods of auditor tenure (e.g., Carey and Simnett 2006; Lennox, Wu, and Zhang

2014). Likewise, the PCAOB (2012, p. 7) states that overrelying on client representations may result from auditors feeling "pressure to avoid potential negative interactions with, or consequences to, individuals they know (that is, management) instead of representing the interests of the investors they are charged to protect," which suggests that regulators also have a longer-term perspective of this issue. Our findings highlight how feelings of trust and distrust can develop and change during auditor-client interactions of relatively short durations and can ultimately affect auditors' judgments and decisions.

Finally, this study contributes to the order effects literature in auditing. Holding total information available to participants constant, our results indicate that a normatively irrelevant factor – when inconsistent evidence is evaluated – can influence audit effort. While our results are consistent with prior order effects research in auditing, other research in this area largely characterizes recency effects as occurring due to cognitive biases or constraints (e.g., Tubbs, Messier, and Knechel 1990; Asare 1992; Kennedy 1993). Our results reveal that auditors' feelings of trust and distrust toward client management can help to explain order effects when the interpersonal nature of the auditor-client relationship is considered.

The remainder of this study is organized as follows. Section II presents a review of the literature and develops our hypotheses. Section III describes the experiment used to test our hypotheses, and Section IV presents the results. Section V concludes the manuscript. Appendix A contains excerpts from the experimental materials.

LITERATURE REVIEW AND DEVELOPMENT OF HYPOTHESES

A Two-Dimensional Approach to Trust and Distrust

Trust-related research in organizational behavior and applied psychology has established multiple models of trust, including a unidimensional perspective wherein trust and distrust are

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considered to be opposite ends of the same construct (e.g., Mayer, Davis, and Schoorman 1995) and a two-dimensional perspective wherein trust and distrust are considered to be distinct, yet related, constructs (e.g., Lewicki et al. 1998). An important element of the two-dimensional perspective is that both trust and distrust may be present in any relationship. As an example, Mancini (1993) notes that journalists must maintain good relationships with politicians in order to get information, which requires a certain amount of trust to be established in that relationship. However, journalists must also maintain a level of distrust, similar to the professional skepticism of an auditor, whereby they recognize that the information provided by politicians may not be accurate. Cho (2006) notes the related, but separate, nature of trust and distrust by emphasizing the absence of trust does not equate to distrust; rather distrust is an "active expectation" of the negative behaviors of another (p. 26). Through repeated interpersonal interactions, feelings of trust and distrust for others develop and change over time (Lewicki and Weithoff 2000).

Both unidimensional and two-dimensional perspectives of trust and distrust have some footing in the literature. However, recent research largely supports the two-dimensional perspective (Ou and Sia 2009; Liu and Wang 2010; Saunders, Dietz, and Thornhill 2014). Supporting the importance of trust and distrust as functionally distinct but related constructs, functional neuroimaging provides evidence that different brain areas are activated when individuals experience trust and distrust (Dimoka 2010, 2011). The results of Schul, Mayo, and Burnstein (2004) suggest cognitive responses related to information processing differ under trust and distrust, and Ou and Sia (2010) find that, compared to trust, distrust has a larger effect on consumer behavior.

While research on trust has been prevalent for decades, research on distrust is relatively scarce due to early research largely adopting a unidimensional perspective of trust and distrust

(Cho 2006). In addition, much research has largely treated distrust as "bad" while trust has been treated as "good" (Lewicki et al. 1998; Omodei and McLennan 2000). However, the conventional view of distrust as inherently negative is no longer assumed (Govier 1998; Lewicki et al. 1998). In fact, distrust may not only result in positive effects, such as better task performance (Lowry, Schuetzler, Giboney, and Gregory 2015) and the avoidance of intractable conflicts (Tomlinson and Lewicki 2006), but may also play a much more pivotal role in relationships and situations involving trust than previously considered (Lewicki et al. 1998).

Trust and distrust each play important roles in auditor-client relationships. In order to place reliance on management representations, client-provided records and documents, and any other type of client-provided audit evidence, auditors must trust the client to some extent (Shaub 1996; Richard 2006; Rennie, Kopp, and Lemon 2010). At the same time, exercising professional skepticism requires some level of distrust. While early auditing standards seem to imply a "neutral" view of professional skepticism, Bell et al. (2005) and Nelson (2009) highlight how later standards tend to characterize professional skepticism in terms of "presumptive doubt." Under the presumptive doubt perspective of professional skepticism, an auditor assumes some level of management dishonesty or bias until the audit evidence collected suggests otherwise. That is, the contemporary view of professional skepticism is rooted in distrust, and recent research demonstrates that the presumptive doubt perspective predicts auditors' skeptical judgments and decisions better than the neutral view (Quadackers et al. 2014).

While the specific relationship between trust, distrust, and professional skepticism has gone largely unexamined, research does suggest that a relationship exists between these concepts. Shaub (1996) characterizes auditors' decisions as either "trusting" or "suspicious" choices, where suspicious choices reflect higher levels of professional skepticism. Also, two

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subdimensions of Hurtt's (2010) trait professional skepticism scale – interpersonal understanding and questioning mind – reflect individuals' propensities to question the behaviors and motivations of others, which are closely related to interpersonal trust and distrust. Other audit research has examined factors closely related to the constructs of trust and distrust, such as source reliability (Hirst 1994), competence (Anderson, Koonce, and Marchant 1994; Bernardi 1994), credibility (Jenkins and Haynes 2003; Griffith 2017), and integrity (Peecher 1996; Goodwin 1999), as well as client incentives (Glover, Jiambalvo, and Kennedy 2000).[4] However, research specifically related to auditor trust toward clients is limited (Asare et al. 2015).

Despite the importance of auditors exhibiting both trust and distrust toward their clients, prior research in auditing generally conceptualizes trust and distrust as opposite poles of a unidimensional construct. For example, Shaub (1996) employs two measures – Wrightsman's (1974) trustworthiness scale and the General Client Trust Scale – both of which intend to measure individuals' propensity to trust others along a scale from distrusting to trusting. Further, Shaub's (1996) characterization of auditors' decisions as *either* "trusting" *or* "suspicious" implies a unidimensional view of trust and distrust. Quadackers et al. (2004) use the inverse of the Rotter Interpersonal Trust Scale (Rotter 1967) as a measure of presumptive doubt (i.e., distrust), implying that distrust is the inverse of trust. To our knowledge, no auditing research to date has concurrently examined trust and distrust as separate constructs.[5]

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[4] Many of these constructs examined by auditing researchers are included in models of trust in other disciplines. Hardin (2006, p. 27) lists reliance, risk, expectations, motives, and confidence as "elements and relatives" of trust, and Mayer et al. (1995) develop a model of trust as a unidimensional construct based on perceptions of integrity, benevolence, and ability. As such, many auditing studies, while not using the actual term "trust," do examine trust to some extent by highlighting certain components of trust (such as integrity) or antecedents to trust (such as reliability).

[5] Recent research by Aschauer et al. (2017) provides some evidence that trust and professional skepticism should not be viewed by regulators as mutually exclusive constructs. Using survey evidence obtained from auditor-client dyads these researchers find that auditors' ratings of trust in their clients are positively associated with clients' ratings of their auditors' professional skepticism. However, the study is limited in its ability to provide evidence about the coexistence of auditors' trust and distrust toward their clients for two primary reasons. First, instead of measuring

Based on the growing acceptance of a two-dimensional approach to trust and distrust in other domains and the importance of auditors exhibiting both trust and distrust toward their clients, we state Hypothesis 1 in the alternative form:

H1: Trust and distrust are separate constructs in the audit context.

Timing of Inconsistent Evidence

After audit evidence is collected, regardless of the timing (e.g., beginning, middle, or end of the audit), standards require the auditor to assess whether risk assessments and/or audit procedures should be revised due to inconsistent evidence received or due to any other factors requiring additional consideration (PCAOB 2016a, 2016b, 2016c). Thus, the timing of evidence evaluation should not result in audit effort differences. However, prior auditing literature on order effects suggests that timing of information received does affect auditor judgment and decision making (Trotman and Wright 2000).

Order effects occur when individuals' final judgments or decisions differ based on the order in which they evaluate information that either confirms or disconfirms their held beliefs (Hogarth and Einhorn 1992). Many important judgments and decisions in auditing result from the sequential evaluation of series of evidence items, and a number of auditing researchers have documented recency effects in auditors' judgments, examined factors that must be present for recency effects to occur, and contemplated ways to mitigate these effects (e.g., Ashton and Ashton 1988; Butt and Campbell 1989; Tubbs et al. 1990; Kennedy 1993; Cushing and Ahlawat 1996; Monroe and Ng 2000; Ashton and Kennedy 2002; Rose and Rose 2003; Favere-Marchesi

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auditors' professional skepticism or distrust for clients or obtaining evidence of auditors' skeptical judgments or decisions, the survey measures clients' subjective views of their auditors' professional skepticism. Second, the survey adapts Hurtt's (2010) trait professional skepticism scale. This measure is likely reflective of a neutral view of professional skepticism, whereas the presumptive doubt view of professional skepticism is more akin to the construct of distrust (Nelson 2009).

2006). Additionally, research suggests auditors are most sensitive to negative evidence, which may exacerbate recency effects (Trotman and Sng 1989).

Drawing on this well-established literature in auditing, we predict that auditors who receive inconsistent evidence later in a series of evidence items will respond by planning more audit effort than auditors who receive the inconsistent evidence earlier. While this prediction is not formally hypothesized, it is important to establish that this result replicates in order to provide a valid context in which to examine trust and distrust in auditor-client relationships.

The Timing of a Breach of Trust and The Dynamics of Trust and Distrust

To the extent that auditors expect their clients to provide reliable evidence (i.e., auditors place some trust in their clients), receiving evidence that is inconsistent with other evidence obtained is likely to be viewed as a breach of trust. A potential reason why auditors' effort planning decisions will be affected by the timing of inconsistent evidence evaluation is because auditors' feelings of trust and distrust toward client management develop and change differently depending on when this breach of trust occurs.

While we expect auditors' feelings of trust (distrust) in client management to be decreased (increased) by receiving inconsistent evidence, prior research on trust breach and betrayal suggests opposing predictions about how trust and distrust might develop and change in response to a breach (Lewicki and Bunker 1996; Bottom, Gibson, Daniels, and Murnighan 2002; Robinson et al. 2004; Lount et al. 2008). Both rational choice models of trust and the "Love is Blind" perspective of trust predict that high levels of trust in an interpersonal relationship mitigate the effect of a breach on subsequent feelings of trust (Robinson et al. 2004; Lount et al. 2008). Under these views, one would expect the effect of receiving inconsistent evidence on auditors' feelings of trust and distrust to be more (less) extreme when the inconsistent evidence

is received earlier (later). In contrast, a "Hell Hath No Fury" perspective of trust would predict that the effect of a later breach will be more extreme than the effect of an earlier breach. This can occur because, after repeated positive interactions (i.e., when high trust has been established), there is a greater expectation of continued cooperation, which, when not met, drives a greater emotional response (Robinson et al. 2004).

Prior research in organizational behavior and applied psychology provides some support for each of these contrasting predictions. For example, Robinson (1996) finds that employees who report higher trust in their employers are less affected by a psychological contract breach than are those employees who report lower trust in their employers. On the other hand, Lount et al. (2008) find that a breach of trust early in a relationship has a longer-term effect on cooperative behavior than does a later breach. However, Lount et al. (2008, p. 1611) do note that any breach of trust, regardless of timing, can plant a "seed of distrust" that has long-lasting effects on the relationship.

Given competing theories about the possible effects of a breach of trust on subsequent feelings of trust and distrust, we do not make predictions about the specific ways in which auditors' trust and distrust toward their clients will develop and change depending on the timing of inconsistent evidence. However, we do predict that the timing of inconsistent evidence affects the dynamics of trust and distrust separately, which, in turn, helps explain the effect of timing of inconsistent evidence on planned audit effort. Stated formally:

> **H2**: Auditors' feelings of trust and distrust toward the client operate separately to help explain the relationship between timing of inconsistent evidence and planned audit effort.

METHOD

Design and Procedures

Timing of inconsistent evidence is manipulated at three levels in a between-subjects experimental design. Timing is operationalized as inconsistent evidence received *first*, *middle*, or *last* in the course of five representations made by Bob, the controller of a hypothetical client company. Participants, who are randomly assigned to experimental conditions, play the role of staff auditors and are informed that the representations are being made in response to auditor inquiries related to unexpected fluctuations in property, plant, and equipment (PP&E) account balances, which were detected during analytical procedures.[6] All participants receive the same five representations (one inconsistent and four consistent) but in different orders depending on condition.[7] Figure 1 illustrates the operationalization of timing of inconsistent evidence (*first*, *middle*, and *last*) and Appendix A includes each of the five representations presented to participants. After reading each representation, participants assess their levels of trust and distrust for the controller and indicate how much follow up work is necessary (see Appendix A). After responding to all five representations, participants have the opportunity to review and revise their assessments of the amount of follow up work necessary for each representation (see Appendix A). Finally, participants respond to a series of post-experimental questions.

Insert Figure 1 Here

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[6] Participants are not told whether the analytical procedures are planning or substantive because the task was designed to focus only on representations from the client, rather than the specific type of procedure or specific stage of the audit.

[7] The number of representations in the experiment (five) was specifically chosen in order to (1) include enough interactions with the client to be considered repeated interactions, (2) emphasize the effects of trust and distrust in the short-term, and (3) enable a third level of the independent variable where *timing* could be operationalized in the middle of the interactions. The number of interactions between auditor and client varies on any given audit, though auditors are likely to have at least two interactions with the same client representative during the course of an audit.

Participants

Participants were students currently enrolled in an undergraduate or graduate auditing course. All data were collected near the end of the academic term to ensure that participants had exposure to core concepts in auditing. While auditing students may not have audit work experience, they are appropriate participants for the examination of the predicted relationships for three reasons. First, students and novice auditors likely exhibit similar judgments and decisions related to trust and distrust as these constructs are basic psychological components of everyday interpersonal relationships. Second, participants need not have real-world experience with the task (i.e., performing client inquiry) because the interactions between the participant and the client are presented as vignettes, and students have the appropriate knowledge to read and understand the experimental materials (Hawkins, Keune, and Saunders 2016). Third, research suggests that tasks involving client inquiry, such as analytical procedures, are frequently assigned to novice auditors (Trompeter and Wright 2010).

A total of 209 auditing students from three separate universities in the United States participated in the experiment online via Qualtrics in exchange for extra credit. Fifteen responses that were not completed in one sitting (i.e., greater than two hours completion time) were removed from the sample. Average time to complete for the remaining sample of 194 participants is 17 minutes.

Trust and Distrust Measures

Prior research has examined the antecedents and outcomes of trust and distrust in a variety of contexts, such as website design (e.g., Ou and Sia 2010), consumer sales (e.g., Bergeron, Fallu, and Roy 2008), virtual teams (e.g., Lowry et al. 2015) and contracts (e.g.,

Connelly, Miller, and Devers 2012).[8] As one would expect, there are numerous antecedents and outcomes of trust and distrust. Examples of antecedents include, but are not limited to, organizational justice (Saunders and Thornhill 2004), first impressions (Yu, Saleem, and Gonzalez 2014), and mood (Lount 2010). Examples of outcomes include, but are not limited to, coordination and control (Vlaar, Van den Bosch, and Volberda 2007), negotiation performance (Liu and Wang 2010), and willingness to pay a premium (Dimoka 2010). While the antecedents and outcomes of trust and distrust have been examined in prior literature, a consistent measure of trust and distrust has remained elusive in many disciplines (Schoorman, Mayer, and Davis 2007).

In the auditing literature, various measures related to trust and distrust have been used, each of which assumes that trust and distrust are opposite poles of a unidimensional construct. Parts of the Wrightsman Philosophies of Human Nature Scale (Wrightsman 1974) have been used to examine trustworthiness (Shaub 1996; Rose 2007), and the inverse of the Rotter Interpersonal Trust Scale (Rotter 1967) has been used as a measure of auditor professional skepticism (Quadackers et al. 2014). More audit-specific scales have also been designed, such as that used by Kerler and Killough (2009) as well as Shaub's (1996) General Client Trust Scale. Some studies have even used a straightforward, single question (e.g., rate the extent of trust toward another) to measure trust (e.g., Rennie et al. 2010). As mentioned earlier, many audit studies examine factors related to trust and distrust, though they do not examine these two constructs specifically. For example, Goodwin (1999) examines the effects of source integrity and consistency, two factors that are components of trust (Mayer et al. 1995). In sum, the auditing literature has also not established a decisive method of measuring trust and distrust.

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[8] See Table 1 of Ou and Sia (2010) for one example of a list of trust and distrust determinants based on prior literature. See Table 1 of Lumineau (2017) for a compilation of outcomes related to trust and distrust. Additionally, Kramer (1999) provides a review of the literature on trust and distrust, specifically for organizations.

We develop our own scales to measure auditors' trust and distrust toward client management. In order to identify items to use as indicators for trust and distrust, we looked to both general theory on trust and distrust (e.g., Mayer et al. 1995) and specific components of trust and distrust previously examined in the auditing literature, such as integrity (Goodwin 1999), competence (Anderson et al. 1994; Bernardi 1994), and suspicion (Shaub 1996). Five indicators of both trust and distrust were selected based on our review of the literature. The following terms were used as indicators of trust: consistency, credibility, competence, reliability, and integrity. The following terms were used as indicators of distrust: doubt, inconvincability, skepticism, misleading, and suspicion. Appendix A includes the ten items used to measure trust and distrust in the experiment.[9] Figure 2 depicts the measurement models used in our analyses.

Insert Figure 2 Here

Dependent Variable

The primary dependent variable is overall planned audit effort, operationalized by total follow up work necessary for the five representations related to PP&E. After reading each representation, participants respond to the following prompt: "To what extent do you believe it is necessary to follow up on this matter by inquiring further, gathering additional evidence, and/or consulting with the senior auditor?" Participants respond on an 11-point sliding scale anchored at 0 – "No Follow Up Work Needed" and 10 – "Substantial Follow Up Work Needed" (see Appendix A). Because auditors should reevaluate risk assessments and planned procedures as evidence is received *and* after all evidence is received, participants are given the option to revise

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[9] To ensure appropriate indicators were chosen, two separate pilot tests were conducted with participants from Amazon Mechanical Turk using the same ten items to assess trust and distrust that were used in the final experiment. Measurement models for pilot test data supported the five trust and five distrust indicators as appropriate representations of the latent constructs of trust and distrust (all factor loading p-values < 0.05), and model fit indices reflected better fit for trust and distrust as separate constructs (two-dimensional approach) compared to a single construct (unidimensional approach).

previous judgments of the amount of follow up work necessary after responding to all five

representations (i.e., after all evidence is received).[10] Appendix A includes excerpts from the

revision screen where participants made their final assessments of total follow up work necessary

for each representation by revising, if necessary, their previous assessments. The dependent

variable used in our analyses is the revised total follow up work necessary for all five

representations (i.e., the sum).

RESULTS

Table 1 presents participants' demographic information. Participants are 22.51 years old,

on average, and have taken an average of 8.61 (3.16) accounting (finance) courses. Just over half

of the participants are male and 11.34 percent of participants have completed an audit-related

internship. All participants are either juniors (8.25 percent), seniors (80.41 percent), or graduate

students (11.34 percent) at one of the three universities where data were collected. With the

exception of the university the sample was collected from and whether participants completed an

internship, none of the demographic variables collected are significant predictors of total follow

up work necessary. Controlling for university and internship experience in our analyses does not

affect the inferences and conclusions of our hypothesis tests. Therefore, these variables are

excluded from the reported analyses.

Before responding to demographic questions, participants completed a propensity to trust

scale developed by Ashleigh, Higgs, and Dulewicz (2012). The scale consists of three

subdimensions: the general willingness to trust others, others' reliability and integrity, and risk

aversion. The general willingness to trust others dimension of the scale is a significant predictor

of total follow up work necessary. However, analysis of differences in means for this dimension

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[10] Whether or not participants chose to revise (coded as a dichotomous variable) is not a significant predictor of planned audit effort (p-value = 0.8735).

across experimental conditions reveals that participants in the last condition trusted others less on average than participants in the first condition (p-value < 0.001) and the middle condition (p-value = 0.001). This raises the concern that, because the scale was completed at the end of the experiment, the trusting others variable was affected by the experimental manipulation. Additionally, inclusion of the trusting others variable as a covariate in our analyses does not affect the inferences or conclusions of hypothesis tests. Therefore, the variable is excluded from the reported analyses.[11]

The experimental materials do not include a manipulation check question related to the *timing* manipulation, consistent with prior order effects research in auditing. However, visual inspection of changes in trust and distrust means by condition suggests that the evaluation of inconsistent evidence influences participants feelings of trust and distrust toward the client (see Figures 3 and 4). The visible increase in distrust and decrease in trust corresponding to the timing of inconsistent evidence evaluation (either first, third, or fifth) provides evidence that participants recognized and reacted to inconsistent evidence as expected.

<div align="center">Insert Table 1 and Figures 3 and 4 Here</div>

Test of Replication: Timing of Inconsistent Evidence

Based on the order effects literature in auditing, we expect that auditors plan significantly more audit effort when inconsistent evidence is received later compared to earlier. Panel A of Table 2 presents descriptive statistics for the dependent measure, and Panel B of Table 2 presents the results of an ANOVA examining the effect of timing of inconsistent

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[11] Care was taken to ensure that participants' baseline trust and distrust toward the client was approximately equal. Participants were randomly assigned to conditions to help ensure probabilistic equivalence across conditions in terms of propensity to trust/distrust. Participants were also informed that there had been no issues with the client during prior year audits. Further, participants were asked to rate the risk of material misstatement (RMM) for the PP&E audit area before reading any of the representations. If baseline trust and distrust differed across conditions, we would expect the RMM assessments to differ accordingly. The initial risk of material misstatement ratings did not differ by condition (p-values > 0.2 for all condition comparisons), suggesting that our efforts were successful.

evidence on total follow up work necessary, respectively. The significant effect observed for

timing provides initial support for our prediction that the timing of inconsistent evidence affects

planned audit effort (p-value < 0.001). To examine whether this effect provides evidence

consistent with the order effects literature, Panel C presents mean comparisons across conditions.

Average total follow up work necessary is significantly higher for participants who received

inconsistent evidence *last* (30.57) compared to those who received inconsistent evidence *first*

(23.97) (p-value < 0.001), replicating the expected recency effect. The same effect also holds for

a comparison between receiving inconsistent evidence *last* (30.57) and receiving it in the *middle*

(25.25) (p-value < 0.001). Having established that the expected recency effect is replicated, we

now examine whether separate consideration of auditors' trust and distrust toward the client can

help explain this effect.

<center>Insert Table 2 Here</center>

Tests of H1: Trust and Distrust as Separate Constructs

H1 predicts trust and distrust are separate constructs. As an initial test of H1, we perform

principal components analysis for our measurements of trust and distrust within each of the five

representations. Oblique rotation is used due to the expected correlation between the factors of

trust and distrust (Field and Miles 2010). Results of these analyses (untabulated) provide initial

support for H1 as the items load on two factors as expected.[12] However, because theory suggests

trust and distrust are separate constructs, we turn to a confirmatory factor analysis approach for

more formal tests of H1.

Table 3 presents comparisons of fit statistics based on different specifications of the

measurement model in order to provide support for the two-dimensional conceptualization of

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[12] All factor loadings are greater than 0.50 except for measurement items $conv_2$ (factor loading = 0.44) and mis_3 (factor loading = 0.45).

<center>20</center>

trust and distrust.[13] For each model tested, the χ^2, degrees of freedom (df), root mean square error of approximation (RMSEA), the comparative fit index (CFI), and the non-normed fit index (NNFI) is presented.

<div align="center">Insert Table 3 Here</div>

Model 1 in Table 3 uses each assessment of an indicator item as one observation and forces all of the observations to load on a single construct. That is, each participant assesses ten items five times for a total of 970 observations (194*5) and these observations are loaded onto a unidimensional latent "trust" construct. Model 1A models trust and distrust as separate constructs. Model 1A fits the data significantly better than Model 1 as determined by a χ^2 difference test (p < 0.001). This provides some support for H1. To assess the convergent and discriminant validity of Model 1A, the composite reliability (CR) and average variance extracted (AVE) are presented in Table 5 Panel B. Both CR and AVE scores are greater than acceptable thresholds (0.7 and 0.5, respectively), suggesting convergent validity (Hampton 2015).[14] Additionally, the AVE of distrust is larger than the squared correlation between the two constructs (0.732 > 0.706), suggesting discriminant validity (Fornell and Larcker 1981). However, the AVE for trust (0.695) is less than the squared correlation, though not by much.

Model 2 incorporates the five separate measurement waves into the unidimensional trust model, and Model 2A incorporates the five separate measurements into the two-dimensional model. Model 2A fits the data significantly better than Model 2 as determined by a χ^2 difference

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[13] Assumptions were tested as prescribed by Kline (2011) and Hampton (2015) before beginning measurement model testing. First, we checked whether the sample size met the minimum required per RMSEA power analysis (minimum = 141). Second, the data matrix was verified to be positive definite (all eigenvalues > 0). Third, we tested for collinearity issues by obtaining tolerance values and variance inflation factors (all met acceptable thresholds with the exception of one indicator item, sus_3). Fourth, we tested for normality. Results of Kolmogorov-Smirnov tests suggest scores are approximately normal for all conditions with all p-values > 0.07 where significance suggests a departure from normality.

[14] Factor loadings (not shown) also suggest convergent validity as all standardized coefficients > 0.77 (Kline 2011; Hampton 2015).

test (p < 0.001), providing further support for trust and distrust as separate constructs. Model 2B

correlates the residuals of the indicator items due to the common method of measurement (i.e.,

using the same measurement items five times) (Kline 2011). Again, Model 2B fits the data

significantly better than Model 2A as determined by a χ^2 difference test (p < 0.001). The final

measurement model (Model 2B) indicates good fit based on the 0.97 value of CFI and NNFI

(greater than 0.95 indicates good model fit) and the 0.072 value of RMSEA (between 0.05 and

0.08 indicates close fit) (Hu and Bentler 1998; Schumacker and Lomax 2010). While the χ^2 is

significant, the large degrees of freedom and the small sample size could affect this measure as it

is highly sensitive to a variety of factors (Kline 2011).[15]

Table 4 presents the specific means, standard deviations, and factor loadings for each of

the fifty indicators used in the final measurement model (all factor loadings significant at p-value

< 0.05). The high factor loadings as seen in Table 4 (all ≥ 0.68) suggest convergent validity

(Kline 2011; Hampton 2015). Additionally, Cronbach's alpha was calculated for each latent

construct to further examine internal consistency reliability among the latent variables (all ≥

0.87). Overall, our final measurement model exhibits convergent validity.

Table 5 presents the covariances between latent constructs for Model 2B (Panel A) and

the CR and AVE scores (Panel B). Latent construct covariances are generally moderate in size,

suggesting discriminate validity (Kline 2011). However, covariances within each interaction are

generally higher (e.g., $Trust_1$ and $Distrust_1$ covariance = -0.84), but still largely remain within

acceptable limits (Kline 2011; Hampton 2015). Composite reliability and average variance

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[15] Due to the limitations of the χ^2 statistic, researchers should be cautious in using χ^2 as the "sole criterion" (Hampton 2015 p. 20). See pages 199 – 201 of Kline (2011) for a full discussion of the various limitations of the χ^2 statistic. For example, adding parameters to improve the overall model fit is one way to improve the χ^2 fit statistic; however, additional parameters should not be added to the model without theoretical justification. As suggested by Kline (2011), we examined the correlated residual matrix for indications of potential problems. None were noted.

extracted scores all exceed acceptable thresholds (CR > 0.7 and AVE > 0.5), suggesting the final

model also exhibits discriminant validity (Hampton 2015). Overall, these data suggest our trust

and distrust indicators measure two latent constructs, providing strong support for H1.

<div align="center">Insert Tables 4 and 5 Here</div>

Tests of H2: The Role of Trust and Distrust

H2 predicts that trust and distrust operate separately to help explain the relationship

between timing of inconsistent evidence and planned audit effort. Figures 3 and 4 graphically

depict the average trust and distrust ratings for each of the five client representations by

experimental condition. Visual inspection of the levels of trust and distrust in Figures 3 and 4

over the course of the experiment suggests that participants who receive inconsistent evidence

last do not decrease trust (increase distrust) to the same extent as those who receive inconsistent

evidence *first* or *middle*. In fact, the mean level of trust after representation 5 for participants in

the *last* condition (18.46) is significantly higher than the mean level of trust after representation 1

for those in the *first* condition (16.94) (p-value < 0.01). Additionally, the mean level of distrust

after representation 1 for participants in the *first* condition (21.13) is significantly higher than the

mean level of distrust after representation 3 for participants in the *middle* condition (19.64) (p-

value < 0.05) and representation 5 for participants in the *last* condition (19.25) (p-value < 0.01).

These patterns of means are consistent with a "Love is Blind" perspective of trust breaches

wherein the effect of a breach on subsequent feelings of trust/distrust is mitigated when greater

trust has been established in a relationship (Robinson et al. 2014). Importantly for our purposes,

this pattern suggests that the ways trust and distrust develop in a relationship (i.e., the dynamics

of trust and distrust) depend on the timing of inconsistent evidence.

Using the measurement model previously described (Model 2B), we obtain a structural model for each of the three conditions separately in order to further examine the specific relationships between each of the trust and distrust measurements and their effect on planned audit effort.[16] Figure 5 illustrates the structural model for each of the three conditions (indicators from the measurement model are included in the model but not shown in the figure for clarity purposes). All standardized coefficients between trust and distrust at each of the five representations are significant (p-values < 0.05) and follow the same pattern of the trust and distrust graphs in Figures 3 and 4. For example, the *last* condition structural model demonstrates the buildup of trust (and lack of distrust) over the first four representations due to consistent evidence received. However, the coefficient between representation 4 and 5 is much smaller (though still significant), indicating the receipt of inconsistent evidence.

The *first* condition structural model shows that distrust drives the amount of follow up work (significant coefficient of 0.56) while trust does not (insignificant coefficient of 0.01). However, for the *last* condition, the structural model indicates that the decrease in trust (significant negative coefficient of 0.26) drives the amount of follow up work necessary, rather than the increase in distrust (insignificant coefficient of 0.05). Both trust and distrust help to explain the audit effort planning decisions of participants in the middle condition. These results provide support for H2.

Insert Figure 5 Here

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[16] Using multigroup structural modeling we tested whether a model allowing for paths to be free (i.e., different between conditions) is significantly better than a model constraining paths to be equivalent across conditions. Using the χ^2 difference test, a model allowing for paths to be free is significantly better than a model constraining paths (p-value < 0.001), which suggests trust and distrust paths across representations are different depending on condition. Again, the χ^2 is significant, however, Kline (2011) notes the χ^2 fit statistic is particularly sensitive to sample size when comparing across multiple groups.

Discussion

Overall, our results provide evidence supporting our hypotheses. We find that trust and distrust are separate constructs such that auditors can simultaneously experience trust and distrust toward their clients. Further, trust and distrust operate separately to help explain the recency effect in auditors' effort planning decisions driven by the timing of inconsistent evidence.

Compared to those in the *first* and *middle* conditions, the levels of trust and distrust toward the client indicated by participants in the *last* condition appear to be less affected by the receipt of inconsistent evidence. Yet, these participants plan significantly higher audit effort. Research on breaches of trust provides some explanation for this somewhat counter-intuitive result. Even though ratings of trust and distrust for participants in the *last* condition did not change to the same extent as those in the *first* or *middle* conditions, participants in the *last* condition apparently responded to the effects of the breach of trust to a greater extent. This result is generally consistent with a "Hell Hath No Fury" perspective of trust/distrust wherein a breach of trust may elicit stronger emotional and behavioral responses when high levels of trust have previously been established. Because participants in the *last* condition received four consistent evidence items initially, these participants likely built trust up to such an extent that the receipt of inconsistent evidence elicited a strong behavioral reaction to the trust breach.

CONCLUSION

Prior auditing research generally conceptualizes trust and distrust as separate poles of a unidimensional construct. We contend, however, that, because effective and efficient auditing requires auditors to simultaneously exhibit both trust and distrust toward their clients, a two-dimensional perspective of trust and distrust better reflects the operation of trust and distrust in auditor-client relationships. In this study, we empirically test this contention. To do so, we

examine whether the timing of inconsistent evidence affects planned audit effort by influencing auditors' feelings of trust and distrust toward their clients.

The audit effort planning decisions of participants in our experiment are consistent with predictions of the order effects literature. Specifically, our results suggest that auditors who receive inconsistent evidence later in the course of an audit, compared to earlier, will plan greater audit effort (i.e., a recency effect). Our results further demonstrate that auditors' feelings of trust and distrust toward their clients coexist and operate separately to help to explain this recency effect. In sum, these results suggest that separately examining auditors' feelings of trust and distrust toward clients can provide greater insight into auditors' judgments and decisions. Future research should continue to explore how interpersonal trust and distrust in auditor-client relationships differentially affect important audit-related outcomes.

Our study is subject to limitations. First, we utilize a short-term relationship in our experimental design with five interactions between the participant and the client. Over time, such as many years with the same client, trust and distrust relationships may not behave in the same manner as observed in the present study. However, we believe that our results generalize to auditor-client interactions of relatively short durations, which are ubiquitous in the auditing context. Second, factors other than those included in our experiment may also limit the generalizability of our results, as is common with experimental studies in general. Third, our results speak predominantly to interactions with "good" clients due to our inclusion of only one inconsistent representation. Our results may not generalize to "bad" clients where dishonesty and/or fraud is pervasive. Fourth, our experimental design is restricted to one audit area (PP&E) as well as one experience level of auditor (novice). However, because trust and distrust are

psychological constructs that are not restricted to specific audit areas or experience levels, we

believe our results are generalizable to a variety of auditing contexts.

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Representations

Land Representation (Inconsistent):
You notice that the land account increased substantially from the prior year. When you inquire of Bob Jennings, the controller, about the large increase, he responds that the Company bought several new plots of land in order to start construction on new facilities. Specifically, he mentions that most of the plots were purchased at the end of December 2015. Documentation prepared by the senior auditor indicates the Company did contract to purchase several land plots in 2015, but the Company did not close on these plots until late January of 2016.

Depreciation Representation (Consistent):
You notice that the accumulated depreciation on equipment account, and the corresponding depreciation expense account, increased substantially from the prior year. When you inquire of Bob Jennings, the controller, about the large increase, he responds that the Company reevaluated the remaining useful life of a line of physical therapy machines no longer used by much of the industry. Specifically, he mentions that due to the decrease in useful life, depreciation expense for the current year was much higher than previous years. Documentation prepared by the senior auditor indicates that the shortened estimated useful life is appropriate and comparable to other companies in the physical therapy industry.

Machinery and Equipment Representation (Consistent):
You notice that the machinery and equipment account increased substantially from the prior year. When you inquire of Bob Jennings, the controller, about the large increase, he responds that the Company purchased a new line of strength equipment. Specifically, he mentions that each facility purchased at least one new piece of equipment from the new line. Documentation prepared by the senior auditor indicates purchase orders were properly approved by the corporate accountant for each substantial equipment purchase.

Furniture and Fixtures Representation (Consistent):
You notice that the furniture and fixtures account increased substantially from the prior year. When you inquire of Bob Jennings, the controller, about the large increase, he responds that the Company decided at the beginning of 2015 to modernize many of the older facilities. Specifically, he mentions that over half of the Company's facilities were given additional funds to refurnish the lobby and waiting area. Documentation prepared by the senior auditor indicates proper approval and authorization of funds during the January 2015 meeting minutes of the Board of Directors for lobby and waiting area updates.

Buildings Representation (Consistent):
You notice that the buildings account increased substantially from the prior year. When you inquire of Bob Jennings, the controller, about the large increase, he responds that the Company expanded the physical therapy unit on approximately twenty facilities during 2015. Specifically, he mentions that several of the older facilities had relatively small physical therapy units. Documentation prepared by the senior auditor indicates several physical therapy wing expansions were authorized and approved during 2015 for facilities with inadequately sized physical therapy units.

Questions After Each Representation

To what extent do you believe it is necessary to follow up on this matter by inquiring further, gathering additional evidence, and/or consulting with the senior auditor?

No Follow Up Work Needed				Some Follow Up Work Needed			Substantial Follow Up Work Needed	
0	1	2	3	4	5	6	7	8	9	10

Use the slider to indicate your judgment

Based on your experience with Bob Jennings, the Company's controller, please indicate your agreement with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
Bob is consistent.	O	O	O	O	O	O
I have doubts about Bob.	O	O	O	O	O	O
Bob is credible.	O	O	O	O	O	O
Bob is not convincing.	O	O	O	O	O	O
Bob is competent.	O	O	O	O	O	O
I am skeptical of Bob.	O	O	O	O	O	O
Bob is reliable.	O	O	O	O	O	O
Bob is misleading.	O	O	O	O	O	O
Bob has integrity.	O	O	O	O	O	O
I am suspicious of Bob.	O	O	O	O	O	O

Revision Screen

Now that you have reviewed multiple interactions with Bob Jennings, you have the opportunity to revise any of your previous judgments. Please click on the link below, if needed, to review your interactions with Bob.

<p style="text-align:center;color:#4472C4;">Click here to review the interactions.</p>

You previously indicated the following judgments about the extent of follow up work needed.

	Need for Follow Up Work 0 = No follow up work needed 10 = Substantial follow up work needed
Interaction 1 Land	
Interaction 2 Depreciation	
Interaction 3 Machinery and Equipment	
Interaction 4 Furniture and Fixtures	
Interaction 5 Buildings	

If you would like to increase or decrease any of your judgments about the amount of follow up work needed, indicate your revised judgment on the applicable scale below. If you do not want to change a judgment, select "No Changes Necessary."

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Figure 1
Experimental Manipulation of Timing of Inconsistent Evidence

First (ICCCC)	Middle (CCICC)	Last (CCCCI)
Representation 1 - Inconsistent Evidence (Land)	Representation 1 - Consistent Evidence (Buildings)	Representation 1 - Consistent Evidence (Machinery and Equipment)
Representation 2 - Consistent Evidence (Depreciation)	Representation 2 - Consistent Evidence (Depreciation)	Representation 2 - Consistent Evidence (Depreciation)
Representation 3 - Consistent Evidence (Machinery and Equipment)	Representation 3 - Inconsistent Evidence (Land)	Representation 3 - Consistent Evidence (Buildings)
Representation 4 - Consistent Evidence (Furniture and Fixtures)	Representation 4 - Consistent Evidence (Furniture and Fixtures)	Representation 4 - Consistent Evidence (Furniture and Fixtures)
Representation 5 - Consistent Evidence (Buildings)	Representation 5 - Consistent Evidence (Machinery and Equipment)	Representation 5 - Inconsistent Evidence (Land)

Notes: Participants read the same five representations (four that are consistent with prior evidence obtained and one that is inconsistent), but *when* the inconsistent representation is read differs by condition (*first*, *middle*, or *last*). Appendix A contains each of the representations.

Figure 2
Measurement Models for Trust and Distrust
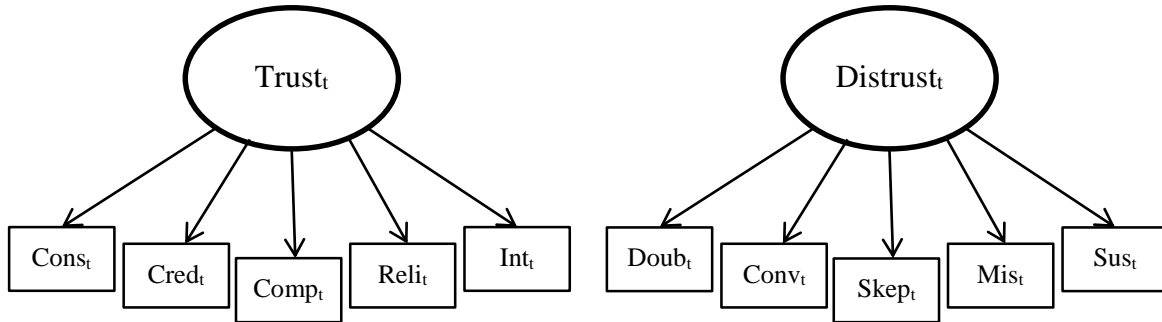
Notes: In order to capture participants' feelings of trust and distrust, after reading each of five scenarios, participants respond to items related to trust and distrust towards Bob, the controller (t = representation 1 – 5). Of the ten items, five measure trust (*cons* = "Bob is consistent.", *cred* = "Bob is credible.", *comp* = "Bob is competent.", *reli* = "Bob is reliable." and *int* = "Bob has integrity.") and five measure distrust (*doub* = "I have doubts about Bob.", *conv* = "Bob is not convincing.", *skep* = "I am skeptical of Bob.", *mis* = "Bob is misleading.", *sus* = "I am suspicious of Bob."). All items are measured on a 6-point Likert scale with scale points labeled "Strongly Disagree," "Disagree," "Somewhat Disagree," "Somewhat Agree," "Agree," and "Strongly Agree."

Figure 3
Changes in Trust by Condition over Five Representations
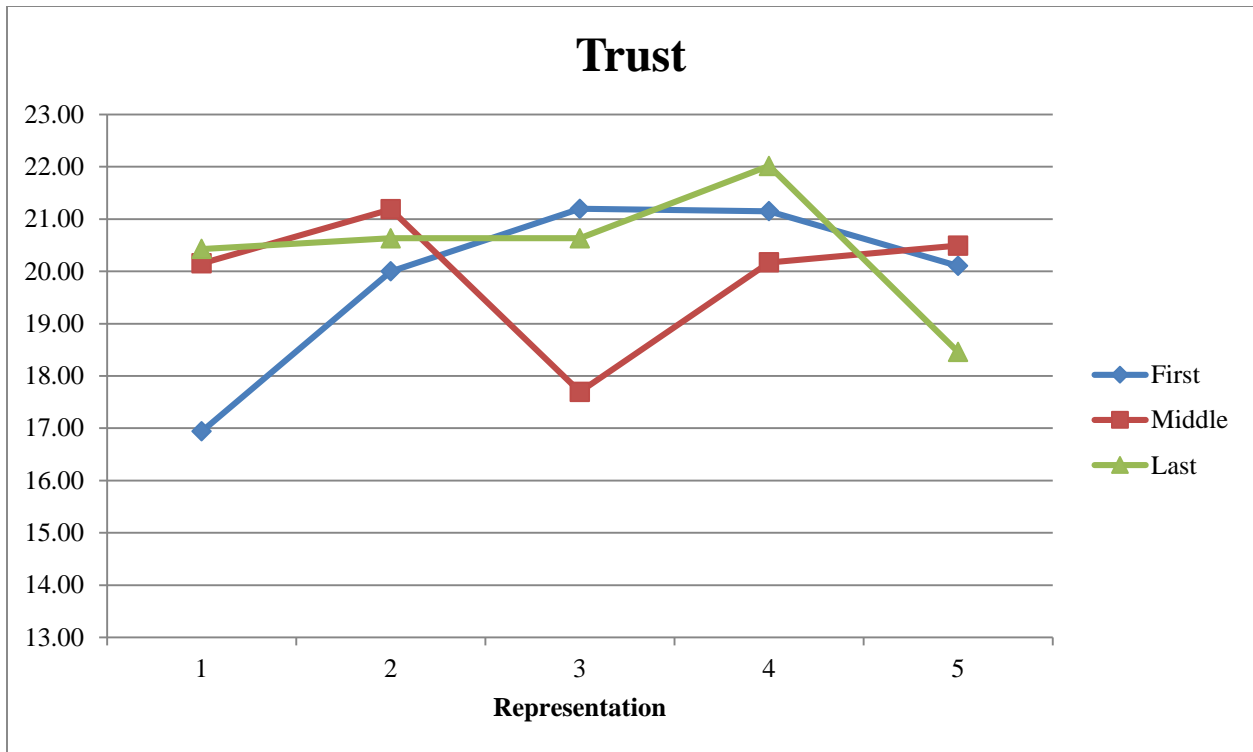
Condition	n	Average (Standard Deviation)				
		$Trust_1$	$Trust_2$	$Trust_3$	$Trust_4$	$Trust_5$
First	67	16.94**	20.00	21.19	21.15	20.10
		(3.59)	(4.11)	(4.11)	(4.15)	(4.27)
Middle	59	20.15	21.19	17.69**	**20.17**	20.49
		(3.35)	(3.05)	(3.81)	(4.01)	(4.13)
Last	68	20.43	20.63	20.63	**22.01**	18.46*
		(3.09)	(4.34)	(4.34)	(4.01)	(3.50)

Notes: *Indicates a significant difference between the condition and both of the other two conditions at p-value < 0.05. **Indicates a significant difference between the condition and both of the other two conditions at p-value < 0.001. Items in bold indicate a significant difference between two specific conditions.

Figure 4
Changes in Distrust by Condition over Five Representations
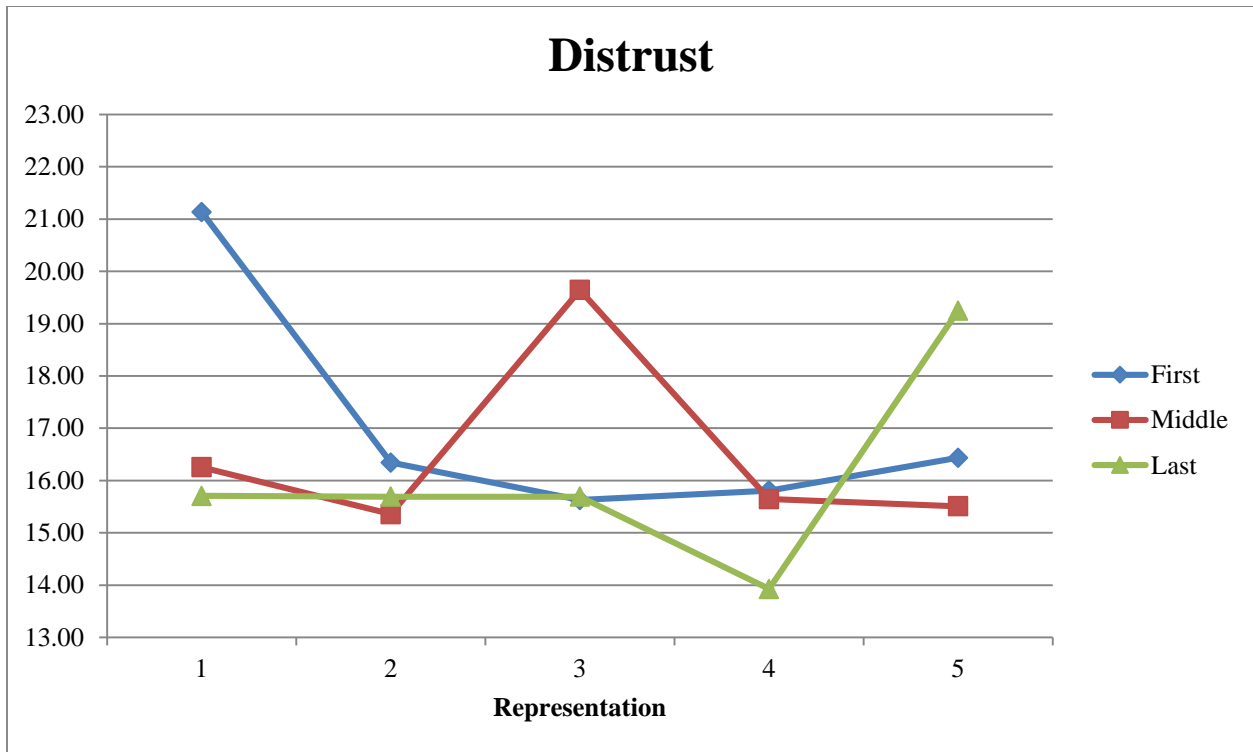
Condition	n	Average (Standard Deviation)				
		$Distrust_1$	$Distrust_2$	$Distrust_3$	$Distrust_4$	$Distrust_5$
First	67	21.13**	16.34	15.63	15.81	16.43
		(3.94)	(4.94)	(4.80)	(5.00)	(4.86)
Middle	59	16.25	15.36	19.64**	15.64	15.51
		(4.36)	(3.84)	(4.70)	(4.99)	(5.03)
Last	68	15.71	15.69	15.69	**13.93**	19.25**
		(3.69)	(5.33)	(5.33)	(4.77)	(4.36)

Notes: **Indicates a significant difference between the condition and both of the other two conditions at p-value < 0.001. Item in bold indicates a significant difference between the condition and both of the other two conditions at p-value = 0.05.

Figure 5
Structural Model

First Condition
Middle Condition
Last Condition

0.35*   0.79*   0.73*   0.50*
*0.61**   *0.38**   *0.73**   *0.86**
0.76*   **0.76***   **0.84***   **0.50***

Trust₁ → Trust₂ → Trust₃ → Trust₄ → Trust₅

0.01
*-0.10**
-0.26*

Follow Up Work

0.33*   0.82*   0.71*   0.50*   0.56*
*0.55**   *0.41**   *0.63**   *0.82**   *0.56**
0.77*   **0.84***   **0.85***   **0.45***   **0.05**

Distr₁ → Distr₂ → Distr₃ → Distr₄ → Distr₅

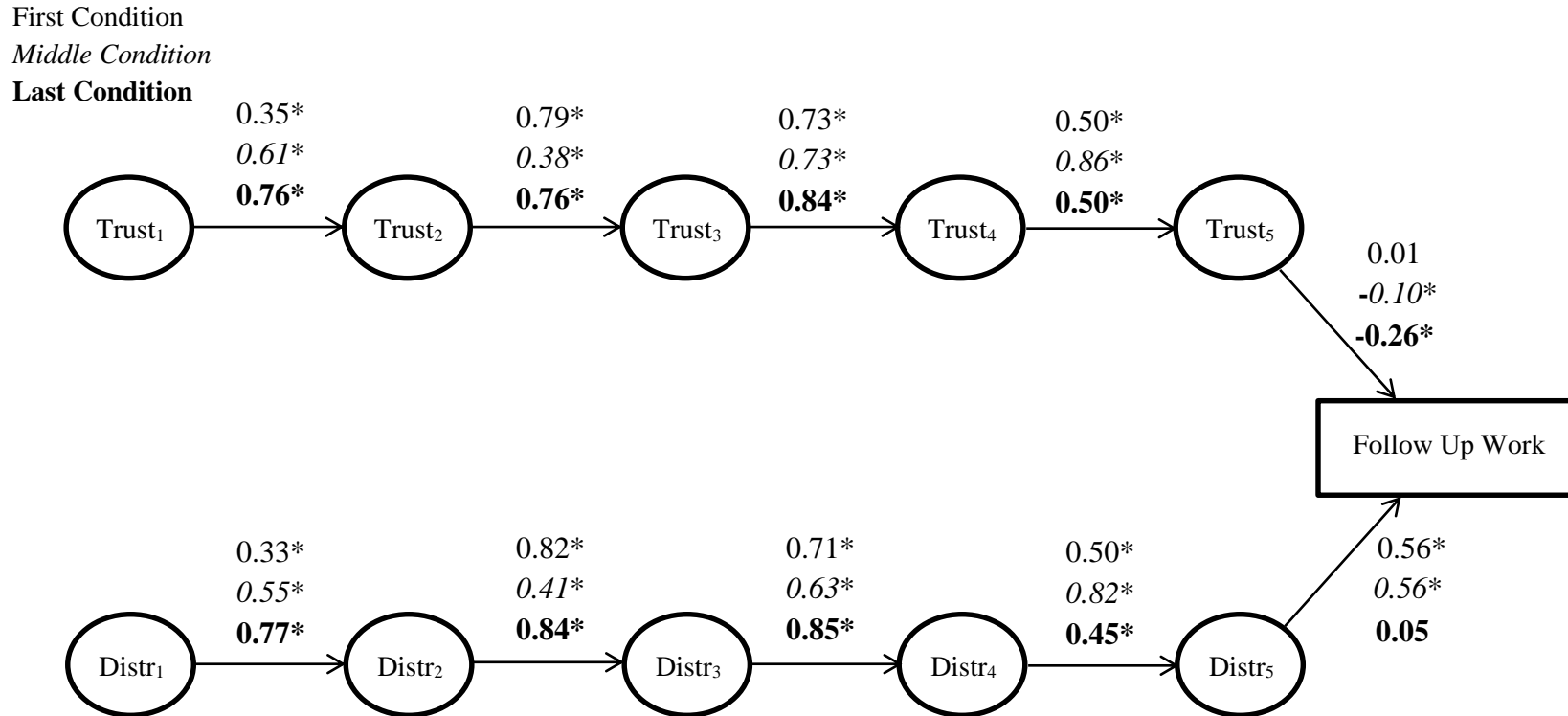**Notes:** Standardized coefficients are displayed (First, *Middle*, **Last**) for structural models run separately by condition. A multi-group model was run to test whether constraining paths to be equal across conditions produced a better model than a model allowing paths to be free (different) across conditions. The multigroup model allowing paths to be free was significantly better than a model constraining paths to be equal (p < 0.001). Multigroup Model Fit Statistics (no constraints): χ^2 = 5941.96; df = 3646; RMSEA = 0.099; CFI = 0.89; NNFI = 0.88; SRMR = 0.17.

*Coefficient significant at p-value < 0.05.
First Condition Model Fit Statistics: χ^2 = 1852.17; df = 1174; RMSEA = 0.094; CFI = 0.89; NNFI = 0.88; SRMR = 0.26
Middle Condition Model Fit Statistics: χ^2 = 1589.00; df = 1174; RMSEA = 0.078; CFI = 0.88; NNFI = 0.87; SRMR = 0.24
Last Condition Model Fit Statistics: χ^2 = 2006.20; df = 1174; RMSEA = 0.103; CFI = 0.91; NNFI = 0.90; SRMR = 0.19

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Table 1
Demographic Information (n = 194)

Variables	Mean	Std. Dev.
Age in years	22.51	3.58
Number of accounting courses taken	8.61	3.64
Number of finance courses taken	3.16	2.70
Percent with internship experience	11.34%	
Percent male	54.64%	
Class standing:		
Percent juniors	8.25%	
Percent seniors	80.41%	
Percent graduate students	11.34%	
University:		
Percent from University 1	49.49%	
Percent from University 2	37.11%	
Percent from University 3	13.40%	

Notes: Table 1 presents demographic information for the final sample of 194 audit students.

Table 2
Results – Total Follow up Work Necessary

PANEL A: Descriptive Statistics

Timing Condition	n	Mean	Std. Dev.	
First	67	23.97	7.441	
Middle	59	25.25	7.041	
Last	68	30.57	8.299	
Overall	194	26.67	8.140	

PANEL B: ANOVA Results

	df	Mean Square	F	p-value
Timing	2	821.39	14.08	<0.001
Error	191	58.34		

PANEL C: Mean Comparisons

	Difference	t-statistic	p-value	
First – Middle	-1.28	-0.99	0.324	
Middle – Last	-5.32	-3.86	< 0.001	
First – Last	-6.60	-4.87	< 0.001	

Notes: Table 2 presents the results using the main dependent measure of total follow up work.

Table 3
Measurement Model Testing

	Model 1	Model 1A	Model 2	Model 2A	Model 2B
	n=970	n=970	n=194	n=194	n=194
Number of Constructs [a]	1	2	1	2	2
Five Representations [b]	N	N	Y	Y	Y
Residuals Correlated [c]	N	N	N	N	Y
χ^2	1438.43	338.51*	7328.44	3094.87*	2172.33*
df	35	34	1165	1130	1090
RMSEA	0.203	0.096	0.166	0.095	0.072
CFI	0.95	0.99	0.93	0.96	0.97
NNFI	0.94	0.98	0.93	0.95	0.97

Notes: [a] Number of Constructs: 1 = trust and distrust are treated as one unidimensional construct, 2 = trust and distrust are treated as separate, but related constructs (two-dimensional approach)

[b] Five Representations: N = all indicator items load onto the construct(s) with no separation of indicator items by representation (e.g., trust and distrust construct), Y = indicator items are separated by representation and then load onto the construct(s) (e.g., trust1, distrust1, trust2, distrust2, etc.)

[c] Residuals Correlated: N = no residuals are correlated, Y = residuals are correlated within item from interaction to interaction. For example, the residuals are correlated for the indicator *consistency* as follows: cons1 – cons2; cons2 – cons3; cons3 – cons4; cons4 – cons5. Because our experimental design has participants answer the same ten questions for each interaction, we believe correlating the residuals in the manner described represents the unique shared quality between the indicator items due to our "particular method of measurement" (Kline 2011, 240).

*Compared to the base model, χ^2 difference tests are significant at $p < 0.001$ (e.g., Model 1A is significantly better than Model 1).

Table 4
Descriptive Statistics for Trust Construct Indicators (n=194)

Construct	Name	Mean	Standard Deviation	Standardized Factor Loading
Trust, Representation 1				
Bob is consistent.	$cons_1$	3.943	1.014	0.72
Bob is credible.	$cred_1$	3.773	0.927	0.82
Bob is competent.	$comp_1$	4.046	0.906	0.70
Bob is reliable.	$reli_1$	3.613	0.858	0.79
Bob has integrity.	int_1	3.763	0.837	0.76
Trust, Representation 2				
Bob is consistent.	$cons_2$	4.216	0.872	0.84
Bob is credible.	$cred_2$	4.046	0.895	0.87
Bob is competent.	$comp_2$	4.289	0.839	0.86
Bob is reliable.	$reli_2$	4.010	0.846	0.86
Bob has integrity.	int_2	4.129	0.781	0.78
Trust, Representation 3				
Bob is consistent.	$cons_3$	4.005	1.089	0.82
Bob is credible.	$cred_3$	3.974	0.979	0.86
Bob is competent.	$comp_3$	4.093	0.923	0.85
Bob is reliable.	$reli_3$	3.866	0.978	0.89
Bob has integrity.	int_3	3.995	0.947	0.88
Trust, Representation 4				
Bob is consistent.	$cons_4$	4.351	0.944	0.86
Bob is credible.	$cred_4$	4.222	0.915	0.90
Bob is competent.	$comp_4$	4.273	0.901	0.87
Bob is reliable.	$reli_4$	4.129	0.910	0.91
Bob has integrity.	int_4	4.180	0.866	0.87
Trust, Representation 5				
Bob is consistent.	$cons_5$	4.026	1.020	0.78
Bob is credible.	$cred_5$	3.907	0.945	0.89
Bob is competent.	$comp_5$	4.041	0.910	0.82
Bob is reliable.	$reli_5$	3.814	0.942	0.84
Bob has integrity.	int_5	3.856	0.870	0.81

Notes: Table 4 presents each indicator item measuring trust and distrust (five indicator items for each construct) at each of the five representations during the experiment. As discussed in the text and displayed in Table 2, the final measurement model used is Model 2B. All factor loadings are significant at p-value < 0.05.

Descriptive Statistics for Distrust Construct Indicators (n=194)

Construct	Name	Mean	Standard Deviation	Standardized Factor Loading
Distrust, Representation 1				
I have doubts about Bob.	$doub_1$	3.608	1.116	0.81
Bob is not convincing.	$conv_1$	3.345	1.023	0.68
I am skeptical of Bob.	$skep_1$	3.851	1.153	0.83
Bob is misleading.	mis_1	3.299	1.112	0.75
I am suspicious of Bob.	$susp_1$	3.644	1.148	0.93
Distrust, Representation 2				
I have doubts about Bob.	$doub_2$	3.149	1.069	0.88
Bob is not convincing.	$conv_2$	3.067	0.982	0.81
I am skeptical of Bob.	$skep_2$	3.402	1.153	0.84
Bob is misleading.	mis_2	2.938	0.931	0.87
I am suspicious of Bob.	$susp_2$	3.206	1.096	0.93
Distrust, Representation 3				
I have doubts about Bob.	$doub_3$	3.469	1.166	0.89
Bob is not convincing.	$conv_3$	3.072	1.046	0.83
I am skeptical of Bob.	$skep_3$	3.608	1.268	0.89
Bob is misleading.	mis_3	3.186	1.061	0.88
I am suspicious of Bob.	$susp_3$	3.536	1.272	0.94
Distrust, Representation 4				
I have doubts about Bob.	$doub_4$	3.031	1.091	0.90
Bob is not convincing.	$conv_4$	2.861	1.041	0.81
I am skeptical of Bob.	$skep_4$	3.180	1.197	0.88
Bob is misleading.	mis_4	2.871	0.970	0.90
I am suspicious of Bob.	$susp_4$	3.155	1.190	0.91
Distrust, Representation 5				
I have doubts about Bob.	$doub_5$	3.515	1.116	0.86
Bob is not convincing.	$conv_5$	3.119	1.068	0.76
I am skeptical of Bob.	$skep_5$	3.655	1.156	0.88
Bob is misleading.	mis_5	3.289	1.067	0.88
I am suspicious of Bob.	$susp_5$	3.562	1.200	0.92

Notes: Table 4 presents each indicator item measuring trust and distrust (five indicator items for each construct) at each of the five representations during the experiment. As discussed in the text and displayed in Table 2, the final measurement model used is Model 2B. All factor loadings are significant at p-value < 0.05.

Table 5
Convergent and Discriminant Validity

PANEL A: Latent Variable Covariance Matrix

	Trust$_1$	Trust$_2$	Trust$_3$	Trust$_4$	Trust$_5$	Distr$_1$	Distr$_2$	Distr$_3$	Distr$_4$	Distr$_5$
Trust$_1$	1.00									
Trust$_2$	0.53	1.00								
Trust$_3$	0.30	0.67	1.00							
Trust$_4$	0.35	0.64	0.77	1.00						
Trust$_5$	0.24	0.49	0.47	0.54	1.00					
Distr$_1$	-0.84	-0.40	-0.16	-0.24	-0.20	1.00				
Distr$_2$	-0.40	-0.85	-0.61	-0.52	-0.41	0.50	1.00			
Distr$_3$	-0.22	-0.59	-0.89	-0.61	-0.34	0.29	0.72	1.00		
Distr$_4$	-0.31	-0.55	-0.64	-0.84	-0.45	0.39	0.67	0.71	1.00	
Distr$_5$	-0.07	-0.30	-0.25	-0.31	-0.76	0.26	0.47	0.36	0.48	1.00

PANEL B: Composite Reliability and Average Variance Extracted

	n	Composite Reliability	Average Variance Extracted
Model 1A	970		
Trust		0.919	0.695
Distrust		0.932	0.732
Model 2B	194		
Trust$_1$		0.872	0.579
Trust$_2$		0.925	0.711
Trust$_3$		0.935	0.742
Trust$_4$		0.945	0.773
Trust$_5$		0.916	0.685
Distrust$_1$		0.899	0.644
Distrust$_2$		0.937	0.749
Distrust$_3$		0.948	0.784
Distrust$_4$		0.945	0.776
Distrust$_5$		0.935	0.742

Notes: Table 5 provides evidence of convergent and discriminant validity for the final measurement model.