The Trust Dilemma: Does CEO Vulnerability Attract or Alarm Investors?

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Abstract

Prior research in management and organizational behavior investigates how leaders' disclosure of vulnerability influences subordinates and team members, revealing that vulnerability is powerful in fostering genuine connections within teams. Despite this body of research in employee-centric frameworks, no prior study examines the effects of leader vulnerability disclosure on external stakeholders, nor in financial contexts. We conduct three experiments to investigate the effect of CEO vulnerability on investor judgments. In our first experiment, we find that a CEO's disclosure of personal vulnerability increases investor trust, leading to higher assessments of investment attractiveness when the CEO issues a more-optimistic (vs. less-optimistic) forecast. Because such optimistic guidance is likely to lead to future disappointment, we conduct a second experiment to examine the impact of expressed vulnerability on investor reactions to good and bad news realizations. Consistent with psychology theory, while bad news elicits a strong negative reaction from investors, CEO disclosure of vulnerability mitigates this response. Finally, in a third experiment, we find that the timing of vulnerability disclosure is important – investor reactions to bad news are mitigated only when the vulnerability disclosure occurs prior to news realization. Our studies collectively demonstrate that CEO disclosure of personal vulnerability fosters investor trust, which increases investment attractiveness in the face of optimistic forecasts and negative earnings news.

Keywords: vulnerability, CEO, investment decisions, trust, leader competence, forecasts, bad news, benchmarks, investors, manager behavior, social media, social executive, sensitive self-disclosure

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"Whether we're talking about leadership, teamwork or client service, there is no more powerful attribute than the ability to be genuinely honest about one's weaknesses, mistakes and needs for help. Nothing inspires trust in another human being like vulnerability."

- Patrick Lencioni, The Wall Street Journal[1]

"The hardest thing about being a leader is demonstrating or showing vulnerability…. When the leader demonstrates vulnerability and sensibility and brings people together, the team wins."

- Howard Schultz, Fortune[2]

1. Introduction

The concept of vulnerability has attracted considerable interest in the business world, with both practitioners and scholars endorsing its value in the workplace. Brown (2012, p. 34) defines vulnerability as "uncertainty, risk, and emotional exposure," and Bruk et al. (2018) define it as an "authentic and intentional willingness to be open to uncertainty, risk, and emotional exposure in social situations in spite of fears." Following studies in the field of management, we define vulnerability as voluntary disclosure of personal weakness to others (Gibson et al., 2018; Jiang et al., 2022; Pillemer, 2024). Although intuition might suggest that observers would perceive disclosure of weaknesses as negative, prior research shows that expressing vulnerability in this manner increases trust and perceived authenticity of leaders within teams and organizations (Jiang et al., 2022; Pillemer, 2024). Despite the extensive behavioral research in management and organizations on the positive effects of leader disclosure of vulnerability in teams, little is known about the impact of leaders' expression of vulnerability on external stakeholders or in financial contexts. Notably, investors may respond differently to a manager's disclosure of vulnerability compared to employees. While coworkers and subordinates benefit directly from interpersonal

1 WSJ - The Most Important Leadership Trait You Shun

2 FORTUNE - Starbucks' Schultz: from cocky to vulnerable

interactions with leaders, investors are primarily concerned with the financial viability of the firm and the CEO's ability to maximize firm value (Jenson & Meckling, 1976; Ang et al., 2000). Moreover, manager's disclosure of vulnerability conflicts with traditional expectations of CEO dominance and authority (Lord et al., 1986; Hogan et al., 1994; Epitropaki et al., 2013).

To investigate how CEO disclosure of vulnerability influence investors in financial contexts, we conduct experiments in two settings. First, we examine how vulnerability affects perceived investment attractiveness when a CEO issues a less- vs. more-optimistic forecast. Second, we examine how vulnerability affects investment attractiveness when the CEO announces bad vs. good earnings news. Our results indicate that expressions of vulnerability increase investor trust in the CEO, which leads to more positive reactions to more-optimistic forecasts, as well as less negative reactions to bad-news realizations. In addition, we find that the timing of vulnerability expression is critical – expressing vulnerability *before* (as opposed to *after)* a bad news realization leads to less negative investor reactions. This final experiment also acts as a robustness test by changing the wording in the non-vulnerable condition.

Understanding how a CEO's expression of vulnerability impacts investment decisions is crucial, as behavioral characteristics of CEOs have been shown to have broad and strong effects on capital market perceptions of firms and executives,[3] and CEOs have become adept at using social media to shape their public image (Men & Tsai, 2016), allowing investors to directly observe these characteristics. Consistent with this trend, the media frequently highlights expressions of leader vulnerability. For example, CNBC and The Guardian lauded Uber CEO Dara Khosrowshahi

[3] A non-exhaustive list of experimental and archival research examining the effects of executive behavioral characteristics on external stakeholders includes Kramer & Liao (2016), Grant et al. (2018), Green et al. (2019), Petrenko et al. (2019), Durney et al. (2020), Friedman (2020), Harrison et al. (2020), Barcellos & Kadous (2022), Dávila & Guasch (2022), Bushee et al. (2023), Marquez-Illescas & Zhou (2023), Skarlicki et al. (2023), Howe et al. (2024), Jackson et al. (2024), Pollock et al. (2024), and Ham et al. (2025).

for openly expressing his fears to staff about leaving Expedia to manage Uber, a company then encountering substantial challenges (Clifford, 2017; Solon, 2017). His statement was portrayed as an act of courage by media outlets, signaling a shift away from traditional perceptions of CEOs and highlighting the growing recognition of the power of vulnerability.

Leaders are typically expected to demonstrate qualities such as dominance, charisma, power, and competence (Lord et al., 1986; Hogan et al., 1994; Epitropaki et al., 2013) and to consistently maintain a positive image (Hogan & Kaiser, 2005; Peck & Hogue, 2018). Therefore, showing vulnerability could be seen as risky and may undermine these perceived qualities (Ridgeway, 1978; Gibson et al., 2018). For example, Gibson et al. (2018) uses a series of experiments to show how managers who disclose vulnerability may face negative consequences, including diminished status, reduced influence, increased task conflict, and poorer relationship quality, as vulnerability disclosures violate expectations of strength and competence associated with higher-status roles. However, expressions of vulnerability have also been recognized as signals of trustworthiness and authenticity. Authentic leadership, characterized by the alignment between internal states and external expressions (Pillemer, 2024), has garnered significant attention in leadership studies, especially in the wake of corporate and political scandals (Caza & Jackson, 2011). Furthermore, the critical role of trust in leadership has been emphasized over the past several decades. Research shows that trustworthiness provides firms with strategic advantages, such as reducing transaction costs (Dyer & Chu, 2003), enhancing employee satisfaction and commitment (Dirks & Ferrin, 2002), and positively influencing the capital markets (Guiso et al., 2008; Elliott et al., 2012; Lins et al., 2017). Thus, we propose that a CEO disclosure of vulnerability could enhance investor trust, offering a competitive advantage during periods of uncertainty. This effect is particularly significant when investors need to rely on the CEO's forward-looking statements about the company's growth, especially in the face of bad-news realizations or when the forecast appears especially optimistic. To examine how a CEO's expression of vulnerability impacts investor judgments, we conduct three experiments.

In our first experiment, we investigate the impact of CEO disclosure of vulnerability on investor reactions to forward-looking statements made by the CEO. Nonprofessional investor participants assume the role of prospective investors assessing the investment attractiveness of a company. They are provided with background information about the company and read a brief transcript of the CEO introducing himself during an interview. We manipulate whether the CEO discloses a personal weakness or not (the particular weakness is social in nature and involves being nervous when he speaks publicly). Participants then receive an earnings forecast from the CEO, which is manipulated to be either significantly higher than financial analysts' consensus (a more-optimistic forecast) or slightly higher (a less-optimistic forecast). Finally, participants rate the company's investment attractiveness and answer several questions about trust. The results support our hypothesis, indicating that participants view the company as a more attractive investment primarily when the CEO's earnings guidance is more optimistic, *and* the CEO has disclosed vulnerability. These results further reveal that when the forecast is less optimistic and aligns with analysts' forecasts, CEO disclosure of vulnerability has little to no effect, as investors rely on the verifiable data. However, when the forecast significantly deviates from analysts' consensus, vulnerability appears to play a critical role in building trust and enhancing perceived investment attractiveness.

Because issuing overly optimistic guidance is likely to lead to subsequent bad earnings news, our second experiment extends the investigation to the effect of CEO disclosure of vulnerability on reactions to earnings realizations. In this experiment, we maintain the bulk of the materials from Experiment 1 (including the vulnerability manipulation), with one key variation: instead of manipulating earnings guidance optimism, we manipulate the valence of earnings news, such that realized earnings news is either good or bad. Participants are again asked to assess the attractiveness of investing in the company after reviewing the earnings news. Consistent with previous studies that show trust can mitigate the impact of negative information (e.g., Elliot et al., 2012; Lins et al., 2017; Elliot et al., 2018), the results support our prediction that investors react less negatively when the CEO has previously fostered trust by disclosing personal vulnerability.

Finally, we conduct a third experiment based on Experiment 2, which manipulates the *timing* of vulnerability disclosure. The materials are substantially equivalent to those in our prior experiments, and the bad news realization is identical to our second experiment. However, there are two key changes. First, we manipulate vulnerability at three levels (non-disclosure, disclosure before bad news, and disclosure after bad news). We predict and find that disclosing vulnerability before (as opposed to after) a bad news realization has a stronger positive effect on investor views of the firm and manager trustworthiness. Second, we eliminate a borderline confident statement in the non-vulnerable condition and show that the results of vulnerability disclosure are similar to Experiment 2.

Our paper contributes to several streams of capital markets research. It contributes to research on the decision-making processes of capital market participants. This line of research has primarily focused on the type of information capital participants use (e.g., Brown et al., 2015; Brown et al., 2016; Demirakos et al., 2010; Huang et al., 2023) and the valuation models that are used to estimate the intrinsic value of firms (e.g., Asquith et al., 2005; Demirakos et al., 2010; Huang et al., 2023). However, the literature has largely overlooked how top executives' characteristics might affect capital market perceptions. Relatedly, we contribute to the limited research on how observed behavioral characteristics of CEOs affect capital market perceptions of the firm. Prior research focuses primarily on the impact of CEO overconfidence (Kramer & Liao, 2016), CEO Narcissism (Ham et al., 2024; Marquez-Illescas & Zhou, 2023), and CEO Big Five personalities (Harrison et al., 2020). We also contribute to the literature on capital market reactions to corporate disclosures. Prior research indicates that factors such as risk (Billings, 1999; Easton & Zmijewski, 1989; Imhoff & Lobo, 1992), earnings persistence (Kormendi & Lipe, 1987; Collins & Kothari, 1989), perceived audit quality (Teoh & Wong, 1993), and sustained earnings growth (Barth et al., 1999) significantly impact the market response to various disclosures. Our study extends this line of research by demonstrating that when a CEO discloses vulnerability, it enhances investor trust, serving as a protective buffer against negative surprises, while also acting as a catalyst, encouraging investors to respond more positively when the CEO's earnings forecast significantly exceeds the financial analysts' consensus.

Second, our study contributes to prior experimental studies in management and accounting. We expand upon management and organizations research on leader vulnerability, where prior studies primarily provide evidence that leaders' disclosure of vulnerability can positively influence team dynamics (Coutifaris & Grant, 2022; Jiang et al., 2022). Our study provides new evidence that vulnerability disclosure can also influence outside stakeholders in a financial context. We also contribute to the literature on CEO social media presence and its impact on capital market participants (Elliot et al., 2018; Grant et al., 2018). Our findings show that CEO disclosure of vulnerability through social media platforms enhances investors' perceptions of CEO trustworthiness. These insights also have practical implications for executives, highlighting how communicating vulnerability via social media can shape the capital market's perceptions of their leadership.

The remainder of the paper proceeds as follows. Section 2 reviews prior literature and theory, Section 3 presents the three experiments, and Section 4 concludes.

2. Theoretical background and hypothesis development

2.1 Investment Attractiveness

Bruk et al. (2018) suggest that displaying vulnerability is generally perceived as “positive and desirable behavior” by others. Therefore, the authors argue that embracing vulnerability can be advantageous, encouraging individuals to confront fears and discover "beauty in the mess of vulnerable situations." Showing vulnerability can lead to various benefits, including fostering forgiveness when admitting mistakes (Bachman & Guerrero, 2006), enhancing perceptions of trustworthiness (e.g., Wheeless & Grotz, 1997; Jiang et al., 2022; John et al., 2016), increasing perceived warmth (Hoffman-Graff, 1977), perceived similarity (Sprecher et al., 2013), and improving likability (Collins & Miller, 1994). Recent research in management indicates that leaders’ display of vulnerability is often perceived by others as an act of courage, enhancing their trustworthiness and authenticity without undermining their competence (Jiang et al., 2022; Coutifaris & Grant, 2022; Pillemer, 2024).

Despite various benefits of showing vulnerability, CEOs may hesitate to do so because it conflicts with the traditionally expected qualities of leadership (e.g., Ridgeway, 1978; Gibson et al., 2018). Expressing vulnerability could be unpleasant and individuals may hesitate due to fears of losing power, appearing incompetent, and the broader reluctance to expose their own weaknesses (Lee, 1997; Brooks et al., 2015; Vogel & Wester, 2003; Gibson et al., 2018; Ohlrogge et al., 2024). For example, Ohlrogge et al. (2024) demonstrate that a CEO apology for firm misconduct reduces the perceived credibility of the CEO and negatively impacts investors’ willingness to invest in the company. Similarly, Grant et al. (2018) show that when a CEO humblebrags about the positive performance of the firm, investors are less willing to invest in the company compared to when the CEO either brags or demonstrates modesty.

However, several studies indicate that displaying weaknesses enhances authenticity and trustworthiness without diminishing leaders' perceived competence (e.g., Pillemer, 2024; Jiang et al., 2022, Brooks et al., 2015). Bass and Bass (2009, p.180) explain that competence builds up the leader's credit, enabling them to deviate from group norms and guide the group in innovative ways while still maintaining acceptance. Pillemer (2024) argues that leaders could strategically practice vulnerability to enhance their perceived authenticity without undermining their professional image.

The positive shift in perception of vulnerability has sparked a broader discussion among business practitioners, with many CEOs beginning to embrace and advocate for the benefits of leading with vulnerability. This approach is increasingly recognized as a powerful leadership strategy that fosters a more inclusive and supportive organizational culture, encouraging open communication and deeper connections among team members. As the practice gains traction, it is reshaping traditional views of leadership, emphasizing the power of leading with vulnerability (Seppälä, 2014).

CEOs have also begun sharing their vulnerability more widely, either consciously or unconsciously, with the advent and spread of social media. CEOs have leveraged the power of social media in reshaping their public image to appear more authentic and approachable, thereby positively influencing public trust and satisfaction (Men & Tsai, 2016). Additionally, "the role of the CEO has evolved to become more visible, social, connected, and accessible than before" (Brandfog 2013). This shift is evident in engagement trends. A Weber Shandwick survey shows that CEO engagement in social media increased from 36% to 66% between 2010 and 2012

(Shandwick, 2012), and by 2014, 80% of top executives from the world's leading companies were engaged in social media (Shandwick, 2015).

Social media provides executives a unique opportunity to communicate and share information with stakeholders (Leonardi & Vaast, 2017). For example, attention-grabbing posts or interviews by CEOs can influence individual and institutional investors' behavior, as attention plays a critical role in shaping stock purchasing decisions (Barber & Odean, 2008). This aligns with prior findings that the presence of executive social interaction influences various organizational and personal outcomes, including reshaping firm identity (Kjærgaard et al., 2011), impacting CEO compensation (Kang & Han, 2017), enhancing communication with employees and customers (Heavey et al., 2020), influencing merger and acquisition outcomes (Wang et al., 2021), and shaping shareholder investment decisions (e.g., Elliott et al., 2018, Grant et al., 2018, Chen et al., 2023, Rennekamp & Witz, 2021, Cade, 2018). Social media platforms provide a unique, less structured, and more spontaneous environment where CEOs can share personal details to enhance their relatability and humanize their image. However, this openness can be perceived as a weakness if the disclosed information contradicts the traits typically expected of leaders (See Appendix A for examples of interviews where CEOs have disclosed their vulnerabilities). Consequently, through less structured communication channels such as live interviews, CEOs may self-disclose sensitive information that could be interpreted as vulnerability.

Building on these theories, we propose that CEO vulnerability disclosure could positively influence investors by enhancing their perception of the CEO's trustworthiness, a trait known to impact investment decisions (e.g., Elliot et al., 2012; Grant et al., 2018). Trust is widely recognized as a valuable asset for organizations (Castaldo et al., 2010), and is considered "paramount for product acceptance, a good working atmosphere, smooth relationships with local government, investment criteria, and more" (García-Marzá, 2005, p. 209). There are several decades of research on trust in organizations at both the micro and macro levels. Studies have shown that trust is linked to employee job satisfaction (Edwards et al., 2009; Dirks & Ferrin, 2002), leader effectiveness (Gillespie & Mann, 2004), business flexibility and success (Gibson & Birkinshaw, 2004), higher customer satisfaction (Morgan & Hunt, 1994), lower transaction costs (Dyer & Chu, 2003), and how organizations navigate trust during significant transitions, such as in mergers and acquisitions (Maguire & Phillips, 2008).

Following Rousseau et al. (1998), we define trust as "the psychological willingness of a party to be vulnerable to the actions of another party (individual or organization) based on positive expectations regarding the other party's motivation and/or behavior" (Prison & Malhotra, 2011). In another words, Prison and Malhotra (2011) explains that "trust exists when parties are willing to make themselves vulnerable to the discretionary behavior of others." Moreover, expression of vulnerability has been shown to increase trust in leaders (Jiang et al., 2022). Building on this, we argue that when a CEO expresses weakness and places themselves in a vulnerable position, it fosters greater willingness among investors (the trustees) to trust the CEO and, in turn, make themselves vulnerable to the CEO's decisions. As a result, we suggest that investors are more willing to remain trustful during uncertain times when a forecast is significantly different from analysts' forecast, hence perceiving the company as a more attractive investment. Conversely, when the forecast aligns closely with analysts' projections, investors rely on the verified numbers provided by third parties (financial analysts). In such cases, the CEO's expression of vulnerability has little to no influence on their decision, as their investment choices are already guided by the credibility of the verified data. We specify this expectation formally in the following hypothesis:

H1: The effect of a more-optimistic (compared to a less-optimistic) earnings forecast on investment attractiveness is more positive when a CEO discloses a personal vulnerability.

When managers issue optimistic guidance, one obvious potential outcome is a subsequent negative earnings surprise. If investors rely upon optimistic forecasts from CEOs who express vulnerability, only to experience enhanced disappointment, the overall effect of vulnerability may not be beneficial for executives. In other words, the more trust investors place in the CEO beforehand, the greater their potential disappointment may be when the bad news is announced. However, Jiang et al. (2022) explain that vulnerability disclosure enhances the perception of trustworthiness. Trust has been shown to positively influence stock market participation (Guiso et al., 2008) and to reduce the negative impact of financial crises (Lins et al., 2017). In addition, Elliott et al. (2012) emphasize the importance of management's trustworthiness in shaping investors' decisions during negative events. Further research by Elliott et al. (2018) also suggests that CEOs can cultivate investor trust, which helps mitigate the impact of negative news. Similarly, positive social evaluation, such as strong reputation, has been shown to act as a protective buffer in the face of a negative earnings announcement (Pfarrer et al., 2010). Finally, psychology research demonstrates that acknowledging one's mistakes as a form of vulnerability may allow observers to better accept and forgive mistakes (Bachman & Guerrero, 2006), effectively repairing trust after competence-related missteps (Kim et al., 2004). Therefore, investors may evaluate bad news less negatively for a CEO who has built trust by disclosing vulnerability. This leads us to the second hypothesis, tested in Experiment 2, in which we investigate the effect of voluntary vulnerability disclosure on investor reactions to good and bad news.

H2: The effect of bad (compared to good) earnings news on investment attractiveness is less negative when a CEO discloses a personal vulnerability.

Finally, consistent with prior psychology research highlighting the importance of the timing of vulnerability disclosure (e.g., Jones & Gordon, 1972; Archer & Burleson, 1980), we anticipate that if investors receive bad news prior to forming a belief about management trustworthiness, post-hoc vulnerability disclosure may not be beneficial. In Experiment 3, we hold bad news constant and manipulate the timing of vulnerability disclosure. Our third hypothesis formally states our expectation on the timing effect.

H3: The effect of bad earnings news on investment attractiveness is less negative when a CEO discloses a personal vulnerability *before* the earnings news.

3. Experiments

3.1 Experiment 1

3.1.1. Participants

We recruit 249 participants through the CloudResearch platform, which is an innovative online research platform that seamlessly connects researchers with willing participants, providing a dynamic environment for conducting experiments and other studies. Using demographic filters on the platform, participants are required to be at least 25 years old, possess a college degree, and reside in the United States. 55 percent of the participants are male, and the average age is 40 years old. 73 percent of participants report investing in individual stocks within the last five years.

3.1.2. Design

In this 2x2 experiment, participants assume the role of an investor evaluating technology companies. They first read background information about a fictional company, followed by a transcript of an interview with the CEO, in which the expression of vulnerability is manipulated. Next, participants are presented with an earnings forecast that is either more-optimistic (significantly higher than financial analysts' predictions) or less-optimistic (slightly higher than analysts' forecasts). Finally, they are asked to assess the attractiveness of investing in the company, as well as several other related measures.

3.1.3 Independent variable

We manipulate vulnerability through an interview in which TechInnovate's CEO, Bill Bradley, introduces himself. In the vulnerable condition, Bradley shares, "I started my career as a software engineer at TechInnovate. For the last 10 years, I have worked as its CEO. In my free time, I like to run and collect art. Although I'm good at public speaking, *when I make a speech, I frequently get nervous – my mouth gets dry, and my hands get sweaty.*" In the non-vulnerable condition, the last sentence is changed to: "*I'm good at public speaking, and* when I make a speech *I'm never nervous*." The speech weakness is adopted from Jiang et al. (2022), as it is a central weakness manipulation in their study. Notably, their findings remain consistent even when the manipulation was adjusted to focus on pertinent skill-related weaknesses.

We also manipulate the earnings forecasts by presenting either a less-optimistic forecast, slightly higher than what financial analysts predicted, or a more-optimistic forecast, significantly higher than analyst expectations. The two conditions use identical wording but manipulates the relative optimism of the quantitative data. In the less-optimistic forecast condition, the CEO states, "Looking ahead to 2025, TechInnovate is positioned for growth and innovation. Although analysts and investors are expecting **6%** growth in earnings, we believe we can hit **9%** growth next year – putting us in the top **40%** of our industry for growth." Conversely, in the more-optimistic forecast condition, the CEO mentions, "Looking ahead to 2025, TechInnovate is positioned for growth and innovation. Although analysts and investors are expecting **6%** growth in earnings, we believe we can hit **18%** growth next year – putting us in the top **5%** of our industry for growth."

3.1.4. Dependent variable and trust measures

To assess participants' perceptions of the attractiveness of investing in TechInnovate, Inc.'s stock, we employ a scale question. Participants are asked: "As a potential investor, how attractive do you find investing in Techlnnovate, Inc.'s stock?" Responses are recorded on a scale from 0 ("not attractive at all") to 100 ("very attractive"). Because we expect trust to play a significant role in linking vulnerability to investment attractiveness, we ask two additional questions on a scale ranging from 0 ("Strongly Disagree") to 100 ("Strongly Agree"): "I believe I can trust Bill Bradley's forecast for next year," and "I believe Bill Bradley's forecast for next year is plausible." The latter question follows the approach of Kadous et al. (2005) to assess the persuasiveness of the management forecast. Trust is measured as the average of participants' responses to these two scale questions. Participants were also asked a separate question about their beliefs regarding dividend distribution: "I believe Bill Bradley will distribute some of TechInnovate, Inc.'s profits to investors as dividends next year." This question aimed to replicate a conceptually similar experiment conducted in Jiang et al.'s study, although the experimental designs were not identical.

3.1.5. Experiment 1 Results

Table 1, Panel A presents the descriptive statistics for investment attractiveness, while Panel B reports an ANOVA analysis with forecasts and CEO disclosure of vulnerability as independent variables and investment attractiveness as dependent variable.[4] Table 1, Panel C reports simple effects tests. Figure 1 illustrates the observed means. Table 1, panel B reveals a significant main effect of CEO disclosure of vulnerability ($p = 0.03$) and a non-significant main effect of forecast type ($p = 0.98$). H1 predicts that the effect of a more-optimistic forecast is more

[4] Participants completed an attention check question at the end of the experiment, with 4% failing to answer correctly. All analyses include the full sample of participants, and the significance of the results is unchanged if those who failed the attention check are excluded.

positive when the CEO discloses a vulnerability. This hypothesis is supported by the significant interaction effect of forecast type and CEO disclosure of vulnerability ($p = 0.02$). Table 1, Panel C demonstrates that the effects are not attributable to the main impact of the vulnerability disclosure alone. Consistent with our theory, CEO disclosure of vulnerability has a significant effect on investment attractiveness, but only when the forecast is more-optimistic ($p < 0.01$). In contrast, when the forecast is less-optimistic, CEO disclosure of vulnerability does not have a significant impact ($p = 0.89$). Furthermore, the interaction between vulnerability disclosure and forecast has a significant positive effect on trust, measured as the average response to two scale questions assessing trust in the forecast (7.88, $p = 0.04$, one-tailed). The results also indicate that participants' belief about dividend distribution by the CEO are influenced by both the forecast type and the disclosure of vulnerability ($p = 0.05$, one-tailed). Consistent with our main findings, when the earnings forecast is more optimistic, participants show a stronger belief that the CEO will distribute dividends only when the CEO discloses a vulnerability ($p = 0.04$, one-tailed).

3.1.6. Discussion

The results of our first experiment indicate that CEO disclosure of vulnerability increases the investment attractiveness of a company when earnings guidance is particularly more optimistic. However, a potential concern is that such optimistic forecasts may lead to more negative earnings surprises, which could disappoint investors to a greater extent. If vulnerability disclosure also buffers a CEO against negative investor reactions to bad news, then vulnerability is a win-win strategy for boosting investor expectations and also mitigating investor disappointment when those expectations are not met. To further explore this issue, we conducted a second experiment to examine the impact of CEO disclosure of vulnerability on investor reactions in the context of earnings surprises.

3.2 Experiment 2

3.2.1. Participants

We recruit 414 participants through the CloudResearch platform. As in Experiment 1, we set the platform filters to require participants to be at least 25 years old, possess a college degree, and reside in the United States. 53 percent of participants are male, and the average age is 38 years old. 70 percent of participants report investing in individual stocks within the last five years.

3.2.2. Design

In this 2x2 experiment, participants assume the role of investors evaluating technology companies. Initially, they are provided with background information about a fictional company. Participants then read a transcript of an interview with the company's CEO, where vulnerability is manipulated. Participants are then presented with earnings news where the news valence is manipulated as either good or bad. They are then asked to evaluate the attractiveness of investing in the company. Additionally, we measure participants' level of trust in the CEO using five questions adapted from Elliott et al. (2012).

3.2.3. Independent variable

We manipulate vulnerability through an interview in which TechInnovate's CEO, Bill Bradley, introduces himself. In the vulnerable condition, Bradley shares, "I started my career as a software engineer at TechInnovate. For the last 10 years, I have worked as its CEO. In my free time, I like to run and collect art. Although I'm good at public speaking, *when I make a speech, I frequently get nervous – my mouth gets dry, and my hands get sweaty.*" In the non-vulnerable condition, the last part is changed to: *"I'm good at public speaking, and when I make a speech I'm never nervous."*

We also manipulate the valence of earnings announcements (News) by presenting participants with either bad news or good news. The two conditions use identical wording, with the exception that in the bad news condition, the company's performance declined and fell short of both its expectations and the market's expectations. Conversely, in the good news condition, the company's performance improved and exceeded both its expectations and the market's expectations.

3.2.4. Dependent variable and trust measures

We assess participants' perception of investment attractiveness for TechInnovate, Inc.'s stock by asking them: "As a potential investor, how attractive do you find investing in Techlnnovate, Inc.'s stock?" Responses are recorded on a scale from 0 ("not attractive at all") to 100 ("very attractive"). Following Elliott et al. (2012), we measure trust by assessing the established theoretical components of trust, which include integrity, concern, reliability, and competence (e.g., Cummings & Bromiley, 1996; Mishra, 1996; Fuller et al., 2007). These components are defined as: "Integrity reflects beliefs about another's adherence to principles governing behavior (honesty). Concern captures beliefs about fairness and acting on others interest. Reliability reflects beliefs about another's likelihood of keeping commitments. Competence encompasses beliefs about another's technical and interpersonal skills," (Elliot et al., 2012). We expect that vulnerability to impact trustworthiness through the channels of integrity, concern, and reliability, but not competence. Therefore, to test the findings of previous studies that suggest vulnerability enhances trustworthiness without undermining perceived competence (e.g., Jiang et al., 2022; Coutifaris & Grant, 2022; Pillemer, 2024), we adopt Elliot et al.'s (2012) framework to measure trust. Participants respond to five scale questions ranging from 0 ("Strongly Disagree") to 100 ("Strongly Agree"). The questions included: "I believe that Bill Bradley is trustworthy", I believe that Bill Bradley is honest", "I believe that Bill Bradley acts in the best interest of Techlnnovate, Inc.'s investors", I believe that Bill Bradley is a person of high integrity", and "I believe that Bill Bradley is a competent leader".

3.2.5. Experiment 2 Results

Table 2, Panel A presents the descriptive statistics for investment attractiveness, Panel B reports an ANOVA analysis with News and CEO disclosure of vulnerability as independent variables and investment attractiveness as the dependent variable, and Panel C reports simple effects. [5] Figure 2 illustrates the observed means.

Table 2, panel B shows significant main effect of news (p < 0.001) and a marginally significant main effect of CEO's disclosure of vulnerability (p = 0.07). H2 predicts the effect of bad news will be less negative when the CEO discloses a vulnerability. This hypothesis is supported by a significant interaction effect of news and CEO's disclosure of vulnerability (p = 0.01). Table 2, Panel C demonstrates that the CEO's disclosure of vulnerability has a significant positive effect when the news is negative (p < 0.01) but no significant impact when the news is positive (p = 0.49).

3.2.6. Additional Analysis

The results show that the vulnerability disclosure has a significant positive effect on trust, measured as the average response to five scale questions assessing trust (4.19, $p = 0.05$). To further examine whether vulnerability enhances trustworthiness without diminishing perceived competence, we used mediation analysis PROCESS Model 4 (Hayes, 2018). We utilize 5,000 bootstrap samples to generate confidence interval at 95%. We examine the effect of vulnerability

[5] Participants completed two attention check questions at the end of the experiment; 4% failed the first, and 9% failed the second. All analyses include the full sample of participants, and the significance of the results is unchanged if those who failed an attention check are excluded.

disclosure on trustworthiness through two mediators: (1) integrity/concern/reliability, and (2) competence, with news valence as a covariate. The integrity/concern/reliability component was measured as the average response to three items: “I believe that Bill Bradley is honest,” “I believe that Bill Bradley acts in the best interest of TechInnovate, Inc.’s investors,” and “I believe that Bill Bradley is a person of high integrity.” Competence was assessed with the item, “I believe that Bill Bradley is a competent leader,” and trustworthiness was measured by asking participants, “I believe that Bill Bradley is trustworthy.” The mediation analysis indicates that the direct effect of vulnerability disclosure on trustworthiness is not significant, as zero falls within the bootstrapping lower-limit confidence interval (BootLLCI) and upper-limit confidence interval (BootULCI). However, the indirect effect of vulnerability disclosure on trustworthiness through integrity/concern/reliability is significant, with zero falling outside the BootLLCI and BootULCI. In contrast, the indirect effect through competence is not significant. These findings underscore the critical role of integrity/concern/reliability as mediators in shaping perceptions of trustworthiness, while competence does not serve as a significant mediating factor. Finally, the results indicate that vulnerability disclosure significantly impacts integrity/concern/reliability (5.96, $p < 0.001$) but does not significantly affect competence (1.71, $p = 0.30$). These findings align with prior studies (e.g., Jiang et al., 2022; Coutifaris & Grant, 2022; Pillemer, 2024).

3.2.7 Discussion

In Experiments 1 and 2, we held the CEO’s discourse length and disclosed personal topics constant. However, in the non-vulnerable condition, the discourse involved a positive and/or confident disclosure. In addition, the CEO interview, in which vulnerability was manipulated, was disclosed to participants prior to the earnings forecast/release. This timing may play a role, as the effects of vulnerability could differ if the interview were disclosed after the realization of earnings news. To explore these nuances further, we conduct a third experiment to examine how CEO vulnerability disclosure influences investor responses to bad earnings news when the timing of vulnerability disclosure varies and when the "confident" disclosure is absent from the non-vulnerable condition.

3.3. Experiment 3

3.3.1. Participants

We draw 237 new participants from CloudResearch Connect who are at least 25 years old, possess a college degree, and reside in the United States. They have an average age of 40, 52% are male, and 74% report having made investments in individual stocks in the past five years.

3.3.2. Design

In Experiment 3, we build on Experiment 2, which shows that vulnerability disclosure significantly affects investors' perception of attractiveness of investing following realization of bad news. We utilize a 1x3 design where all cells present the bad news condition from Experiment 2, but where the vulnerability manipulation occurs at three levels: no vulnerability disclosure, vulnerability disclosure *prior* to bad news realization, or vulnerability disclosure *subsequent* to bad news realization. If, consistent with prior literature, vulnerability disclosure fails to aid in the development of trust when that trust is already in doubt, we should observe a muted effect of vulnerability disclosure when it occurs *after* the realization of bad news. Further, to eliminate any potential effects of positive/confident disclosure, we remove the positive/confident statement appearing in the non-vulnerable condition in the prior two experiments.

3.3.3 Independent Variable

We make a key change to our manipulation of vulnerability, primarily to address concerns that the non-vulnerable condition from Experiments 1 and 2 contain a potential positive/confident disclosure by way of the statement, “I am never nervous.” For Experiment 3, the CEO in the vulnerable condition states, “I started my career as a software engineer at TechInnovate. For the last 10 years, I have worked as its CEO. In my free time, I like to run and collect art. *Although I'm good at public speaking, when I make a speech, I frequently get nervous – my mouth gets dry, and my hands get sweaty.*” In the non-vulnerable condition, the last part is changed to: “*Also, I’m good at public speaking*.”

3.3.4. Results

Figure 3 displays a bar chart of mean responses to the same six questions drawn from Experiment 2. We use planned comparisons, testing whether the effect of vulnerability disclosure *prior* to bad news realization is stronger than the other two cells. For investment attractiveness, trustworthiness, honesty, and integrity, the disclosure of vulnerability *prior* to bad news realization yields significantly higher judgments than non-disclosure or disclosure *subsequent* to bad news realization (all $t > 1.72$, all $p < 0.05$, one-tailed). There are no significant differences for competence or acting in the best interest of the company. These results replicate the investment attractiveness and trustworthiness effects of Experiment 2 without including a confident statement in the non-vulnerable condition. In addition, we provide evidence that the timing of vulnerability disclosure relative to news realization is important for shareholder perceptions, consistent with prior psychology research (e.g., Jones & Gordon, 1972; Archer & Burleson, 1980).

4. Conclusion

While prior research has shown that observed behavioral characteristics of CEOs significantly influence capital market perceptions (e.g., Ham et al., 2024; Harrison et al., 2020; Kramer & Liao, 2016; Marquez-Illescas & Zhou, 2023), and that managers’ expression of vulnerability is widely recognized as a sign of trustworthiness and authenticity for employees

(Jiang et al., 2022; Pillemer, 2024), little is known about how CEO disclosures of vulnerability impact investors. We provide experimental evidence that CEO disclosures of vulnerability enhance investors' trust, which in turn affects their reactions to earnings guidance and earnings news. In our first experiment, we show that when CEOs' forward-looking statements significantly surpass those of financial analysts, investors view the company's stock as a more attractive investment if the CEO has previously disclosed vulnerability. In our second experiment, we illustrate that disclosing vulnerability helps alleviate the adverse effects of negative news, leading to increased investment attractiveness when the CEO displays vulnerability. Finally, our third experiment provides a robustness test of the vulnerability manipulation while also demonstrating that the timing of vulnerability disclosure is important – investors react more strongly to vulnerability when it is disclosed prior to news realizations.

This study contributes to the limited body of research on CEOs' characteristics and their impact on investors' perceptions of management. It also extends the literature on CEO vulnerability disclosures and their effect on investors by demonstrating that, contrary to traditional leadership expectations, vulnerability can enhance investor trust, leading to increased investment attractiveness. Moreover, this study adds to the research on CEO use of social media and its influence on investors (e.g., Elliott et al., 2018; Grant et al., 2018). With the growing importance of social media and CEOs increasingly leveraging it to shape their public image and build relationships with investors, our findings also have practical implications for leaders. Finally, we explore the underlying process of investor trust formation, which significantly influences investment decisions.

Our study has several limitations that present opportunities for future research. In our first experiment, investors were provided only with the CEO's forecast and the financial analysts' forecast. In real-world settings, however, investors have access to multiple financial sources and real-time market information that can influence their investment decisions. Second, in our second experiment, we examined only a single instance of beating or missing earnings expectations (good vs. bad news). In reality, CEOs may miss earnings targets over several quarters, and our results may not apply to more extreme cases of repeated failures.

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Appendix A

Selected Quotes Reflecting Vulnerability from CEOs

Paul Markovich, President and CEO of Blue Shield of California, explains an incident of being vulnerable at work during an interview. He describes how, during the COVID-19 pandemic, he faced significant stress and burnout. He worked extremely long hours, helping the state manage COVID testing and vaccinations. The intense workload and emotional strain took a heavy toll on both him and his family. By the end of 2021, Paul was exhausted, both physically and emotionally, which affected his behavior at work. He found himself lashing out in meetings, leading to a pivotal moment when a team member gave him candid feedback. This feedback triggered an **emotional breakdown, during which Paul openly cried** and **shared the struggles he was going through**. This moment of vulnerability was a turning point for him, highlighting the importance of acknowledging and managing the immense pressure that comes with leadership, especially in challenging times. [6]

Mark Hoplamazian, CEO of Hyatt Hotels, explains in an interview that he participated in an empathy training session where he was paired with an assistant front office manager who initially hesitated to speak openly, likely intimidated by his presence. Hoplamazian shared his own **initial anxieties and fears about starting his new job**, fostering a vulnerable atmosphere. This openness prompted the assistant to reveal her true feelings about Hyatt's onboarding process, describing it as intimidating and not the welcoming experience she had expected. Their candid conversation, which **moved both to tears**, underscored the importance of vulnerability in building trust and fostering open communication. This experience led Hoplamazian to recognize the need to change the onboarding process to be more welcoming. [7]

Julie Sweet, CEO of Accenture, shares several moments of vulnerability that have shaped her career and personal growth. She explains how **losing a speech contest in high school was a pivotal moment** in her life, as it taught her the importance of striving for excellence and resilience. She also confesses to **struggling with self-confidence** and, looking back, wishes she had encouraged her younger self to trust her instincts and believe in her abilities, which would have made her journey less stressful. Additionally, she reveals that **feeling a bit scared during uncertain times** serves as a signal that she is heading in the right direction, embracing the discomfort as a sign of growth and progress. [8]

Ravi Kumar, CEO of Cognizant, explains in an interview that "Asking for help is not a weakness. I would say being vulnerable is also exposing your weaknesses. Asking for help is vulnerability. Embracing rejection is vulnerability. Self-deprecation, laughing at yourself—you know, sometimes when you laugh at yourself, you feel good about it—that's vulnerability. Vulnerability kind of creates a sense of paranoia inside us, and that paranoia can be translated into positive energy, which in turn can translate to punching above your weight. **So, I see vulnerability as a strength when you expose it to the people around you**."[9]

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[6] From Burnout to Breakthrough Blue Shield CEO Discusses Vulnerability

[7] CEO of Hyatt Hotels on How Being Vulnerable Transformed Him & His Company

[8] ForbesWomen- Accenture CEO

[9] Ravi Kumar, CEO of Cognizant, Discusses Vulnerability as a strength

Appendix B

Experimental Manipulations

Experiment 1 Transcripts of Earning Forecast in the More-Optimistic and Less-Optimistic Conditions (bold and underline emphasis was not included in experiment):

More-Optimistic Condition

Earlier today, TechInnovate, Inc. released an earnings forecast for 2025, projecting **<u>significantly</u>** higher results for next year compared to the predictions made by financial analysts.

Bill Bradley, Chief Executive Officer, commented: "Looking ahead to 2025, TechInnovate is positioned for growth and innovation. Although analysts and investors are expecting 6% growth in earnings, we believe we can hit **<u>18%</u>** growth next year – putting us in the top **<u>5%</u>** of our industry for growth."

Less-Optimistic Condition

Earlier today, TechInnovate, Inc. released an earnings forecast for 2025, projecting **<u>slightly</u>** higher results for next year compared to the predictions made by financial analysts.

Bill Bradley, Chief Executive Officer, commented: "Looking ahead to 2025, TechInnovate is positioned for growth and innovation. Although analysts and investors are expecting 6% growth in earnings, we believe we can hit **<u>9%</u>** growth next year – putting us in the top **<u>40%</u>** of our industry for growth."

Experiment 2 Transcripts of Earning Announcement in the Good news and Bad news Conditions (bold and underline emphasis was not included in experiment):

Bad News Condition

Earlier today, TechInnovate, Inc. released its earnings report for the year 2023.

Bill Bradley, Chief Executive Officer, commented: "**<u>With</u>** various challenges in the global economy and the technology sector, our 2023 performance **<u>fell short</u>** of our expectations and the market's expectations. Total revenue for the year **<u>decreased</u>** by 5% compared to 2022, and our earnings **<u>decreased</u>** by 4%.

He also mentioned, "As we look ahead to 2024, our strategic priorities will include investing in digital transformation to expand our enterprise client base, particularly in the artificial intelligence and machine learning sectors. We will also focus on expanding our cloud service ecosystem by incorporating additional resources in cybersecurity, data analytics to drive further revenue growth."

Good News Condition

Earlier today, TechInnovate, Inc. released its earnings report for the year 2023.

Bill Bradley, Chief Executive Officer, commented: "**Despite** various challenges in the global economy and the technology sector, our 2023 performance exceeded our expectations and the market's expectations. Total revenue for the year **increased** by 5% compared to 2022, and our earnings **increased** by 4%.

He also mentioned, "As we look ahead to 2024, our strategic priorities will include investing in digital transformation to expand our enterprise client base, particularly in the artificial intelligence and machine learning sectors. We will also focus on expanding our cloud service ecosystem by incorporating additional resources in cybersecurity, data analytics to drive further revenue growth."

Experiment 1 and 2 Transcripts from the Interview in Conditions Where Vulnerability Was Disclosed and Not Disclosed (bold and underline emphasis was not included in experiment):

Interviewer: **"**Bill, most of our audience may not be familiar with your background. How about giving us a quick rundown and some interesting tidbits about yourself?"

Vulnerability Disclosed Condition

Bill Bradley: "I started my career as a software engineer at TechInnovate. For the last 10 years, I have worked as its CEO. In my free time, I like to run and collect art. Although I'm good at public speaking, when I make a speech, **I frequently get nervous – my mouth gets dry, and my hands get sweaty."**

Vulnerability Not Disclosed Condition

Bill Bradley: "I started my career as a software engineer at TechInnovate. For the last 10 years, I have worked as its CEO. In my free time, I like to run and collect art. I'm good at public speaking, and **when I make a speech I'm never nervous**.

Figure 1

Graph of Results for Experiment 1

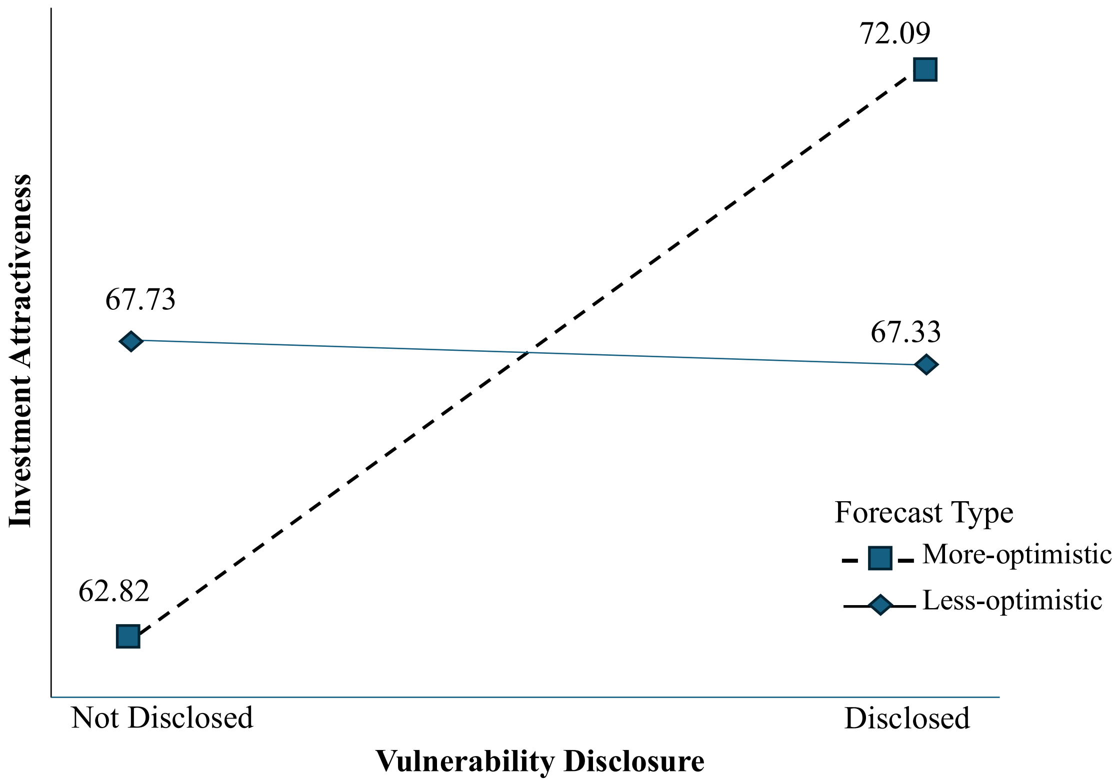

Figure 1 presents the observed mean of the dependent variable, investment attractiveness, in Experiment 1. Participants were asked: "As a potential investor, how attractive do you find investing in TechInnovate, Inc.'s stock?" with responses recorded on a scale from 0 ("Not attractive at all") to 100 ("Very attractive"). The forecast was manipulated to be either more- or less-optimistic, and the CEO's disclosure of vulnerability was manipulated as either disclosed or not disclosed.

Figure 2

Graph of Results for Experiment 2

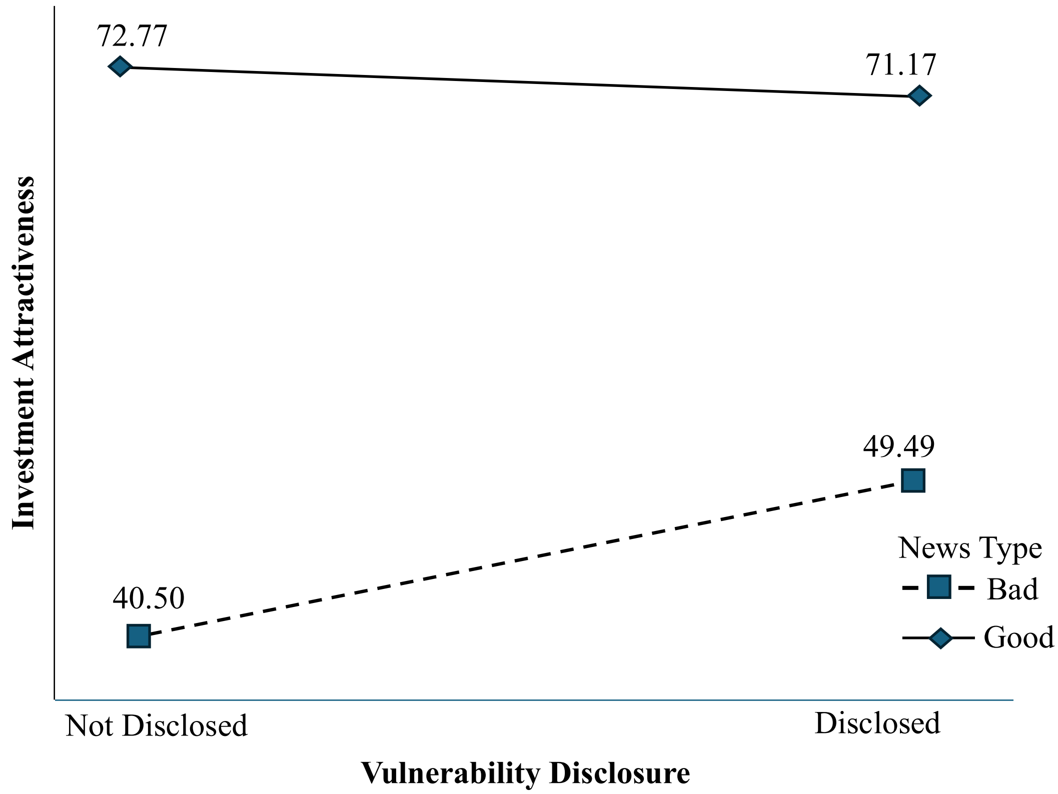

Figure 2 presents the observed mean of the dependent variable, investment attractiveness, in Experiment 2. Participants were asked: "As a potential investor, how attractive do you find investing in TechInnovate, Inc.'s stock?" with responses recorded on a scale from 0 ("Not attractive at all") to 100 ("Very attractive"). The news was manipulated to be either negative or positive, and the CEO's disclosure of vulnerability was manipulated as either disclosed or not disclosed.

Figure 3

Plot of Results for Experiment 3

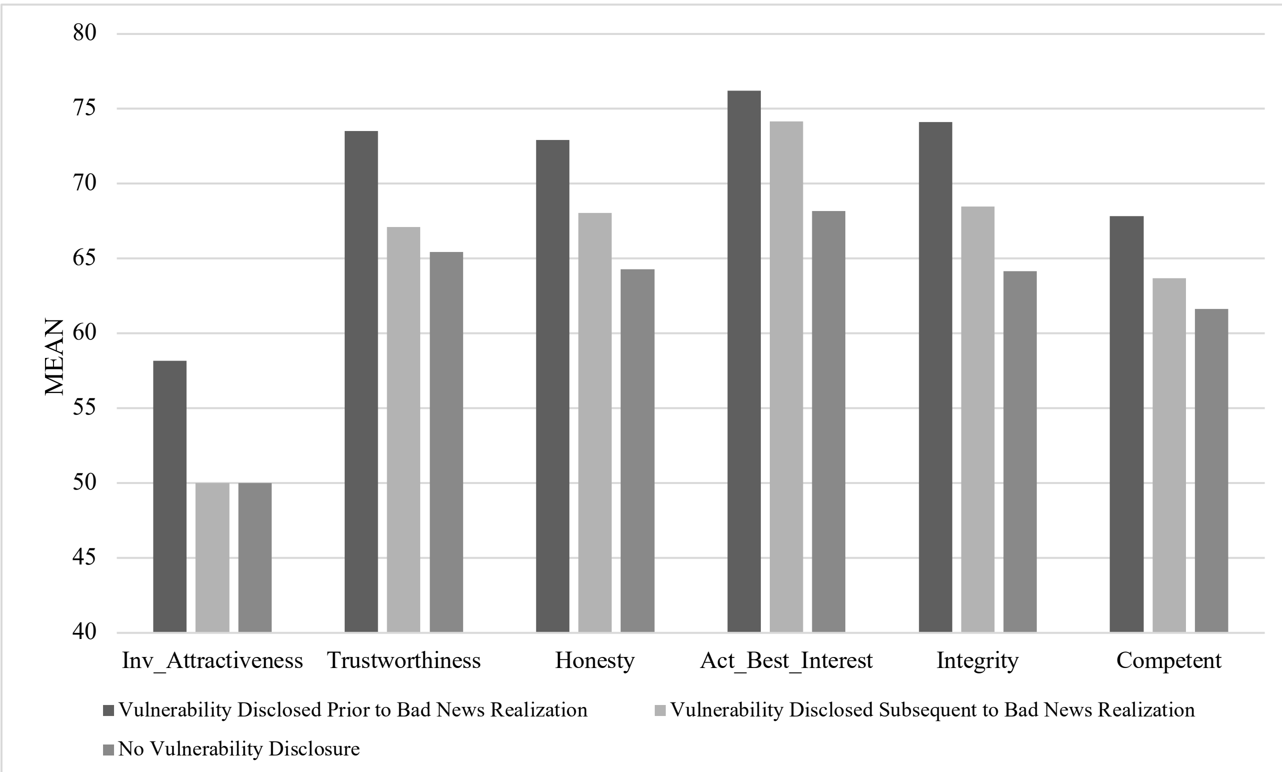

Table 1

Experiment 1 Results – Effects of Forecast Optimism and CEO Disclosure of Vulnerability on Investment Attractiveness

Panel A: Descriptive Statistics

	CEO Disclosure of Vulnerability		
	Without Vulnerability	**With Vulnerability**	**Overall**
More-Optimistic Forecast	62.82 [17.68] n = 62	72.09 [17.37] n = 64	67.53 [18.06] n = 126
Less-Optimistic Forecast	67.73 [15.35] n = 62	67.33 [15.76] n = 61	67.53 [15.49] n = 123
Overall	65.27 [16.68] n = 124	69.77 [16.71] n = 125	

Panel B: Analysis of Variance

Source	SS	df	MS	F	P
Forecast Optimism	0.16	1	0.16	0.00	0.98
Vulnerability Disclosure	1,257.23	1	1,257.23	4.57	0.03
Optimism × Vulnerability	1,454.52	1	1,454.52	5.29	0.02
Error	67,354.3	245	274.92		

Panel C: Simple Effects

Effect of Vulnerability	SS	df	MS	F	P
Given More-Optimistic Forecast	2,706.89	1	2,706.89	8.82	0.00
Given Less-Optimistic Forecast	4.87	1	4.87	0.02	0.89

Table 1 presents the results of Experiment 1, where the dependent variable is investment attractiveness. Participants responded to the question: *"As a potential investor, how attractive do you find investing in TechInnovate, Inc.'s stock?"* Responses were recorded on a scale from 0 ("Not attractive at all") to 100 ("Very attractive"). The *forecast* was manipulated to be either more-optimistic or less-optimistic, and the *CEO's disclosure of vulnerability* was manipulated as either disclosed or not disclosed. All p-values reported are two-tailed.

Table 2

Experiment 2 Results – Effects of News Valence and CEO Disclosure of Vulnerability on Investment Attractiveness

Panel A: Descriptive Statistics

	CEO Disclosure of Vulnerability		
	Without Vulnerability	**With Vulnerability**	**Overall**
Bad News	40.50	49.49	44.93
	[23.25]	[21.80]	[22.94]
	n = 103	n = 100	n = 203
Good News	72.77	71.17	71.97
	[16.17]	[17.70]	[16.93]
	n = 105	n = 106	n = 211
Overall	56.79	60.65	
	[25.67]	[22.54]	
	n = 208	n = 206	

Panel B: Analysis of Variance

Source	SS	df	MS	F	P
News	75,420.43	1	75,420.43	190.60	0.00
Vulnerability Disclosure	1,332.99	1	1,332.99	3.37	0.07
News × Vulnerability	2,898.62	1	2,898.62	7.33	0.01
Error	162,236.2	410	395.70		

Panel C: Simple Effects

Effect of Vulnerability	SS	df	MS	F	P
Given Good News	135.31	1	135.31	0.47	0.49
Given Bad News	4,096.3	1	4,096.3	8.06	0.00

Table 2 presents the results of Experiment 2, where the dependent variable is investment attractiveness. Participants responded to the question: "As a potential investor, how attractive do you find investing in TechInnovate, Inc.'s stock?" Responses were recorded on a scale from 0 ("Not attractive at all") to 100 ("Very attractive"). The news was manipulated to be either positive or negative, and the CEO's disclosure of vulnerability was manipulated as either disclosed or not disclosed. All p-values reported are two-tailed.