

**Progress report: we now have a working paper (below), and are currently getting comments from experts.**

**Enhancing and Transcending the Self – The Importance of CEO Values for  
Explaining Financial Fraud**

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**ABSTRACT**

Research on financial fraud is primarily centered on situational factors, such as economic pressures and corporate governance mechanisms. As a result, universalistic explanations of fraud – which assume homogeneous reactions of executives to situational factors, irrespective of psychological differences between them – dominate. In particular, we know little about how heterogeneity in executives' personal values influences fraud, even though values are the part of human personality most consequential for ethical choice. We therefore integrate upper echelons theory with fundamental values theory from psychology to theorize the pivotal role of CEOs' values – broad, desirable goals (e.g., power, caring for others) that are people's guiding principles to life – for fraud. We focus on the most fundamental dimensions of values – CEO self-enhancement and self-transcendence. Our paper shows

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<sup>1</sup> During our work on this paper, Sucheta passed away. We dedicate this paper to her, and to the infectious enthusiasm and unfaltering dedication that she has given us.

how self-enhancement increases the likelihood of fraud whereas self-transcendence decreases it, and how shareholder activism – a governance mechanism directly related to CEOs' values – moderates these effects. We advance research on corporate fraud and upper echelons theory by bringing heterogeneity in CEO values to the forefront of our understanding of fraud.

**Keywords:**

corporate governance; upper echelons theory; corporate fraud; CEO values and personality

In 2001, Enron was revealed to be involved in one of the largest financial frauds in corporate history, during which top executives had hid billions in debt, reported inflated profits, and pocketed millions for themselves (McLean & Elkind, 2013). Enron employees were let go, shareholders lost their investments, and the company was eventually dissolved. After the fraud had been discovered, Enron's CEO Kenneth Lay – who was later found guilty of 10 counts of securities fraud – said in an interview with television host Larry King: “I threw my whole life and lived my life [...] to make sure that I would never violate any law [...] and always maintained that most important to me was my integrity, was my character, were my values” (Lay, 2004). Similar to Enron, top executives at WorldCom, once the second largest long-distance telephone provider in the US, also committed large-scale corporate fraud, which harmed employees and shareholders and led to WorldCom's bankruptcy (Beresford, Katzenbach, & Rogers, 2003). After this fraud had come to light, WorldCom CEO Bernard Ebbers – who had perpetrated the fraud in order to protect his personal financial empire and was later sentenced to prison – said to his church congregation: “I just want you to know you aren't going to church with a crook”, while in another interview he stated: “I have a 1,000 percent clear conscience” (Ebbers, 2002; Sandberg, Solomon, & Harris, 2002).

For researchers trying to better understand corporate fraud (Schnatterly, Gangloff, & Tuschke, 2018; Zahra, Priem, & Rasheed, 2005), these examples raise a puzzling question. Why would these CEOs say they did not feel they had done anything wrong and that they had acted in accordance with their values, even though they had engaged in conduct that is harmful and widely considered unethical? We take this question as our starting point to develop and test theory about the influence of CEOs' personal values on fraud. To date, most researchers have explained fraud by focusing on situational factors that influence top managers to commit fraud. A large body of literature has documented the role of economic pressures and incentives – such as performance declines and

compensation – as well as corporate governance mechanisms – such as composition of the board and monitoring by the board and shareholders – in determining financial fraud (e.g., Agrawal & Chadha, 2005; Cumming, Leung, & Rui, 2015; Harris & Bromiley, 2007; O’Connor, Priem, Coombs, & Gilley, 2006; Zhang, Bartol, Smith, Pfarrer, & Khanin, 2008). Recently, researchers have also drawn increasingly on psychological theories to provide new explanations about the effects of situational factors on fraud commitment (Connelly, Shi, & Zyung, 2017; Li, Shi, Connelly, Yi, & Qin, 2020; Shi, Connelly, & Hoskisson, 2017).

However – despite generating valuable insights – these studies invoke universalistic explanations: they assume that external factors such as economic pressures and governance mechanisms will uniformly and inevitably motivate executives to engage in fraud or deter them from doing so, irrespective of intrinsic differences between them. In other words, this body of work theorizes that executives’ preferences, motivations, and responses to their economic and governance environment are homogeneous. In line with this theoretical assumption, the majority of fraud research has omitted the role of individual differences in CEOs’ psychological characteristics. In particular, research has neglected a crucial part of CEO personality: CEOs’ personal values – that is, the broad and desirable goals (e.g., power, caring for others) that people view as moral guiding principles to their lives (Roccas, Sagiv, Schwartz, & Knafo, 2002).

This omission of heterogeneity in personal values is particularly problematic because upper echelons theory has long stressed that CEO values explain “why [...] organizations act as they do” (Hambrick & Mason, 1984: 193; Hambrick & Wowak, 2021). This is because “values are likely to enter into executives’ actions both consciously and subconsciously, through declared and undeclared intentions and ‘creep’ or ‘seep’ into their organizations’ profiles, without fanfare or even much on-going awareness by observers.” (Chin, Hambrick, & Treviño, 2013: 199; Chin &

Semadeni, 2017; Semadeni, Chin, & Krause, 2021). Furthermore, psychological research shows that values provide a strong motivational influence on human behavior and are the part of human personality that is most consequential for ethical decision-making (Feldman, Chao, Farh, & Bardi, 2015; Roccas et al., 2002; Schwartz & Bilsky, 1987; Tenbrunsel & Smith-Crowe, 2008). Going beyond the examples mentioned at the outset, there is thus ample reason to believe that CEO values matter for fraud, and thus studying about the influence of values addresses an important omission in existing research.

We therefore draw on upper echelons theory (Chin et al., 2013; Hambrick & Wowak, 2021) and fundamental values theory in psychology (Feather, 1995; Fritzsche & Oz, 2007; Schwartz, 1992) to theorize and test: a) how heterogeneity in CEOs' values affects the likelihood of financial fraud; and b) how shareholder activism, a governance mechanism directly related to values, influences the value-stemming tendencies of CEOs to commit or not to commit fraud. In doing so, we advance the argument that CEOs – embedded in governance structures and subject to economic pressures – make decisions, like all people, on the basis of their personal values, and that these values can tip the scales in their decision-making to make them more or less likely to commit fraud.

By introducing values as a pivotal facet of CEO personality that influences fraud through its unique link to ethical choice, we advance theory on fraud and corporate governance, explicitly challenging the dominant, situationally-driven explanations of executives' propensity to commit fraud. Furthermore, by studying the role of CEOs' broad and fundamental values on an important firm outcome, we also contribute to the development of upper echelons theory, where – despite the theory's initial focus on values – “systematic inquiry into the links between executive values and strategic choice has been sparse” (Cannella et al., 2008: 59). Overall, we advance our understanding of fraud by bringing CEO value differences to the center-stage of explanations of

corporate fraud and by offering a nuanced picture of how the interplay of CEO personal value heterogeneity and corporate governance determines the likelihood of fraud.

## **THEORY DEVELOPMENT**

### **Research on financial fraud**

Corporate fraud refers to “deliberate actions taken [...] to deceive, con, swindle, or cheat investors or other key stakeholders” (Zahra et al., 2005: 804). An important and widely prevalent form of fraud is financial fraud, i.e., manipulation of financial performance through misreporting financial results, improperly booking revenue or valuing assets, embezzlement, or failure to disclose material information (*SEC Annual Report*, 2017; Shi et al., 2017; Yiu, Xu, & Wan, 2014; Zahra et al., 2005). Considering the reputational, economic and personal harm that fraud can cause corporations, stakeholders and executives (Pfarrer, Smith, Bartol, Khanin, & Zhang, 2008; Withers, Howard, & Tihanyi, 2020), there is a large body of research exploring the drivers of fraud.

Research on financial fraud has primarily focused on external, situational factors that influence executives to commit fraud. This research highlights how economic conditions and governance mechanisms provide executives with both incentives and disincentives to commit fraud. Declining performance, poor financial health, and CEO compensation have been shown to increase the likelihood of fraud, because they exert pressure on executives and provide motivation for fraud (e.g., Dechow, Ge, Larson, & Sloan, 2011; Harris & Bromiley, 2007; O’Connor et al., 2006; Zhang et al., 2008). Moreover, governance mechanisms such as board independence, board composition, monitoring by analysts and investors, and CEO duality have been shown to influence fraud commitment, because they weaken or strengthen corporate governance, providing greater or lesser opportunity to commit fraud (e.g., Agrawal & Chadha, 2005; Cumming et al., 2015; Dunn, 2004; Yiu, Wan, & Xu, 2018).

Recently, researchers in this literature have generated novel insights about the effects of external factors on fraud commitment by drawing on psychological theory, enabling them to take a more in-depth view on executives' minds and decision-making processes regarding fraud (e.g., Connelly et al., 2017; Li et al., 2020; Shi et al., 2017). For example, Shi and colleagues (2017) found that extrinsic pressure caused by mechanisms typically seen as indicators of strong corporate governance, such as institutional investors and security analyst monitoring, reduce managers' intrinsic motivation to act ethically and lead to more (rather than less) risk of financial fraud. Similarly, Connelly and colleagues (2017) found that managers who are given more leeway to act freely by shareholders engage in less (rather than more) financial misconduct, due to managers acting on the presence of reciprocity norms in their relationship with shareholders.

However, even though the fraud literature has slowly begun to take into account the importance of managerial psychology in explaining how external factors work to influence fraud, the role of individual psychological differences between managers has been given little attention. In fact, a common thread running through most explanations of fraud is the implicit assumption that external factors such as economic pressures and governance mechanisms will uniformly and inevitably motivate or demotivate managers to engage in financial fraud, irrespective of intrinsic differences between executives' personalities. In other words, this body of work theorizes that managerial preferences, motivations, and responses to their economic and governance environment are homogeneous. Thus, heterogeneity in managerial behavior is deemed to be a function of the environment that managers face, not of psychological differences in managers themselves.

To our knowledge, only few exceptions in the literature that begun studying how executives' individual differences influence the commitment of fraud. For one, a small body of work has studied the effect of CEO demographic characteristics, such as age and career background, on



fraud (Koch-Bayram & Wernicke, 2018; Troy, Smith, & Domino, 2011). Further, a select few studies in accounting and business ethics have considered the role of CEO personality (Chu, Dechow, Hui, & Wang, 2019; Rijsenbilt & Commandeur, 2013; Schrand & Zechman, 2012). This work provides initial support for the notion that CEO personality matters for fraud. In line with this, a recent review of CEO fraud recommends “delving deeper into psychology” and researching “microfoundations of CEO wrongdoing by integrating personality” (Schnatterly et al., 2018: 2422).

A crucial part of CEO personality, which is still conspicuously absent from our embryonic understanding of the psychological foundations of fraud, are personal values. Considering values is important to advance our understanding of fraud for at least two reasons. First, the theoretical basis for introducing executives’ psychological characteristics into fraud research is upper echelons theory – and values have been given a key role as determinants of top managers’ decision making in the inception of the theory (Hambrick & Mason, 1984). In fact, upper echelons researchers argue that “values may greatly determine other executive psychological characteristics” and should “therefore [be considered] first.” (Cannella, Finkelstein, & Hambrick, 2008: 52). Secondly, and in line with this, psychological research shows that values are a fundamental, core facet of human personality (Sagiv, Roccas, Cieciuch, & Schwartz, 2017). Specifically, values are a part of personality that is distinct from personality traits and forms a strong motivational basis for human behavior (Parks & Guay, 2009; Schwartz & Bilsky, 1987). Further, and of particular importance for the fraud context, values are more closely related to ethical judgement and behavior than traits (Feldman et al., 2015; Roccas et al., 2002; Schwartz, 2010).

### **The role of CEO values**

Extensive reviews of all fraud cases investigated in the U.S. by the SEC between 1987 and 2007 found that the CEO is named as directly associated with the fraud in 72 percent of cases (Beasley, Carcello, & Hermanson, 1999; Beasley, Carcello, Hermanson, & Neal, 2010). Given this

prominent role of CEOs and the importance of values for decision-making, heterogeneity in CEOs' innate values should have important ramifications for financial fraud. Two distinct streams of literature support the importance of CEO values in the context of fraud. First, since its inception, upper echelons theory has stressed that CEO values serve as core psychological attributes that shape executive behavior both directly and indirectly (Hambrick & Mason, 1984). According to upper echelons theory, values provide a direct motivational basis for executive behavior – “the executive selects a course of action that suits his or her values” (Briscoe, Chin, & Hambrick, 2014; Chin et al., 2013: 199; Gupta, Nadkarni, & Mariam, 2018). CEO values also indirectly affect CEOs' choices by determining how they cognitively construct decision situations – “the executive selectively searches for information that suits his or her values and [...] interprets information in a values-congruent way” (Chin et al., 2013: 199).

Second, theory on fundamental values in psychology, as well as related behavioral ethics research, has posited that personal values constitute a strong motivational influence on behavior, and that this influence is especially potent in the context of moral and ethical decision-making (Feather, 1995; Feldman et al., 2015; Fritzsche & Oz, 2007; Tenbrunsel & Smith-Crowe, 2008). Values mold “desirable ways of behaving or desirable end states” (Verplanken & Holland, 2002: 434) by affecting how “a person construes or defines a situation so that some objects, activities and potential outcomes are seen as attractive [...] whereas others are seen as aversive” (Feather, 1995: 1136). Overall, values define “the criteria people use to select and justify actions” (Schwartz, 1992: 1) and are “tied to a normative base involving a dimension of goodness and badness” (Feather, 1995: 1135–6).

Taken together, these streams of research suggest that CEO values are likely to be a potent influence on executive decision-making, especially in for financial fraud which has a strong moral

component. Not only is fraud illegal, but it is also widely regarded as a strongly unethical and immoral act by shareholders and other stakeholders (Cowen & Marcel, 2011; Zahra et al., 2005). And yet, as illustrated at the outset, even CEOs who committed fraud have maintained that they did not betray their values or act unethically.

### **CEO self-enhancement and self-transcendence values**

We theorize about the influence of CEO values on fraud by utilizing the Schwartz theory of fundamental human values (Schwartz, 1992; Schwartz & Boehnke, 2004), which researchers in psychology regard as “the most widely-used and most well-developed” theory for values (Parks & Guay, 2009: 676). Unlike domain-specific value conceptualizations such as political ideology, this theory captures universal values that span across all domains of life (Schwartz, Caprara, & Vecchione, 2010). It is based on decades of conceptual development and psychometric validation in studies with hundreds of samples covering 82 countries (Schwartz, 1992, 2012; Schwartz & Boehnke, 2004).

A core value dimension in Schwartz’ theory is self-enhancement (“selfish” values) and self-transcendence (“selfless” values). Self-enhancement represents how much people strive to “enhance their own personal interests even at the expense of others” (Schwartz & Boehnke, 2004: 236). Self-enhancing people value power (e.g., authority, social power, and wealth) and achievement (e.g., ambition, success, and influence) (Schwartz, 1992). In contrast, self-transcendence represents how much people strive to “transcend selfish concerns and promote the welfare of others, close and distant” (Schwartz & Boehnke, 2004: 236). Self-transcending people value universalism (enhancement of the “welfare of all people”, e.g., equality, social justice, and wisdom) and benevolence (enhancement of “the welfare of people with whom one is in frequent

personal contact”, e.g., helpfulness, honesty, and loyalty) (Schwartz & Boehnke, 2004: 236).<sup>2</sup> Self-enhancement and self-transcendence are higher order value types that represent the aggregation of individual value orientations (Schwartz, 1992). A long body of research has concluded that these value types constitute broad and theoretically meaningful dimensions that encompass narrow lower level values (Schwartz & Bilsky, 1987; Schwartz & Boehnke, 2004). Importantly, CEO self-enhancement and self-transcendence values are distinct from other parts of CEO personality, including both political ideology and personality traits, such as narcissism. Appendix A describes these differences.

Based on fundamental value theory we know that, even though self-enhancement and self-transcendence oppose one another, they are distinct constructs and people do not subscribe only to one or the other. All values in the Schwartz theory are basic human values and thus universally desirable to people across cultures (Schwartz, 2010, 2012).<sup>3</sup> However, when choosing between alternative courses of action, the pursuit of self-enhancement values will often conflict with that of self-transcendence values (Schwartz, 1992). Therefore, as people become socialized, they come to attach different degrees of importance to different values and a relative ordering of values within a person stabilizes, such that, for example, self-transcendence is more central to the self of a person than self-enhancement (Parks & Guay, 2009; Schwartz, 2010).

Self-enhancement and self-transcendence constitute the most basic dimension of human values and lie at the root of explanations of human behavior in psychology (Dambrun & Ricard, 2011; de Waal, 2008; Fehr & Fischbacher, 2003). Further, in the context of CEOs, Agle and colleagues

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<sup>2</sup> The theory organizes 10 lower-level values into four higher-order value types along two main dimensions: a) openness to change versus conservation, and b) self-enhancement versus self-transcendence (Schwartz, 1992; Schwartz & Boehnke, 2004). Whereas the former differentiates between the general tendency for embracing change versus preserving the status quo, the latter reflects selfishness versus selflessness and is therefore used in our theory development because of its conceptual connection with fraud.

<sup>3</sup> In line with this theoretical basis, previous studies have also reported positive correlations between contradicting values in their samples (e.g., Schwartz & Boehnke, 2004).

argued that “the self-interest (and other-interest) dimension of CEO values is not only important, but is expected to vary widely” (1999: 510). For example, Sylvia Metayer, CEO of Sodexo corporate services, ranked five years in a row among Fortune’s World’s most admired companies, stated (2017): “I’m learning that to be a CEO is to be a servant. My main job is to support our employees, and be a support to our clients and to our consumers...” In contrast, Carli Fiorina, former CEO of HP, has been described as putting her self-promotion and power over others’ interests, including flying on lavish corporate jets and inculcating a power-driven top-down culture (Washington Post, 2015). Similarly, the favorite book of Jeffrey Skilling, another former Enron CEO, was called “The Selfish Gene” and he believed that people are inherently selfish (Alex Gibney, 2005; McLean & Elkind, 2013).

## **HYPOTHESES**

### **CEO self-enhancement and fraud**

Integrating upper echelons theory and fundamental value theory we consider two mechanisms through which CEO self-enhancement and self-transcendence influence decision-making: through directly providing CEOs with motivation and moral justification for certain courses of action (Chin et al., 2013; Feather, 1995; Hemingway, 2005; Schwartz, 1992), and through indirect biases in information processing (Chin et al., 2013; Schwartz, 2010).

We consider first the direct mechanism. As motivational constructs, values directly drive behavior (Hambrick & Wowak, 2021). People strive to make choices based on their values to experience fulfillment and satisfaction (Bardi & Schwartz, 2003; Hemingway, 2005; Meglino & Ravlin, 1998; Parks & Guay, 2009). In contrast, moving away from their desired values results in a sense of disappointment. Further, because values are “tied to a normative base involving a dimension of goodness and badness” they ultimately drive what people see as moral (Feather, 1995:

1135–6). Acting according to values feels right and morally justified and acting against them feels wrong and immoral (Hemingway, 2005; Schwartz, 2010).

People holding strong self-enhancement values have strong preferences for power and achievement— they care about being influential, gaining wealth and material possessions, demonstrating competence, achieving social status, and having the right to lead or command (Schwartz et al., 2001; Schwartz & Boehnke, 2004). These innate proclivities lend the moral rationale to prioritize self-interest. This is because people high in self-enhancement see power and achievement as desirable and moral goals that “legitimize attending to own needs” (Hemingway, 2005; Schwartz, 2010: 231; Schwartz & Bilsky, 1987). Therefore, their innate values provide them strong motivation and moral justification to engage in selfish behaviors, even at the cost of losses to others (Schwartz, 2010). We argue that these proclivities of self-enhancing CEOs will motivate them to engage in fraud. For example, maintaining a high living standard and demonstrating a reputation for business competence have both been identified as key managerial motivations for fraud (Cohen, Ding, Lesage, & Stolowy, 2010). However, due to possible harm resulting from fraud to shareholders, employees, and other stakeholders, choosing to commit fraud also requires internal moral justification to reduce threats to the moral self (Shalvi, Gino, Barkan, & Ayal, 2015). Self-enhancement values provide such justification. CEOs high in self-enhancement are likely to believe that through fraudulent actions they can benefit in multiple ways consistent with their value-based goals. They will view these self-focused benefits to outweigh harm that fraud may cause others. Indeed, self-enhancing CEOs will view consequences of not committing fraud, like taking a hit on quarterly earnings, reduced wealth and compensation, and tainted image as a failed leader, as endangering the pursuit of their deeply-held values.

Next to direct effects on behavior through motivation and moral justification, values also lead to indirect, biased information processing, determining how leaders perceive and interpret their decision environment (Berson, Oreg, & Dvir, 2008; Meglino & Ravlin, 1998; Schwartz, 2010; Verplanken & Holland, 2002). “Values act as lenses, or filters, that determine the amount and type of information that leaders process”, and leaders “adopt the interpretation that maintains their values” (Berson et al., 2008: 616). Specifically, a “leader with self-enhancement values will likely perceive or immediately look for [...] personal gain” (Illies & Reiter-Palmon, 2008: 256).

This indirect effect is particularly significant for CEO decision-making in the context of fraud, because fraudulent choices often appear relatively harmless at first, with the harm that they cause distantly removed from the decision-making context. For example, fraud might involve moving the dates on sales contracts by just a few days or setting up a legal entity that engages in a complex derivatives transaction (Soltes, 2016). Neither of these decisions has the visceral character of harming others, and yet they can cause thousands of shareholders to lose their life savings and thousands of employees to lose their jobs (Soltes, 2016). If this degree of harm were directly palpable to CEOs while engaging in fraud, it is likely that only CEOs with the very highest levels of self-enhancement would be able to justify these choices. However, when harm is distal, information processing bias caused by self-enhancement values can be particularly consequential, leading CEOs to selectively and severely misperceive the impact of fraud.

Specifically, self-enhancing CEOs will focus more on information related to their own interest and less on information related to the interests of others. This perceptual self-focus will enhance the CEOs’ selective perception of the benefits of fraud for themselves and filter out perceptions of harmful consequences for others. CEOs higher in self-enhancement will devote more cognitive resources and time to information that can justify fraudulent decision alternatives (Parks & Guay,

2009; Schwartz, 2010). Higher self-enhancement CEOs will also be affected in their interpretation of noticed information, favoring interpretations that overvalue the self-enhancing effects of fraud and undervalue its potential harm for others (Berson et al., 2008; Schwartz, 2010: 234).

*H1: CEO self-enhancement is positively related to the likelihood of financial fraud.*

### **CEO self-transcendence and fraud**

People high in self-transcendence have a strong moral preferences for universalism and benevolence – they care about working towards the welfare of other people, for example by being responsible, loyal and honest (Schwartz et al., 2001; Schwartz & Boehnke, 2004). Fraud will violate these other-oriented values, giving CEOs high in self-enhancement direct motivation and moral justification to decide against fraudulent actions (Schwartz, 2010: 232). Committing fraud means breaking the law and the CEO's fiduciary duty towards shareholders, and it entails engaging in deceptive accounting and lying to others (Zahra et al., 2005). Financial fraud also endangers long-term survival of the firm and harms employees and other stakeholders (Karpoff, Lee, & Martin, 2008; Zahra et al., 2005). This is directly opposed to CEOs' fulfilling their self-transcendence values of caring about others, being honest and responsible, and acting with integrity. Therefore, committing fraud stands in opposition to the motivations of high self-enhancement CEOs. Violation of their core other-oriented and altruistic values will make it difficult for self-transcendent CEOs to morally justify committing fraud (Schwartz & Bilsky, 1987), causing disappointment and shame with regards to fraud (Hemingway, 2005; Meglino & Ravlin, 1998). Rather, they will derive fulfillment and satisfaction from safeguarding the interests of stakeholders even if it harms their own interests. This will make CEOs with higher self-transcendence more likely to avoid fraud, despite potential self-oriented benefits.

In addition to these effects, CEOs with greater self-transcendence will also selectively process information through an other-oriented lens. They “will be more likely to have the collective good



of the organization in mind when encountering [a] problem” (Illies & Reiter-Palmon, 2008: 256). Overall, their sensitivity to the distal harm that fraud can cause others (Soltes, 2016) will be heightened. Specifically, self-transcendent CEOs will selectively perceive more information related to others’ interests, as opposed to themselves. Therefore, their perceptual focus will be directed more towards the harmful consequences of fraud for others. Self-transcendent CEOs will allocate more cognitive resources and time to information that justifies non-fraudulent alternatives. Further, self-transcendent CEOs will exhibit an other-oriented bias in interpreting information, favoring interpretations that overvalue the harmful effects of fraud on others (Schwartz, 2010).

*H2: CEO self-transcendence is negatively related to the likelihood of financial fraud.*

### **The moderating effects of shareholder activism**

Although people carry their innate values to varied situations and infuse them in behaviors, we know from value-activation theory in psychology that the translation of individual values into behaviors is also contingent on value-relevant situational factors (Maio, Olson, Allen, & Bernard, 2001; Torelli & Kaikati, 2009; Verplanken & Holland, 2002). If situational factors provide cues that are consistent with values that an individual cares about, then these values will be activated more strongly and get more infused in behaviors (Maio, Pakizeh, Cheung, & Rees, 2009; Verplanken & Holland, 2002). Following value-activation theory, we theorize shareholder activism as a structural activation factor for CEO self-enhancement and self-transcendence, because shareholder activism is directly relevant to the goal content of those two value types and because it is one of the most consequential pressures in the corporate governance environment in which CEOs operate.

The rise of shareholder activism to a “dynamic institutional force” is a key development in the governance of listed corporations in the past decades (Goranova & Ryan, 2014: 1230–1). Even the most common and costless method of activism, filing a shareholder proposal, is likely to be highly

salient for CEOs, due to the SEC-mandated incorporation of proposals in annual meetings (Gillan & Starks, 2000; Renneboog & Szilagyi, 2011). Accordingly, shareholder activism has been identified in the corporate governance literature as one of the most important external governance mechanisms, which has the potential to improve corporate governance (Aguilera, Desender, Bednar, & Lee, 2015; Renneboog & Szilagyi, 2011). However, shareholder activism has also been associated with decreases in corporate social performance and increases in earnings management and fraud (David, Bloom, & Hillman, 2007; Hadani, Goranova, & Khan, 2011; Shi et al., 2017). This is because activism introduces situational pressures on CEOs that can lead them to react in ways resulting in negative governance outcomes (Chu et al., 2019; Schnatterly et al., 2018).

Most importantly, shareholder activism makes salient the concrete goals that shareholders want CEOs to pay attention to. Recent reviews contrast two main types of shareholder activism, financial activism and social activism, which differ based on the goals that activist shareholders push (Aguilera et al., 2015; Goranova & Ryan, 2014; Judge, Gaur, & Muller-Kahle, 2010). Financial activism focuses on pressuring firms to achieve better financial performance; it deals with issues such as firm performance, shareholder value and dividends, executive pay, and mergers and acquisitions (Gillan & Starks, 2000; Goranova & Ryan, 2014). Social activism, in contrast, focuses on pressuring firms to support societal outcomes and stakeholder issues; it deals with issues such as environmental impact, corporate social performance or political activity (Goranova & Ryan, 2014; Proffitt & Spicer, 2006).

This distinction between financial and social activism makes shareholder activism specifically relevant for CEO self-enhancement and self-transcendence. This is because the goals of financial activists are directly related to the achievement and power goals of self-enhancing CEOs, and those of social activists to the benevolence and universalism goals of self-transcending CEOs. Value-

activation theory shows that situational cues that are *specific* to a value will activate that value (Maio et al., 2009). Therefore, financial and social shareholder activism – as situational factors directly related to the content of CEO self-enhancement and self-transcendence values, respectively – are uniquely important for activating those values and thus for studying their impact on fraud (Torelli & Kaikati, 2009; Verplanken & Holland, 2002).

***Financial activism.*** The presence of high financial activism means that the CEO's decision environment is characterized by shareholders that voice concerns about financial returns and want to increase shareholder value (Gillan & Starks, 2000; Judge et al., 2010). For CEOs high in self-enhancement, activists' focus on firm performance is congruent with their innate focus on pursuing achievement. At the same time, financial activists' demands to influence the firm's goals are also a direct threat to high self-enhancement CEOs' innate focus on pursuing power, because they imply diminishing the CEO's control over the company. We therefore expect that financial activism will strengthen the activation of self-enhancement, because it acts as a value-relevant cue (Maio et al., 2009). Accordingly, the effect of self-enhancement on fraud will be strengthened. High self-enhancement CEOs will be strongly motivated to pursue increases in financial performance at all costs and simultaneously mitigate the threat to their power posed by the activists' intervention, including through "beautifying" financial performance and fraud (Hadani et al., 2011; Westphal, 1998). Furthermore, CEOs' biased information processing based on self-enhancement values will also be strengthened. Financial activism will act as a cue that leads them to be biased towards decision alternatives that enhance appearances of firm performance and, by extension, secure their power, success and personal wealth.

*H3: Financial shareholder activism strengthens the positive relationship between CEO self-enhancement and fraud.*

*Social activism.* High social activism means that the CEO's decision environment is characterized by shareholders demanding that the firm incorporate stakeholder issues into its strategy (Judge et al., 2010; Proffitt & Spicer, 2006; Reid & Toffel, 2009). These social stakeholder issues, e.g., employee well-being, human rights in the supply chain, or social justice, relate to the positive and negative impact of the firm's operations on different stakeholder groups (Logsdon & Van Buren, 2008). For CEOs high in self-transcendence, the content of these demands is congruent with their focus on benevolence and universalism. Benevolence entails pursuing the welfare of other people in the CEO's direct environment, and universalism extends to caring about general social welfare. Social shareholder activism is therefore a value-relevant cue and will strengthen the activation of these CEOs' self-transcendence values, which will in turn strengthen the negative effect of self-transcendence on the likelihood of fraud (Maio et al., 2009; Verplanken & Holland, 2002). High self-transcendence CEOs, in pursuit of their values, will be strongly motivated to focus on the welfare of stakeholders, implying the avoidance of fraudulent action at all costs. Moreover, CEOs' biases in processing information based on their self-transcendence values will be reinforced. The value-consistent cue of social activism will align with their innate values, which will further increase their sensitivity for the harmful consequences of fraud on others.

*H4: Social shareholder activism strengthens the negative relationship between CEO self-transcendence and fraud.*

## **METHODS**

### **Data sources and sample selection**

The population for the study consists of S&P 1500 firms in the U.S. Consistent with prior studies, we identified fraud cases based on the Accounting and Auditing Enforcement Releases (AAERs) by the Stock Exchange Commission (SEC) from 1998 to 2012 against firms that it finds to have committed fraud (Cumming et al., 2015; e.g., Dechow et al., 2011; Shi et al., 2017; Yiu et

al., 2014). The advantage of using SEC enforcement actions is that the identified firms are almost surely guilty of fraud (Dechow et al., 2011). SEC fraud cases thus represent severe fraudulent behavior and the rate of false positives is very low (Dechow et al., 2011; Shi et al., 2017).

An important challenge in studying fraud is that compared to the total population of firms, fraudulent firms are relatively rare and “in any given year, a firm has a low probability of [fraud]” (Harris & Bromiley, 2007: 354). As a result, random sampling is not feasible (Harris & Bromiley, 2007; O’Connor et al., 2006). Consistent with previous studies, we therefore employ a matched sample design (Cumming et al., 2015; Harris & Bromiley, 2007; O’Connor et al., 2006; Yiu et al., 2014). We match each fraud firm in our sample with another firm that has not committed fraud and is similar to the fraud firm along further matching criteria.

Accordingly, we first identified S&P 1500 companies that were prosecuted for financial fraud by the SEC between 1998 and 2012. We used the Berkeley Haas dataset of SEC AAERs described in Dechow et al. (2011). This dataset contains detailed information about each AAER, including classifying each as related to either financial fraud or other offenses (e.g., bribery). We select all cases classified as fraud from the dataset, which includes a wide-range of instances of falsification of accounts, such as front-loading sales from future quarters, creating fictitious sales, creating fictitious assets, and others. Consistent with prior studies, we used the start date of the occurrence of financial fraud cited in SEC AAERs to identify companies (Cumming et al., 2015; O’Connor et al., 2006; Yiu et al., 2014). Of the 139 unique cases of fraudulent companies that match our initial sample selection criteria, we only retained those firms where the CEO had a minimum tenure of two years prior to the start date of fraud and for which we could find complete data on shareholder activism and sources for operationalizing CEO values. Upper echelons studies, particularly CEO political ideology studies, have deemed the two-year cut-off of tenure as

appropriate to account for the transition period for CEOs to get fully internalized in their jobs and start making major influence on firm operations and behaviors (Chin et al., 2013; Hambrick & Fukutomi, 1991). This criterion resulted in a sample of 112 firms.

We used established matching criteria employed in the fraud literature to match each of the fraud firms identified to a control firm with no record of fraud, matching on: (1) the focal year of fraud commitment; (2) industry (Fama and French 12 industry classification); (3) size (3-year average of total assets prior to date of fraud); (4) S&P 1500 membership; (5) CEO with at least two years of tenure before the focal year (Chen, Firth, Gao, & Rui, 2006; Cumming et al., 2015; Harris & Bromiley, 2007; Shi et al., 2017; Yiu et al., 2018, 2014). To ensure the suitability of the matches, we calculated the relative size difference for each matched pair and dropped pairs from the sample if their size differed by more than a factor of 10 (see Harris & Bromiley, 2007). We found no pairs matching this criterion and had a final sample of 224 firms, or 112 matched pairs. To further assess the effectiveness of the matching procedure, we follow previous studies and confirmed that there were no significant differences between the matched pairs in total assets, net income, number of employees, ROA and sales growth.

### **Approach to operationalizing CEO values**

Measuring the personal characteristics of top-level executives is challenging because they are often unwilling to undergo lengthy and invasive psychological tests, especially regarding issues with a personal or moral connotation, such as values (Chatterjee & Hambrick, 2007; Cychota & Harrison, 2006; Nadkarni & Chen, 2014). Therefore, upper echelons and management scholars have advocated the use of archival-based unobtrusive measures to effectively address the issue of low response rates and biases arising from reactivity or social desirability (Chatterjee & Hambrick, 2007; Gamache, McNamara, Mannor, & Johnson, 2014; Hill, White, & Wallace, 2014; Nadkarni & Chen, 2014; Webb & Weick, 1979). Chatterjee and Hambrick advocated the use of “written and

spoken words of subjects as ways to learn about their preferences, perceptions, and personalities”, while not “discard[ing] what at first sight may seem trivial or ordinary” (2007: 362). By “analyzing [...] the CEO’s communication and assertions over a relatively long period of time through a triangulation of multiple archival sources,” this approach “considerably improves the validity and reliability of derived measures” (Nadkarni & Chen, 2014: 1817).

Following this rich tradition, we use the psycholinguistic approach based on a triangulation of varied data sources to measure CEO values. This approach assumes that the use of language in people’s speech and text is reflective of their psychological characteristics (Chatterjee & Hambrick, 2007; Nadkarni & Chen, 2014; Pennebaker & King, 1999; Pennebaker, Mehl, & Niederhoffer, 2003). “Studies on the psychometrics of word use suggest that people’s word choice is sufficiently stable [...] to use language as an individual difference measure” (Pennebaker et al., 2003).

***Generation of CEO information sets from archival data sources.*** For each CEO in our sample we collected data from four different archival sources for a period of three years before the focal year of fraud commitment: 1) Letters to Shareholders (LTS) signed by the CEO (Mergent archives); 2) interviews with the CEO; 3) conference call transcripts; and 4) press releases signed by the CEO or citing direct quotes of the CEO (all from Dow Jones Factiva) (Nadkarni & Chen, 2014). We merged text from all data sources into information sets for each CEO, with an information set only containing text that could be attributed to that particular CEO. We had data from at least three sources for each CEO in our sample. The mean number of words per information sets was 15,000 words or roughly 30 pages. A potential criticism of such archival data is that the extracted text might not reflect the CEO’s innate values but rather represent scripted communications driven by institutional pressures. However, prior studies have found (through qualitative interviews with executives) that CEOs do exert a high degree of control over communications in annual reports

and press releases and that they are routinely ‘put on the spot’ by spontaneous and provocative questions during conference calls and media interviews (Barr, Stimpert, & Huff, 1992; Chatterjee & Hambrick, 2007; Gamache et al., 2014; Nadkarni & Narayanan, 2007).

We used the Linguistic Word Count Inquiry (LIWC) software to extract CEO value measures from the information sets. LIWC has previously been used to study psychological characteristics of executives and has demonstrated strong validity and reliability (see Gamache et al., 2014; Nadkarni & Chen, 2014). The software analyzes text by evaluating the words contained in a text against words contained in category dictionaries, calculating the words belonging to a certain category as a percentage of total words in the text.

*Development of self-enhancement and self-transcendence dictionary.* Because no pre-existing dictionary of self-enhancement and self-transcendence values is available, we developed a custom dictionary through a three-stage procedure based on established practices (Anderson & Gerbing, 1991; Gamache et al., 2014; Nadkarni & Chen, 2014). In stage one, we used items from two widely used and validated scales (SVS and PVQ scales, see Schwartz et al., 2001; Schwartz & Boehnke, 2004) to compile an initial list of keywords capturing self-enhancement and self-transcendence, extracting keywords directly from items. Two raters carefully studied the scales for self-enhancement and self-transcendence and used Roget’s 21st Century Thesaurus to expand this initial list, identifying additional synonyms for each of the keywords obtained. This step resulted in 543 words reflecting self-enhancement and 885 words reflecting self-transcendence.

Second, we used the sorting technique posited by Anderson and Gerbing (1991) to refine the keywords generated above by ensuring criterion and face validity. We used a panel of 29 managers, management consultants, and academics with experience in our sampled industries to complete the survey (cf. Chen, Farh, & MacMillan, 1993 on the reliability of consultants and academics as



informants). As recommended by Anderson and Gerbing (1991), we presented each panelist with 120 randomly selected keywords (60 for self-enhancement and 60 for self-transcendence) and asked him or her to assign these words to one of three categories: self-enhancement, self-transcendence and “other”. We provided easy-to-understand descriptions of the three categories. We ensured that at least three panelists categorized each word (Krippendorff's  $\alpha = 0.71$ ,  $p < 0.00$ ,  $SE = 0.01$ ). We dropped all keywords that the panelists assigned to the “other” category and retained all keywords with 100 percent consensus. Finally, as recommended, we conducted follow-up discussions with panelists to ascertain how closely each word relates to the conceptual definition of self-enhancement and self-transcendence (similar to the forced sorting that is usually employed as part of the Q-sort methodology; see Van Exel & De Graaf, 2005; Wong, Ormiston, & Tetlock, 2011). We only retained words that were deemed to be of high relevance by the panelists. The final dictionary consisted of 165 words for self-enhancement (e.g., prestige, call the shots, force, boss, impressive) and 173 words for self-transcendence (e.g., moral, trust, farsighted, tact, duty). We used this dictionary to analyze the CEO information sets using LIWC.

## **Measures**

***CEO values.*** CEO *self-enhancement* and *self-transcendence* measures were computed from LIWC as the percentage of keywords from the self-enhancement and self-transcendence dictionaries occurring in the CEO information sets. The measures are thus adjusted for the differing number of words in each information set (Nadkarni & Chen, 2014).

***Shareholder activism.*** We follow established practice in the shareholder activism literature and operationalized activism using shareholder proposals, the most frequent form of activism and the most commonly employed measure (Goranova & Ryan, 2014; Renneboog & Szilagyi, 2011). Our data source is the Institutional Shareholder Services (ISS, formerly Risk Metrics) database, which contains shareholder proposals for all SP1500 companies. The strength of financial and social

shareholder activism is operationalized based on classification of the shareholder proposals for each firm. One coder read through the description of each proposal provided in the ISS database and assigned the proposals into a financial and a social category. In cases where the content of the proposal remained unclear based, the supporting statement for the proposal in the company's proxy statement or its description in the SEC no-action letter (in the case of an omitted proposal) were used to ascertain its intent. Based on the definitions of financial and social activism in the literature, a proposal was classified as "financial" if its description reflects activist concern with financial performance and shareholder value, and classified as "social" if its description reflects activist concern with social outcomes and stakeholder issues (Aguilera et al., 2015; Goranova & Ryan, 2014; Judge et al., 2010). Judge and colleagues (2010) use a similar process to classify shareholder activism events into these two categories.

Financial proposals in our sample include, for example, proposals to sell the company, to increase dividends, to cap executive pay, to clawback incentive payments, or to pay only for superior performance. Social proposals include, for example, proposals to improve human rights standards, to adopt a drug accessibility policy, to increase equal employment opportunities, or to report on steps against child labor. We calculated our measures of the strength of *financial activism* and *social activism* as the percentage of proposals of each type compared to the total number of proposals at the annual meeting immediately prior to the fraud.<sup>4</sup>

***Financial fraud.*** Financial fraud is a binary variable defined as 1 if a firm has committed financial fraud according to the SEC AAER data, and as 0 if a firm has not committed fraud.

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<sup>4</sup> Proposals that did not match the definitions of social or financial activism reflected general corporate governance and were assigned to a third "governance" category. These proposals represent activist concern with general improvements in corporate governance, without specific pressure for either financial performance goals or social goals evident. This includes proposals to increase board independence, adopt confidential voting, report on the activities of the board, or allow shareholder nominees for the board. As a robustness check, we included this *general governance activism* as an additional control variable in supplemental analyses, with our results remaining unchanged.

**Controls.** We controlled for several firm and CEO variables that could serve as alternative explanations. First, we controlled for firm performance (*ROA*: income/book value of total assets; and *Tobin's Q*: market value of common equity to the book value of assets) because poor performance has been shown to pressure CEOs into committing fraud (Cumming et al., 2015; Yiu et al., 2018). Research has also shown that executives commit fraud to keep up high growth rates and support higher external financing needs – we therefore controlled for annual *sales growth* and *external financing need*, measured as the firm's asset growth rate in excess of the maximum growth rate that can be financed internally ( $ROA/(1-ROA)$ ) (Beasley, 1996; Chen et al., 2006; Shi et al., 2017). Furthermore, we controlled for *firm age* because younger firms are under greater pressure to meet earnings expectations and therefore may be more likely to commit fraud (Cumming et al., 2015; Yiu et al., 2018, 2014).

Second, we controlled for corporate governance mechanisms. Boards with a higher *proportion of independent directors* can conduct better monitoring and prevent the occurrence of fraud (Cumming et al., 2015; Dunn, 2004; Shi et al., 2017). *CEO duality* (equals 1 if the CEO is also chairman of the board, and 0 otherwise) is also deemed to be a sign of weaker board oversight (Harris & Bromiley, 2007) and can increase the likelihood of financial fraud (Chen et al., 2006; Kesner, Victor, & Lamont, 1986). Finally, the coverage of a firm by sell side financial analysts (*number of analysts* issuing forecasts for a firm at the end of a given fiscal year) is an important form of external monitoring of executive misconduct (Shi et al., 2017).

Third, we controlled for CEO compensation by including *CEO cash compensation* (base salary and bonus), *CEO stock* options (Black-Scholes value of options granted to a CEO during a given year), and *CEO non-cash compensation* (restricted stock, incentive plan payouts, and other compensation such as perquisites or tax reimbursements) measured in 100,000 USD (Zhang et al.,

2008).<sup>5</sup> Fourth, we controlled for CEO power, demographics and personality. We include *CEO tenure* (time in years since taking the CEO position) as a proxy for CEO power (Westphal & Zajac, 1995). We also controlled for *CEO age* (O'Connor et al., 2006; Zahra et al., 2005). Furthermore, we controlled for CEO overconfidence, which has also been linked to fraud (Chu et al., 2019; Schrand & Zechman, 2012). We follow the standard measure of overconfidence in the accounting literature, based on CEOs' delay in exercising their stock options. The delay is measured as the log of the value of the CEO's in-the-money exercisable options that remain unexercised, and *CEO overconfidence* is a dummy that equals one if the CEO's delay in exercising options is greater than the 3-digit industry median (Schrand & Zechman, 2012).

All control variables were measured one year before the focal year of fraud commitment (Harris & Bromiley, 2007; Yiu et al., 2014). Data on compensation, CEO duality, CEO age, CEO tenure, and CEO overconfidence were from Execucomp or collected directly from firm proxy statements using SEC EDGAR, financial data were from Compustat, data on analyst coverage from Thomson Reuters I/B/E/S, and data on board independence from ISS Risk Metrics and MSCI GMI.

## **Analysis**

We followed previous studies of fraud and used conditional logistic regression to account for the matched pair structure of our sample (Harris & Bromiley, 2007; Hosmer & Lemeshow, 2000; O'Connor et al., 2006; Yiu et al., 2014). Conditional logistic regression estimates a logit model assuming a different fixed effect for each pair instead of a constant (Cameron & Trivedi, 2010; Harris & Bromiley, 2007). Because we already matched fraud and non-fraud firms pairwise on

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<sup>5</sup> In additional analyses, we also controlled for the CEO's *payscale*, the percentage of total compensation of a firm's top executives captured by the CEO, because fraudulent firms have been shown to have a higher *payscale* (Chu, Dechow, Hui, & Wang, 2019). We measured *CEOayscale* as the ratio of CEO compensation to the top five executives' combined total compensation (Bebchuk, Cremers, & Peyer, 2011). Our results remained unchanged.

industry and year, we did not have to include year and industry dummies in the analysis (Hosmer & Lemeshow, 2000).

## RESULTS

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*Insert Tables 1 and 2 here*  
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Table 1 presents descriptive statistics and correlations among the study variables, and Table 2 shows the conditional logistic regression results. Model 1 in Table 2 contains only control variables, in Model 2 we add CEO self-enhancement and self-transcendence, and in Model 3 we add the interaction terms of *self-enhancement x financial activism* and *self-transcendence x social activism*.<sup>6</sup> In Model 2, the coefficient of CEO self-enhancement is positive and significant (b=1.24, p<0.01), whereas the coefficient of CEO self-transcendence is negative and significant (b= -4.55, p<0.01). Moreover, the overall model exhibits a significantly better fit than the controls-only-model ( $\chi^2= 19.19$ , d.f.=2, p<0.01). Together, these results support H1 and H2. In Model 3, the coefficient of the interaction between financial shareholder activism and CEO self-enhancement is positive and significant (b=0.04, p<0.05). However, the coefficient of the social shareholder activism and CEO self-transcendence interaction is not significant (p=0.35). Overall, the model with interaction terms has a significantly better fit than the main effects model ( $\chi^2=7.97$ , d.f.=2, p=0.02). Together, these results provide support for H3, but not for H4.

In addition to statistical significance, it is also important to gauge the practical significance of these effects. To do so, we interpret the marginal effects of CEO values in terms of odds ratios, which is the most appropriate interpretation for effect sizes in matched sample studies (Hosmer &

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<sup>6</sup> In additional analyses, we also ran models with each interaction term separately, and a model including all possible CEO values x activism interactions, adding interactions for *self-enhancement x social activism* and *self-transcendence x financial activism*. The results remained unchanged.

Lemeshow, 2000; Long & Freese, 2001). For ease of interpretation, we standardize both self-enhancement and self-transcendence to a mean of zero and a standard deviation of one. We then rerun Model 3 and exponentiate the coefficients to obtain odds ratios. The odds ratio for self-enhancement is 2.06 and the odds ratio for self-transcendence is 0.25. This means that for a one standard deviation increase in self-enhancement, the odds of fraud commitment increase by a factor of 2.06. Using the approximation of odds ratios to relative risk (Hosmer & Lemeshow, 2000), we see that a one standard deviation increase in self-enhancement increases risk of fraud commitment by 106% ( $2.06 - 1 * 100$ ). Conversely, for an increase in self-transcendence by one standard deviation, the odds of fraud commitment decrease by a factor of 0.25, which means that risk of fraud commitment is reduced by 75% ( $0.25 - 1 * 100$ ). These results highlight the practical significance of the effect of CEO values on the likelihood of fraud.

To assess practical significance of the interaction effect, we also draw on odds ratios. Here, we are interested in how the effect of CEO self-enhancement on fraud changes as financial shareholder activism changes. This change is provided by the odds ratio of the interaction term.<sup>7</sup> In Model 3 with standardized CEO values, the odds ratio of the *self-enhancement x financial activism* interaction term is 1.03. This means that as the level of financial activism (percentage of financial activism proposals compared to total proposals) increases by one percent, the odds ratio of self-enhancement increases by 3% ( $1.03 - 1 * 100$ ). Knowing this, we can determine the odds ratio of self-enhancement at different levels of financial activism by inserting different levels into the

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<sup>7</sup> There is discussion about interpretation of coefficients on interaction terms in non-linear models (Marquis & Qian, 2013), with some work proposing to compute marginal effects and assess their significance in addition to that of interaction coefficients (Ai & Norton, 2003). However, other researchers argue that this is inappropriate and that interpreting significant interaction coefficients is valid, as additional testing of marginal effects “produces generally uninformative and sometimes contradictory and misleading results” (Greene, 2010: 295). Given that in our conditional logit model marginal effects cannot be computed without making further assumptions about pair fixed effects (Harris & Bromiley, 2007), we follow Greene’s (2010) recommendation that researchers should conduct hypothesis testing on their model and not on predicted values (see also Marquis & Qian, 2013).

linear specification of the model and exponentiating the result (Doidge, Karolyi, & Stulz, 2013). We consider an increase in financial activism from the mean of the sample, about 6%, to one standard deviation above the mean, about 26%. The odds ratio of self-enhancement at the mean level of financial activism is 2.42, meaning that a one standard deviation increase of self-enhancement increases risk of fraud by 142%. One standard deviation above the mean of financial activism, the odds ratio of self-enhancement is 4.13, meaning that now a one standard deviation increase in self-enhancement increases risk of fraud by 313%. Overall, this shows how the effect of CEO self-enhancement on fraud is strengthened as financial activism increases. For illustrative purposes, Figure 1 also provides a plot of this interaction on the predicted probability scale, assuming that pair fixed effects are zero.

### **Robustness analyses**

*Bias due to endogeneity.* As in any CEO personality study, endogeneity is an issue in examining the effects of CEO values on the likelihood of fraud, because CEOs with certain predispositions may select or be selected into environments that match these predispositions (Chatterjee & Hambrick, 2007; Nadkarni & Chen, 2014). Therefore, although CEO values are time and situation invariant, it is possible that CEOs with certain values might be drawn or actively recruited to more or less fraudulent firms based on confounding factors, which could introduce bias into our results. To assess robustness of our results to such endogeneity concerns, we used the approach centered around the impact threshold of a confounding variable (ITCV) (Frank, 2000; Hill, Recendes, & Ridge, 2019; Quigley, Hubbard, Ward, & Graffin, 2019). This enables us to determine the amount of bias that would be necessary to invalidate our results (Frank, 2000). We followed most recent recommendations to apply this approach for non-linear models (Busenbark, Yoon, Gamache, & Withers, 2021). As an additional robustness check, we also re-ran all analyses with a linear probability model (LPM), and come to the same conclusions.

As recommended, we used the *konfound* command in Stata for analysis. For the effect of CEO self-enhancement on fraud, results indicate that to invalidate our inference 31% of the estimate would have to be due to bias; that is, 70 cases would have to be replaced with cases for which the effect of self-enhancement on fraud is zero. Second, regarding the effect of CEO self-transcendence, to invalidate our findings 53% of the estimate would have to be due to bias; i.e., 119 cases replaced with observations for which there is an effect of zero. Importantly, this analysis covers “all sources of bias insofar as it provides a percentage-based threshold of the effect size that must feature bias from any source of endogeneity, not limited to exclusively omitted variables” (Busenbark et al., 2021: 28). These tests lessen our endogeneity concerns. In addition, we further address these concerns with supplementary studies reported in the next section.

***Possibility of fraud motivated by self-transcendence.*** Building on fundamental value theory as well as the motivations and consequences of fraud found in the literature, we hypothesize a negative relation between self-transcendence and fraud. This was based on the argument that fraud is disproportionately self-serving and harms others, therefore being in direct opposition to the values of CEOs high in self-transcendence. However, there is the converse possibility of self-transcending CEOs committing fraud to “save their company”, such as when there is a risk of bankruptcy and fraud could appear to be a way of averting this risk and saving employees’ jobs. We believe that this possibility is of limited importance, because in situations of performance decline CEOs high in self-transcendence are most likely to first and foremost consider ways to legitimately improve performance, based on the moral importance they attach to honesty. However, in exceptional situations of very high risk of bankruptcy, it appears possible that CEOs might opt to falsify performance based on self-transcendence values, if their belief that honesty is in everyone’s interest could be superseded by immediate concern for the well-being of employees.



To account for this possibility, we conducted the following robustness check. Using financial data from Compustat for the firms in our sample, we computed Altman's Z-score, a well-established indicator of bankruptcy risk (Altman, 2000). We then generated a dummy variable for high risk of bankruptcy, based on the recommended cut-off value of 2.675 (Altman, 2000). To see if high bankruptcy risk would change the effect of self-transcendence on fraud, we included this dummy as well as the interaction term of the bankruptcy dummy with CEO self-transcendence into our analyses. In these analyses, our results remained unchanged.

### **Supplementary studies using experimental vignette methodology**

Our study is subject to some limitations inherent in its design. Specifically, (a) we measured CEO values indirectly through content analysis; (b) there could be endogeneity bias if CEOs self-select into fraudulent companies based on their values; and (c) the psychological mechanisms underlying our hypotheses could not be empirically tested. Therefore, we conduct two supplementary studies, in which we measure values directly with an established and extensively validated survey measure and observe managerial decision-making in a controlled environment (Shi et al., 2017). In these studies, all participants were exposed to the same decision-making context, irrespective of their values. We also explored one key mechanism used in our theorizing to explain how values affect decision-making about fraud (Li et al., 2020). These supplementary studies aim to replicate and extend our archival results, which is "critical for building a cumulative body of research knowledge" in strategic management (Bettis, Helfat, & Shaver, 2016: 2193).

*Design and sampling.* Our supplementary studies adopted the experimental vignette methodology, in which researchers present participants with a written scenario and ask them "to make explicit decisions" (Aguinis & Bradley, 2014: 354). This method "is recommended for behavioral research because it strikes a good balance between internal validity (allowing external manipulation and control) and external validity (realistic scenarios presented to participants

sampled from the population of interest)” (Gupta et al., 2018: 24). It is also particularly recommended for studying ethical decision-making (Aguinis & Bradley, 2014).

We sampled participants from Prolific, a research data platform similar to MTurk, but with the advantage of a more naïve (in the sense of having less cumulated exposure to common experimental designs) and less dishonest participant pool (Peer, Brandimarte, Samat, & Acquisti, 2017). We restricted the sample to managers, working in upper or middle management roles with formal leadership responsibilities. We also followed the most recent recommendations on designing research involving online participant pools, including attention checks and the pre-screening of participants (Aguinis, Villamor, & Ramani, 2021). We collected data using a two-wave study design (Gupta et al., 2018). In the first wave, values and control variables were measured. In the second wave, one week after the first, managers were presented with an experimental vignette scenario in which they had an opportunity to commit fraud.

***Supplementary Study A: Replicating main results.*** Study A aims to replicate the results of our main study. We collected data from a total of 259 managers. After discarding those who had failed attention checks, we analyzed a sample of 227 respondents.

*Self-enhancement* and *self-transcendence* values were measured using the short Schwartz Portrait Values Questionnaire (PVQ; Davidov, Schmidt, & Schwartz, 2008; Schwartz et al., 2001). In terms of managerial personality traits, we controlled for *narcissism* (measured with the grandiose narcissism subscale of the Narcissistic Personality Inventory (NPI); Gentile et al., 2013; Gupta et al., 2018), and *overconfidence* (measured with the Revised Life Orientation Test (LOT-R); Scheier, Carver, & Bridges, 1994). We also controlled for managers’ *gender*, *ethnicity*, *education level*, whether they have a *relevant degree* (law, accounting, finance, or management),

and their total years of *tenure* at their organizations. Finally, we controlled for *social desirability bias* (Hart, Ritchie, Hepper, & Gebauer, 2015; Shepherd, Patzelt, & Wolfe, 2011).

In the experimental vignette scenario, adapted on the basis of Shi et al. (2017), managers were asked to imagine they are the CEO of a small, publicly traded company. The company has just closed a large sale, a few days into Q1, but it would help if the CEO were to book the sale in Q4 of the prior year, which is when most of the work actually occurred anyway (Shi et al., 2017). At the end of the scenario, *financial activism* and *social activism* were manipulated by having managers read a short paragraph about the activist shareholders that the CEO faces. See Appendix B for the full scenario.<sup>8</sup> Following the scenario, managers were then asked for their decision about backdating the sale (“Based solely on the information provided, I might consider reporting the sale in Q4 2020, and not in Q1 2021”, 7-point Likert scale with 7=“strongly agree”). This measure is based on Shi et al. (2017) and captures managers’ *intent to commit fraud*.

Manipulation checks, reported in Appendix B, confirm the efficacy of our shareholder activism manipulation. OLS regression analyses of Study A, reported in Table 3, provide further evidence for our hypotheses for the effects of self-enhancement ( $B = 0.27, p=0.05$ ) and self-transcendence ( $B = -0.35, p<0.05$ ) on fraud. We also find evidence for the moderating effect of financial activism on self-enhancement ( $B = 0.48, p<0.1$ ), but no evidence for that of social activism on self-transcendence ( $B = -0.05, p=0.87$ ).

***Supplementary Study B: Mediation analysis.*** Study B aimed to extend the results of our main study by exploring information processing bias, the indirect mechanism on which we based our

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<sup>8</sup> We pre-tested the scenario with an expert panel (n=6) consisting of investment professionals, top managers, and board members. Panel members read the scenario and rated its realism using 2 items (“The scenario was realistic”, “The scenario was believable”) on a Likert scale with 5=“strongly agree”. The mean rating of realism was 4.4/5.

theorization about the effect of values on fraud. For Study B, we collected data from 178 managers, with a final a sample of 154 after discarding observations that failed attention checks.

Study B shared the basic two-wave design of Study A. However, in Study B the scenario did not contain any manipulation of shareholder activism. Instead, after they read the scenario but before they indicated their decision, managers were presented with 10 short, one-sentence pieces of information taken directly from the scenario. They were then asked to select the 5 pieces of information that they consider most important for their subsequent decision on whether to backdate the sale or not. Of the 10 pieces of information, 4 were “self-focused”, speaking in favor of the fraud and highlighting its benefit for the self (e.g., “You will be able to meet expectations of your performance as a CEO”); 4 were “other-focused”, speaking against the fraud and highlighting harm to others (e.g., “The company could be forced to downsize and employees would lose their jobs”); and 2 were neutral fillers (e.g., “You recently sold equipment to one of your largest customers”). The information that managers selected was then used to measure bias: *self vs. other bias* is equal to the number of “self-focused” minus “other-focused” pieces that managers selected as most important for their decision (design and measure based on Schultze, Pfeiffer, & Schulz-Hardt, 2012). Thus, the higher the value of this variable, the more self-focused a managers’ bias is. Conversely, the lower the value of this variable, the more other-focused their bias is.

Based on our theorizing, we expected that higher self-enhancement would lead to more self-focused bias, and that this bias would mediate the positive effect of self-enhancement on fraud. Conversely, we expected that higher self-transcendence would lead to more other-focused bias, which would mediate the negative effect of self-transcendence. We tested for this mediation based on a bootstrapping approach (Preacher & Hayes, 2008). This state-of-the-art approach to mediation analysis overcomes the shortcomings of previous approaches (Chen & Nadkarni, 2017). We used

the PROCESS macro (Hayes, 2013) with 10,000 bootstrap samples and 95% confidence intervals. In our analysis, we find significant indirect effects of self vs. other bias on the intent to commit fraud via self-enhancement (positive indirect effect:  $B = 0.27$ ;  $CI = [0.06, 0.50]$ ) and self-transcendence (negative indirect effect:  $B = -0.27$ ,  $CI = [-0.61, -0.01]$ ). The total effect of self-enhancement, as the sum of direct and indirect effects, is significant ( $B = 0.41$ ,  $CI = [0.09, 0.73]$ ), as is that of self-transcendence ( $B = -0.74$ ,  $CI = [-1.16, -0.31]$ ). The accompanying regression models are reported in Table 4. In sum, the results confirm the mediating role of information processing bias. We find that self-enhancing managers exhibit more self-focused bias, which is associated with higher intent to commit fraud. In contrast, self-transcending managers exhibit more other-focused bias, which is associated with lower intent to commit fraud.

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*Insert Tables 3 and 4 here*  
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## **DISCUSSION**

The primary goal of this paper was to extend existing situationally driven explanations of corporate fraud by highlighting the role of innate individual differences in CEO values. Integrating upper echelons theory and fundamental value theory from psychology, we theorized and tested the role of two fundamental types of CEO values—self-enhancement and self-transcendence—in explaining fraud. We also conducted two supplementary studies with completely new data and research design, which we believe bolsters support for our theorized relationships and provides increased theoretical depth.

We found two broad sets of results that highlight the role of CEO values. First, CEO self-enhancement and self-transcendence significantly predicted the likelihood of financial fraud after controlling for existing economic and corporate governance explanations such performance pressures, monitoring, and compensation. Whereas CEO self-enhancement related positively to

fraud, CEO self-transcendence related negatively to fraud. Second, we found that the effect of CEO self-enhancement values on fraud is moderated by a key governance mechanism that is salient to CEOs and relates directly to the content of CEO self-enhancement—financial shareholder activism. Financial activism strengthened the positive effect of CEO self-enhancement on the likelihood of financial fraud. However, we found no support for the hypothesis that the effect of CEO self-transcendence on fraud is moderated by social shareholder activism. The effect of self-transcendence on reducing the likelihood of fraud remained the same, irrespective of whether social shareholder activism was at higher or lower levels.

One possible explanation for this finding is that the prospect of committing fraud is so much at odds with the deeply-held values of CEOs high in self-transcendence, that no activation through social shareholder activism is needed for these values to translate strongly into decision making. That is, even when no external pressure consistent with self-transcendence is induced, self-transcendence values will still lead CEOs to strongly reject harming others through fraud. This could be the case if for CEOs the intrinsic motivation derived from self-transcendence is stronger than that derived from self-enhancement. Specifically, in the CEO context the pursuit of one's own gain and rewards for performance are very prevalent and stable external norms, which could reduce self-enhancing CEOs' psychological need to re-affirm their values intrinsically and induce them to rely on external affirmation of their values, thus making translation of self-enhancement into behavior relatively more dependent on activation by external factors. Conversely, self-transcending CEOs might not find much external normative reinforcement for their deeply-held values and would therefore link these values closer to their intrinsic motivation in order to re-affirm them, which would make their activation less dependent on external factors.

Overall, our results confirm the pivotal role of CEO values for financial fraud. By highlighting the role of heterogeneity in the innate values of CEOs, we build our understanding of the psychological foundations of fraud and advance existing explanations. Furthermore, we expand the conceptual range of CEO characteristics examined in upper echelons theory.

### **Implications for theory on fraud and governance**

Our study contributes to developing the psychological foundations of corporate fraud (Schnatterly et al., 2018) by infusing value theory from psychology and relaxing the assumption implicit in dominant explanations of fraud: that CEOs react uniformly to external pressures, irrespective of innate differences. Considering variation of CEO personality along self-enhancement and self-transcendence value types has allowed us to challenge this homogenous characterization of CEOs with a richer understanding.

Differences in CEO values are especially important in understanding the effectiveness of corporate governance mechanisms. Our results inform that depending on their innate values, CEOs might be more or less productive under specific corporate governance mechanisms. We show that financial shareholder activism can amplify the potential of self-enhancement values to contribute to unethical, fraudulent behavior. Therefore, it follows that uniform prescriptions about the (in)effectiveness of certain governance mechanisms to prevent fraud might be misguided. Rather, this study suggests that deeply-held values matter both over and above, and in their interplay with, governance mechanisms for harmful financial fraud. Our study therefore directs fraud research to move towards exploring the psychological foundations of the phenomenon and researching the interplay between executives' innate characteristics and governance structures.

Our study constitutes an important initial step in infusing executive values to explain corporate fraud, and future research could build on our results by incorporating additional insights from upper echelons theory and organizational behavior and psychology research. One particularly

important direction would be to expand the boundary conditions for the direct and indirect role of CEOs in financial fraud. In this study, we focused only on the CEO because CEOs are directly involved in most frauds (Beasley et al., 1999, 2010). In addition, studies have also shown that CFOs are often pressured by CEOs to become involved in fraud (Cohen et al., 2010; Feng, Ge, Luo, & Shevlin, 2011). However, the top management team is an important boundary condition in determining the discretion that CEOs enjoy in infusing their values in firm behaviors. CEOs are subject to task interdependencies with other top executives, who have their own values. For fraud, the role of the CFO in interacting with the CEO might be especially unique. Future research could thus explore how matching or mismatching values of CEOs and CFOs influence fraud.

### **Implications for upper echelons theory**

Although upper echelons theory since its inception has posited executive values as core psychological filters and direct motivational drivers of strategic choices, executive value remain an under-researched area (Cannella et al., 2008; Hambrick & Mason, 1984) and their systematic study has only begun recently (Agle et al., 1999; Berson et al., 2008; Chin et al., 2013). Compared to demographics and personality traits that have been studied more widely, studies on values have been restricted to domain-specific dimensions such as political ideology (Chin et al., 2013; Chin & Semadeni, 2017; Gupta et al., 2018; Hambrick & Wowak, 2021; Semadeni et al., 2021). Although research on political ideology has made valuable contributions to upper echelons theory, examining the broad and universal dimensions of values in Schwartz' (1992) fundamental values theory holds considerable additional promise in advancing our understanding of the strategic ramifications of executive values. Indeed, in personality research the Schwartz theory of values holds the same status as the five factor model for traits (Parks-Leduc, Feldman, & Bardi, 2015; Roccas et al., 2002), which makes integration of these fundamental values an imperative and timely extension of upper echelons theory.



In this regard, our focus on self-enhancement and self-transcendence values is especially notable because of their unique property of being integral parts of an executive's self that are moral in nature and relate to the core human tension between self-interest and other-interest. This inherent moral connotation suggests implications beyond fraud in understanding a wide range of strategic outcomes, including CSR, organizational culture, or competitive interactions. Future studies could explore these strategic effects of CEO values. It would be especially interesting to consider the effects of self-enhancement and self-transcendence on different performance outcomes. Self-enhancement and self-transcendence are both basic, cross-culturally espoused values. Therefore, neither of them is likely to be inherently beneficial or detrimental for firms, but rather their effects will depend on the context. In our study, we find that self-enhancement increases the likelihood of fraud, an extreme form of negative performance. However, in another context, self-enhancement might have positive implications for firm performance.

### **CONCLUSION**

This study brings innate individual differences in CEO values to the forefront of explanations of financial fraud. In doing so, we offer a novel individual level explanation of fraud grounded in fundamental value theory in psychology, challenging the predominantly universalistic, situational explanations of fraud in existing research. Our results highlight that CEO values matter as much as economic pressures and governance mechanisms in determining the occurrence of financial fraud. Accounting for the fact that top executives are often exposed to strong economic pressures and subject to corporate governance structures, we have argued that the direct motivation and indirect biases resulting from their personal values can tip the scales in CEOs' decision making about fraud. Overall, we direct fraud and governance research to focus less on universalistic effects of governance mechanisms and move towards exploring the interplay of executives' innate personality and governance.

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**Table 1: Descriptive Statistics and Correlation Matrix for Study Variables**

Variables	Mean	S.D.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(1) Fraud	.5	.5																		
(2) Self-enhancement	1.9	.67	0.03																	
(3) Self-transcendence	.77	.27	-0.22	0.37																
(4) Firm age	22.29	16.28	-0.18	-0.03	-0.03															
(5) ROA	.04	.09	0.01	-0.07	-0.01	0.06														
(6) Tobin's Q	2.25	2.2	0.06	-0.01	-0.08	-0.15	0.26													
(7) Sales growth	.27	.51	0.23	-0.01	-0.10	-0.27	-0.09	0.26												
(8) Ext. financing need	.23	.57	0.25	-0.06	-0.18	-0.29	-0.16	0.21	0.78											
(9) Number of analysts	11.73	8.53	0.08	-0.20	-0.24	0.20	0.12	0.33	0.08	0.08										
(10) Board independence	.78	.12	-0.10	-0.20	-0.01	0.35	-0.06	-0.05	-0.12	-0.09	0.11									
(11) CEO cash comp.	17.75	24.44	0.10	-0.07	-0.01	0.07	0.03	0.00	-0.03	0.01	0.36	-0.03								
(12) CEO non-cash comp.	44.35	435.37	0.06	-0.07	-0.07	-0.01	0.03	0.01	-0.03	-0.02	0.16	-0.10	0.10							
(13) CEO stock options	54.45	109.22	0.17	-0.12	-0.22	-0.12	0.09	0.44	0.11	0.17	0.47	0.02	0.38	0.16						
(14) CEO duality	.67	.47	0.05	-0.00	0.12	0.14	-0.03	0.02	0.03	-0.05	0.18	0.10	0.14	0.06	0.05					
(15) CEO tenure	7.04	6.14	0.05	0.03	0.07	-0.15	0.05	-0.02	0.05	0.05	-0.07	-0.30	-0.02	0.15	0.01	0.19				
(16) CEO age	53.79	7.02	-0.13	0.01	0.17	0.25	-0.03	-0.14	-0.31	-0.28	0.05	0.01	0.19	0.01	-0.03	0.20	0.27			
(17) CEO overconfidence	.58	.5	0.06	-0.14	-0.08	0.16	0.17	0.14	-0.01	-0.02	0.28	0.14	0.15	0.06	0.15	0.14	-0.00	0.03		
(18) Financial activism	5.91	20.44	-0.07	0.04	-0.04	0.11	0.03	0.02	-0.14	-0.13	0.07	-0.00	0.08	-0.02	0.09	0.07	-0.09	0.12	0.09	
(19) Social activism	7.92	23.76	0.00	-0.02	-0.09	0.15	0.03	-0.04	-0.06	-0.10	0.34	0.05	0.20	-0.01	0.12	0.12	-0.02	0.14	0.06	-0.00

**Table 2: Conditional Logistic Regression Results with Fraud Commitment as Dependent Variable**

<i>DV: Fraud</i>	Model 1	Model 2	Model 3
Firm age	-0.03 (0.02)	-0.04 <sup>+</sup> (0.02)	-0.03 (0.02)
ROA	-0.70 (2.74)	0.49 (2.91)	2.03 (3.44)
Tobin's Q	-0.16 (0.14)	-0.14 (0.13)	-0.16 (0.15)
Sales growth	0.62 (0.77)	1.26 (0.82)	1.57 <sup>+</sup> (0.91)
External financing need	1.08 (0.73)	0.82 (0.93)	0.85 (0.96)
Number of analysts	0.08 <sup>+</sup> (0.04)	0.07 (0.04)	0.08 (0.05)
Board independence	-3.35 <sup>+</sup> (1.84)	-2.58 (2.27)	-2.87 (2.46)
CEO cash compensation	0.01 (0.01)	0.03 (0.02)	0.03 (0.02)
CEO non-cash compensation	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
CEO stock options	0.01 (0.00)	0.00 (0.00)	0.01 (0.01)
CEO duality	0.89* (0.44)	1.16* (0.52)	1.48* (0.59)
CEO tenure	-0.03 (0.03)	-0.02 (0.04)	-0.02 (0.04)
CEO age	-0.03 (0.03)	-0.03 (0.03)	-0.04 (0.04)
CEO overconfidence	0.67 <sup>+</sup> (0.37)	0.75 <sup>+</sup> (0.44)	1.04* (0.50)
Financial shareholder activism	-0.01 (0.01)	-0.01 (0.01)	-0.10* (0.05)
Social shareholder activism	0.00 (0.01)	-0.00 (0.01)	-0.03 (0.02)
Self-enhancement		1.24** (0.45)	1.08* (0.46)
Self-transcendence		-4.55*** (1.35)	-5.17*** (1.50)
Self-enhancement x Financial shareholder activism			0.04* (0.02)
Self-transcendence x Social shareholder activism			0.03 (0.03)
<i>N</i>	224	224	224
McFadden's pseudo <i>R</i> <sup>2</sup>	0.29	0.41	0.46
<i>AIC</i>	142.28	127.09	123.12
Log likelihood	-55.14	-45.55	-41.56
Likelihood ratio chi-squared (df)	44.98	64.17	72.14
P(chi-squared)	0.00	0.00	0.00

*Standard errors in parentheses; + p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001 (two-tailed)*

**Table 3: Supplementary Study A – Regression Results with Intent to Commit Fraud as Dependent**

<b>Variable</b>			
<i>DV: Intent to commit fraud</i>	Model 1	Model 2	Model 3
Narcissism	0.12 (0.09)	0.05 (0.09)	0.04 (0.09)
Overconfidence	0.10 (0.16)	0.19 (0.17)	0.19 (0.17)
Social desirability	-0.08 (0.08)	-0.05 (0.08)	-0.06 (0.08)
Gender	-0.30 (0.26)	-0.34 (0.26)	-0.34 (0.26)
Tenure	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)
Relevant degree	-0.14 (0.31)	-0.20 (0.31)	-0.21 (0.31)
Education level dummies	YES	YES	YES
Ethnicity dummies	YES	YES	YES
Financial shareholder activism	0.92** (0.31)	0.87** (0.30)	-1.01 (1.07)
Social shareholder activism	0.20 (0.31)	0.19 (0.30)	0.43 (1.63)
Self-enhancement		0.27+ (0.14)	0.08 (0.17)
Self-transcendence		-0.35* (0.17)	-0.36+ (0.20)
Self-enhancement x Financial shareholder activism			0.48+ (0.26)
Self-transcendence x Social shareholder activism			-0.05 (0.33)
Intercept	1.81+ (1.02)	2.30+ (1.28)	3.13* (1.45)
<i>F</i>	1.94	2.20	2.17
<i>R</i> <sup>2</sup>	0.16	0.19	0.21
<i>N</i>	227	227	227

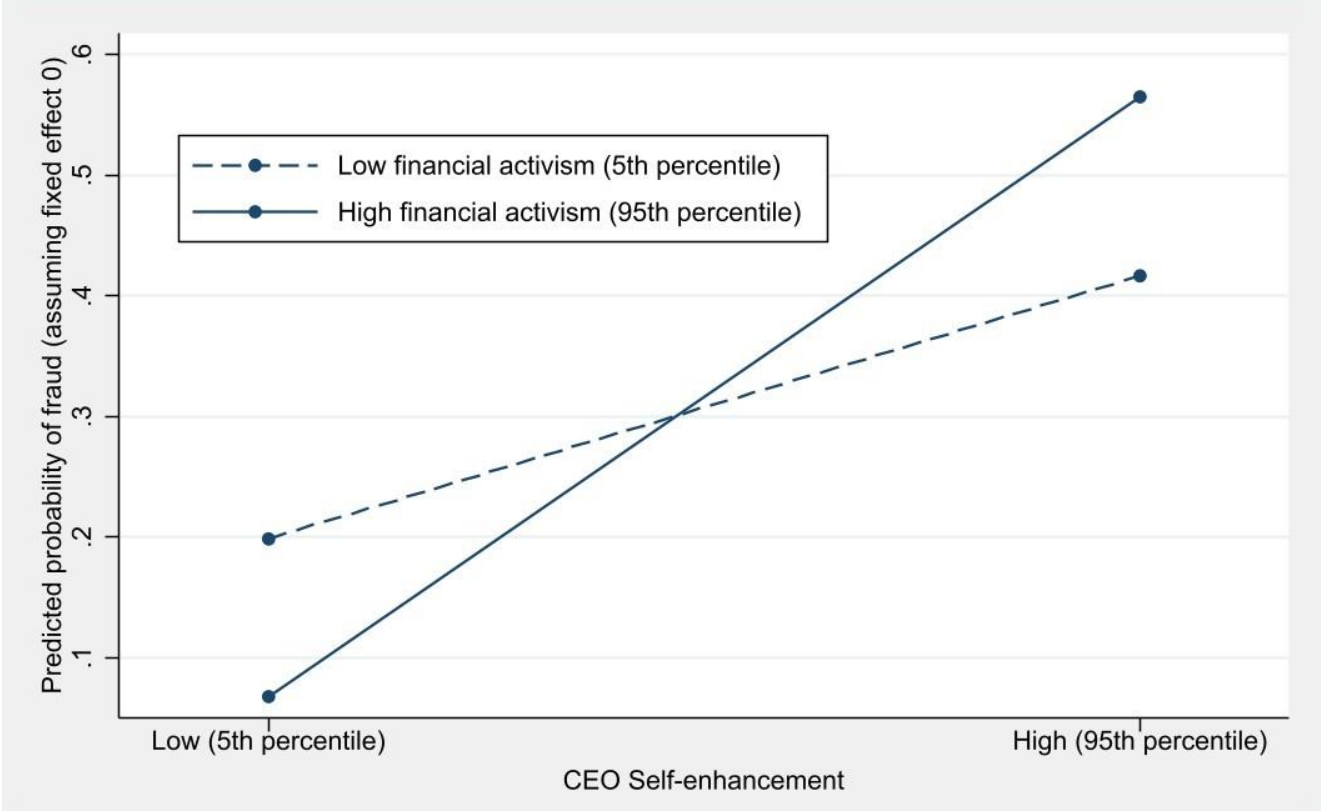
*Standard errors in parentheses; + p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001 (two-tailed)*

**Table 4: Supplementary Study B – Regression Results of Mediation Analysis Predicting Intent to Commit Fraud**

	<i>Information processing bias (self vs. other-focused)</i>		<i>Intent to commit fraud</i>		
	Model 1	Model 2	Model 3	Model 4	Model 5
Narcissism	-0.05 (0.13)	-0.19 (0.13)	-0.02 (0.11)	-0.16 (0.11)	-0.06 (0.09)
Overconfidence	-0.13 (0.25)	-0.08 (0.25)	-0.31 (0.21)	-0.20 (0.21)	-0.15 (0.16)
Social desirability	-0.17 (0.11)	-0.08 (0.11)	-0.20* (0.10)	-0.09 (0.10)	-0.05 (0.08)
Gender	0.24 (0.39)	0.31 (0.39)	0.30 (0.34)	0.31 (0.32)	0.15 (0.25)
Tenure	-0.03 (0.02)	-0.03 (0.02)	-0.02 (0.02)	-0.02 (0.02)	-0.01 (0.02)
Relevant degree	-0.26 (0.44)	-0.44 (0.43)	-0.36 (0.37)	-0.63+ (0.36)	-0.39 (0.29)
Education level dummies	YES	YES	YES	YES	YES
Ethnicity dummies	YES	YES	YES	YES	YES
Self-enhancement		0.50** (0.19)		0.41* (0.16)	0.14 (0.13)
Self-transcendence		-0.51+ (0.26)		-0.74*** (0.21)	-0.47** (0.17)
Information processing bias (self- vs. other-focused)					0.53*** (0.06)
Intercept	-0.20 (1.56)	-0.00 (1.85)	6.20*** (1.34)	7.54*** (1.55)	7.54*** (1.22)
<i>F</i>	0.69	1.24	1.05	2.03	8.27
<i>R</i> <sup>2</sup>	0.06	0.13	0.10	0.19	0.51
<i>N</i>	154	154	154	154	154

*Standard errors in parentheses; +  $p < 0.1$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$  (two-tailed)*

**Figure 1: Moderation Effect of Financial Shareholder Activism on the Relationship Between CEO Self-Enhancement and Fraud**



## APPENDIX A – CEO VALUES AND RELATED CONSTRUCTS

CEO fundamental values are a distinct, key facet of personality, directly linked to choices especially in a moral context, and different from other important CEO personality constructs.

### CEO values and political ideology

Research in upper echelons theory has provided important insight into the role of CEO's political ideology on the conservatism-liberalism dimension for strategic decision-making (e.g., Briscoe et al., 2014; Chin et al., 2013; Chin & Semadeni, 2017; Semadeni et al., 2021). Political ideology refers to values that are specific to the domain of a person's political beliefs and actions – most importantly, voting and donation behavior (Schwartz et al., 2010), as reflected in the way that ideology is often measured in the CEO context.

In contrast to political ideology, CEO self-enhancement and self-transcendence values are domain-spanning, universal human values (Schwartz & Bilsky, 1987). This means that they constitute morally-guiding goals that apply across all domains of life (Sagiv et al., 2017). Furthermore, these fundamental values exist across country borders and cultural contexts, as evidenced by their validation in 82 countries (Schwartz, 1992, 2012; Schwartz & Boehnke, 2004). In sum, fundamental values “apply across domains and situations. As such, they underlie and are broader than” political ideology (Caprara, Schwartz, Capanna, Vecchione, & Barbaranelli, 2006: 2). Therefore, “personal values [are] the crucial grounding of ideology.” (Caprara et al., 2006: 2), in the sense that “political values *express* basic personal values in the domain of politics” (Schwartz et al., 2010: 421).

### CEO values and personality traits in general

Based on psychological research, personality has two main facets, which are both conceptually and empirically distinct: values and traits (Parks-Leduc et al., 2015). Both values and traits are stable and function consistently across situations (Roccas et al., 2002). The main difference between the two is that traits are “enduring dispositions”, i.e., attributions of patterned behavior that distinguish between people, whereas values are “enduring goals”, i.e., cognitive representations of those goals that are part of one's self (Bilsky & Schwartz, 1994; Roccas et al., 2002: 790). In contrast to traits, values are “motivational constructs” and have an evaluative and intentional component (Bilsky & Schwartz, 1994; Parks & Guay, 2009; Verplanken & Holland, 2002: 434).

In other words, if traits are how we tend to behave across situations without necessarily knowing why, values are what we want to achieve across situations and will translate into behavior because we believe it is the right thing to do. Therefore, values are perceived as closer to the self (Sagiv et al., 2017) and are more consequential for deliberate decision-making than traits (Caprara et al., 2006; Roccas et al., 2002). In addition, values, are used to judge one's own and others' actions (Parks & Guay, 2009; Roccas et al., 2002) and are closely related to ethical choice (Feldman et al., 2015; Schwartz, 2010).

### CEO values and CEO narcissism

Narcissism is “the degree to which an individual has an inflated sense of self and is preoccupied with having that self-view continually reinforced”, manifesting in “a constant need for attention and admiration” (Chatterjee & Hambrick, 2007: 353). In line with this, narcissism has been linked to fraud in one previous study, on the basis that financial statements might provide a “mirror of the self” for narcissistic CEOs to express inflated self-views and feed their need for admiration (Rijsenbilt & Commandeur, 2013).

The key difference between narcissism and values is that there is no fixed goal content associated with narcissism, i.e., narcissism is devoid of specific values. This is consistent with the distinction between agentic and communal narcissism, which shows that both self-serving *and* other-serving behaviors can be “means for expressing the trait of grandiose narcissism” (Gebauer, Sedikides, Verplanken, & Maio, 2012: 855). It is also consistent with results showing that CEO narcissism can be associated with higher levels of corporate social responsibility (Petrenko, Aime, Ridge, & Hill, 2016). Accordingly, we would expect CEOs high in narcissism to pursue whatever goals they believe will make them the center of attention and feed their inflated sense of self. In contrast, CEO self-transcendence and CEO self-enhancement values are characterized by their *own* unique goal striving of pursuing universalism/benevolence and power/achievement, respectively. We would therefore expect CEOs high in either value type to pursue their valued goals irrespective of whether this makes them the center of attention or draws admiration.

## APPENDIX B – SUPPLEMENTARY STUDIES: SCENARIO AND MANIPULATION

### Base scenario

The below scenario asks you to make a strategic decision for a hypothetical company. Please read carefully to not miss any information.

You are the **CEO** of Teco Inc., a small, stock market listed company that sells communications and networking hardware to business customers.

Teco is about to release its 2020 financial report. As CEO, you are responsible for meeting performance expectations.

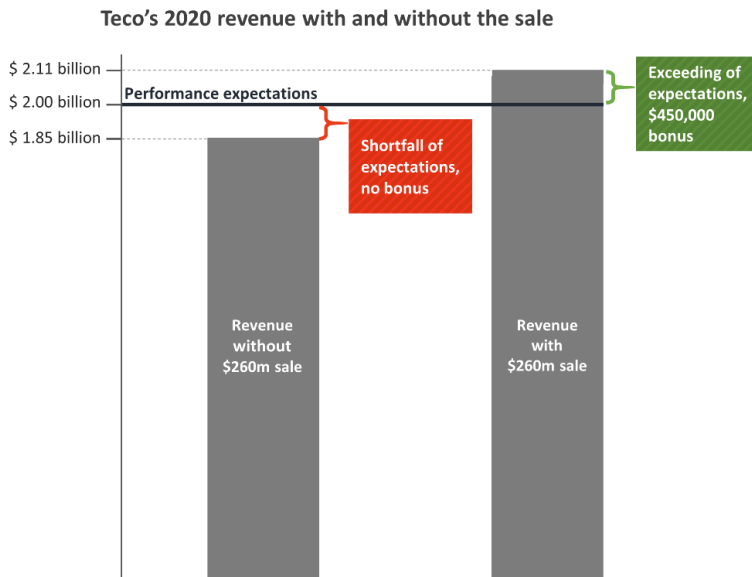
Industry analysts have forecast that Teco will earn revenue of \$2 billion in 2020. However, actual revenue is only \$1.85 billion, **falling short of expectations**.



You recently sold \$260 million worth of equipment to one of your largest clients. This sale was a done deal in 2020; you received the signed contract from the client in late December 2020. However, due to Christmas and New Year, you were only able to deliver the equipment in early January 2021, after fiscal year 2020 had already ended.

Technically, the sale should be reported in the first quarter of 2021 because, according to accounting standards, Teco recognizes revenue after product delivery.

But there are some advantages if the sale is reported in 2020. If you report the sale in 2020, you will be able to show higher revenue and meet expectations of your performance as a CEO. This means that you will be **seen as a highly successful CEO** and can **increase your influence in the business world**. Also, your bonus is tied to meeting performance expectations: if you report the sale in 2020, you will **receive an additional bonus** of \$450,000. Compared to your annual salary of \$1,400,000, this is a substantial bonus.



Reporting the sale in 2020 could, however, be a little risky for Teco. There is a small chance that someone could flag it as an issue that should be corrected. If so, Teco may have to restate its financial results. Restatements like this are common, but they can lead to litigation. There would likely be few personal ramifications for you, but the **company as a whole could suffer**. As a result, Teco could be **forced to downsize**, meaning **employees would lose their jobs**.

As CEO, you need to decide whether to report the sale in 2020 or in the first quarter of 2021.

### Shareholder activism manipulation (random assignment)

Before deciding on when to report the sale, take a moment to familiarize yourself with Teco's investors.

A: no financial activism / no social activism	B: social activism / no financial activism	C: financial activism / no social activism
<p>Recently, Central Investment Holding, a major investment fund, has bought shares in your company.</p> <p>The management of Central Investment Holding is not at all active and puts <b>no pressure of any kind</b> on you. Central Investment Holding wants to <b>leave Teco the freedom to take any strategic direction</b> it wants.</p> <p>Your annual meeting with shareholders is next week.</p> <p>In anticipation of the meeting, Central Investment Holding is proving to be a very passive shareholder: they have not brought forward any proposals about how you should run Teco for the meeting agenda.</p> <p>Central Investment Holding's management announced it would <b>fully support all of Teco's strategies and decisions</b> during the annual meeting.</p>	<p>Recently, Corporate Responsibility Alliance, a major social activist organization, has bought shares in your company.</p> <p>The management of Corporate Responsibility Alliance is very active and puts <b>immense pressure to be more socially responsible</b> on you. Corporate Responsibility Alliance does not care about financial performance and wants to <b>force Teco to focus only on social responsibility</b>.</p> <p>Your annual meeting with shareholders is next week.</p> <p>In anticipation of the meeting, Corporate Responsibility Alliance is gearing up to make a major stink: they have forced you to put multiple proposals about how you should run Teco on the meeting agenda.</p> <p>Corporate Responsibility Alliance's proposals all demand that Teco take <b>actions that improve its social responsibility and benefit employees, local communities, and society</b>.</p>	<p>Recently, Performance Capital Partners, a major activist hedge fund, has bought shares in your company.</p> <p>The management Performance Capital Partners is very active and puts <b>immense pressure to perform better financially</b> on you. Performance Capital Partners does not care about social responsibility and wants to <b>force Teco to focus only on financial performance</b>.</p> <p>Your annual meeting with shareholders is next week.</p> <p>In anticipation of the meeting, Performance Capital Partners is gearing up to make a major stink: they have forced you to put multiple proposals about how you should run Teco on the meeting agenda.</p> <p>Performance Capital Partners' proposals all demand that Teco take <b>actions that improve its financial performance and benefit shareholders</b>.</p>

### Manipulation checks

Manipulation checks confirm that our manipulations were efficacious. Managers in the condition with financial activism perceived higher pressure by activists to improve financial performance (3 items, example item "Activist investors exert strong pressure on me as the CEO to increase financial performance") (mean = 4.71) than those in the condition without either financial or social activism (mean = 2.77) or the condition with social activism (mean = 2.37;  $F = 90.33$ ,  $p < 0.00$ ). Conversely, managers in the condition with social activism perceived higher pressure to improve social responsibility (3 items, example item "Activist investors exert strong pressure on me as the CEO to increase social responsibility") (mean = 4.47) than those in the condition without either financial or social activism (mean = 2.40) or the condition with financial activism (mean = 2.17;  $F = 102.12$ ,  $p < 0.00$ ).