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Exploring the Divergent Social Dimensions of CEO Narcissism on Internal Firm Outcomes

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Abstract

In this study, I move away from the common clinical conception of narcissism in management to a novel two-dimensional concept and measurement of narcissism. Because these dimensions are shown to have divergent motives, goals, social strategies, and behaviors, I theorize that these differences in narcissism will have diverging effects on the firm. Then, I shift the conceptual focus of CEO narcissism research from the CEO as an agentic decision-maker seeking external praise for firm consequences to an implicit social strategist who prioritizes short-term interpersonal interactions in service of narcissistic supply. I examine four internal outcomes likely to be influenced by the two dimensions of narcissism: CEO tenure, heir apparent likelihood, TMT turnover, and vertical pay disparity. I test my hypotheses using a videometric approach on a random sample of SP500 firms from 2018.

Keywords: CEO, Personality, Narcissism

Acknowledgments

To all the family and friends that support and believe in me, and to all of those pursuing a dream.

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Chapter 1: Introduction

A growing body of research examines CEO narcissism's implications on the firm's external outcomes. This outgrowth of research stems from Upper Echelon's Theory (UET) (Hambrick & Mason, 1984) which proposes that the characteristics of the CEO (e.g., personality, functional background, demographics) have a strong influence on the strategic decision-making of the firm (Cannella et al., 2009; Chatterjee & Hambrick, 2007; Chatterjee & Pollock, 2017; Engelen et al., 2016; Regnaud, 2014; Weingarden & Hiller, 2009). Building from this premise, narcissism—a personality trait that describes an individual's tendency to have and maintain an inflated sense of self—became a focus for UET scholars because of the prevalence of narcissistic individuals at the executive level (Chatterjee & Hambrick, 2007). Indeed, findings from CEO narcissism research have generated a greater understanding of how firms operate and make decisions with implications for agency theory (Petrenko et al., 2016) and managerial discretion (Gupta et al., 2019). Notwithstanding, the findings emerging from CEO narcissism research point to a larger theoretical notion that narcissistic CEOs utilize their firm as a mechanism to maintain their inflated sense of self, otherwise termed "narcissistic supply" (Kernberg, 1985; Petrenko et al., 2016). Specifically, the praise and recognition associated with positive firm performance (Chatterjee & Hambrick, 2007), corporate social responsibility (Petrenko et al., 2016), product innovation (Kashmiri et al., 2017), and research and development spending (Chatterjee & Hambrick, 2011; Ingersoll et al., 2019) imply that CEOs are in some degree motivated to make firm strategic decisions in service of their inflated sense of self.

While this evidence supports a continued research agenda on the impacts of narcissistic CEOs on their firm's strategic behavior, it also highlights two potentially critical oversights in the literature on CEO narcissism. First, there has been an extensive focus on the relationship between CEO narcissism and external firm consequences (Chatterjee & Pollock, 2017; Cragun et al., 2020). This emphasis rests on the theoretical notion that narcissistic CEOs align their strategic decision-making with firm external outcomes, which helps regulate the CEO's inflated self-views. For instance, Petrenko and colleagues found that because narcissistic CEOs are motivated to seek positive reinforcement and avoid negative attention, they engage in corporate social responsibility, which offers opportunities for exhibitionism, praise, and status-quo shifts (2016). At the same time, little work addresses the firm consequences associated with narcissistic social skills and strategies enacted by narcissistic CEOs (see for exception: O'Reilly III et al., 2014). This scarcity of research is a potential issue because research in psychology holds that narcissists primarily rely on social skills and strategies (through interpersonal interactions) to maintain their positive self-views (Back & Gerlach, 2013; Campbell et al., 2006; Campbell & Foster, 2011). In the context of the CEO, CEOs' active and observed social interactions with their board and top management team can create or destroy intangible assets such as reputation, status, and relational capital (Chatterjee & Pollock, 2017). The availability of these intangible assets has downstream effects on CEO tenure, CEO succession, TMT turnover, and Vertical pay disparity (Alexander et al., 1993; Andrus et al., 2019; Barrick et al., 2007; Berns & Klarner, 2017; Boeker, 1992; Cannella et al., 2009; Cannella Jr & Lubatkin, 1993; Cannella Jr & Shen, 2001; Colbert et al., 2008; Hambrick et al., 1993; Hambrick & Fukutomi, 1991; Nahapiet & Ghoshal, 1998; R. S. Peterson et al., 2003; Sonnenfeld, 1991; Y. Zhang & Rajagopalan, 2003). Therefore, given the high volume of social interactions that CEO encounters on a day-to-day basis (Keon, 1986; Kotter, 1982; Mintzberg, 1973), the social skills and strategic social tendencies exhibited by the CEO have important internal firm consequences which impact firm performance (Fanelli et al., 2009; Pfarrer et al., 2010).

Second, recent developments in psychology show that the construct of sub-clinical narcissism (such as that studied in UET research) is more complex than once thought. Specifically, two dimensions of narcissism motivate characteristically different social skills and strategic social tendencies that help narcissists maintain a stable "narcissistic supply." The first, *admiration*, describes the dimension of narcissism associated with self-enhancement interpersonal skills and strategies summarized by the slogan "Let others admire you!" (Back et al., 2013, p. 1016). The second, *rivalry*, describes the dimension of narcissism associated with self-protection interpersonal skills and strategies summarized by the slogan "Do not let others tear you down!" (Back et al., 2013, p. 1016). While some UET scholars have alluded to these dimensions of CEO narcissism (Chatterjee & Pollock, 2017), this reconceptualization of narcissism has yet to be addressed in the CEO narcissism literature (Cragun et al., 2020). Taken together, I believe these oversights present an opportunity in CEO narcissism research for the development and empirical investigation of an integrated theoretical framework that can explain how the characteristically different dimensions of narcissism (and the interpersonal skills and strategies associated with them) have long-term consequences on the internal processes and outcomes of the firm.

In this study, I integrate recent theoretical developments in the psychology of narcissism with microfoundations and UET research to generate and test a theoretical framework that explains how CEO admiration and rivalry can influence the internal consequences of the firm. My focus will be on four internal firm consequences that are theoretically and empirically related to both CEO personality and the social approval assets of the CEO, which are: CEO tenure, promotion of heir apparent, TMT turnover, and Vertical pay disparity. By focusing on these four outcomes, I can examine how the characteristically different social skills and strategies of CEO admiration and rivalry can create or destroy the social approval assets of the CEO, leading to downstream structural and compensational firm consequences.

I contribute to the broader management literature in three ways. First, I shift the conceptual focus of CEO narcissism research from the CEO as an agentic decision-maker seeking external praise for firm consequences to an implicit social strategist who prioritizes short-term interpersonal interactions in service of narcissistic supply. In doing so, I provide insight into the interpersonal costs taken on by the narcissistic CEO and show how these costs influence the firm's internal processes. Second, I answer the call to extend the conceptual lens of CEO narcissism research by introducing the reconceptualization of narcissism: Narcissism Admiration Rivalry Concept (NARC)--admiration and rivalry (Cragun et al., 2020). The NARC is important to CEO narcissism research because evidence suggests that traditional measurement through the classic interpretation of narcissism (Narcissistic Personality Inventory) explains less variance than the newer conceptualization (NARC) on critical psychological criteria (Back et al., 2013; Back, 2018). Also, the NARC describes and measures two characteristically different dimensions of narcissism that can help explain potential differential or suppressed effects found in CEO narcissism research (Cragun et al., 2020). Moreover, the NARC explicitly distinguishes itself from a clinical definition of narcissism, which, while used and accepted in management research (Cragun et al., 2020), does not accurately align with current measurement practices. Third, I provide additional robustness for the videometric approach by providing psychometric validation of the NARC on a sample of CEOs from the SP500. The videometric approach enables UET scholars to accurately measure executive personality (Hill et al., 2019). Furthermore, by establishing a validated technique for this measurement, UET scholars can begin to unpack other unexplored firm consequences yet to be fully understood, such as innovation, risk-taking, and performance (Cragun et al., 2020).

Chapter 2: Literature Review and Conceptual Development

The Concept of Narcissism

Historical Background

The term narcissism originates in poetry and stories about the character Narcissus going back as early as 8 C.E (Levy et al., 2011). Indeed, a well-known poem from the Roman poet Ovid initially describes Narcissus as a young man admired for his beauty and recalcitrant towards his admirers. As the story goes, Narcissus lacked the empathy to appreciate others who admired him by rejecting and ignoring potential relationships. Scorned by rejection, one of the admirers of Narcissus manifested a curse of "unrequited love" (mirroring his influence on others), eventually leading him to a moment when he noticed his reflection in a river. Narcissus became paralyzed by his reflection and remained engulfed in his beauty from that moment until his death (Bulfinch, 1881).

The center of the Narcissus story orbits on the axes of self-love and self-beauty, foreshadowing the first uses of narcissism as a concept in early psychological literature. Specifically, Havelock Ellis, a British sexologist-physician, describes cases where individuals have the tendency "for the sexual emotions to be absorbed, and often entirely lost, in self-admiration" (Ellis, 1898, p. 260). Psychoanalyst Otto Rank built on work from Ellis by devoting an entire paper exclusively to the development of the condition of narcissism from his study on female patients (Levy et al., 2011). Specifically, Rank conceptually demarcated narcissism self-admiration from sexuality and described narcissistic tendencies as a social defensive mechanism in which narcissistic individuals rely on the social connection of others (Rank, 1911). Future psychological work on the concept of narcissism would use Rank's seminal research as a foundation to further refine the concept of narcissism from a dynamic psychological state (Freud, 1914/1957/2014), to a pathological "God Complex" (Jones, 1913), to a dysfunctional form of self-esteem regulation in which individual's use aggression or self-inflation to protect the concept of their self (Reich, 1960). These descriptions of narcissism permeated mainstream clinical psychology in the late 1960s and early 1970s partly due to the prevalence of narcissistic tendencies appearing in practice, shaping the development of the narcissistic personality disorder concept (Levy et al., 2011).

Beginning in the late 1970s and early 1980s, the development and measurement of narcissism as a theoretical construct diverged (Levy et al., 2011) as it began to gain interest in pop culture (Wolfe, 1977), sociology (Lasch, 1979/2019), and social/personality psychology (Raskin & Hall, 1979). Naturally, clinical psychologists continued to focus on narcissism as a disorder or dysfunctional trait that greatly impacted an individual's ability to maintain a stable lifestyle (Kernberg, 1985; Kohut, 1977/2009); while social scientists placed focus on how narcissism could influence cultural changes (Blatt, 1983) and individual behavior within the general population (Raskin & Terry, 1988; Westen, 1985). A highly influential measure of "normal narcissism" introduced in 1979 called the Narcissistic Personality Inventory (NPI) by Raskin and Hall seems to have been the event that catalyzed this split as it gave social scientists the capability to measure, theorize, and predict the impacts of narcissism on various individual and societal outcomes (Emmons, 1981, 1984, 1987). While this conceptual split is considered blurry at times because of issues with the factor structure of the NPI (Ackerman et al., 2011), it marks an important distinction for this manuscript because of my focus on the executive population. Specifically, an individual reaching the executive level of their organization and having a narcissistic personality disorder is unlikely because the dysfunctional tendencies associated with clinical narcissism would almost certainly derail an individual's career success

(Kernberg, 1985; Kohut, 1977/2009). Thus, in the remainder of this manuscript, I only discuss narcissism as conceptualized in sub-clinical social sciences to remain within the scope of this study's primary objective.

The Concept of Narcissism as a Functional Trait

Narcissism is a trait in the general population that describes the stable cognitive, motivational, emotional, and behavioral characteristics associated with a "highly inflated, unrealistically positive views of the self" (Campbell & Foster, 2011, p. 115). Since the introduction of the NPI, three key conceptual "ingredients" have emerged from social/personality psychology research that provides a framework for understanding what narcissism is: Positive self-views, lack of empathy, and self-regulatory strategies (Campbell & Foster, 2011). I describe each of these in turn.

Positive Self-view

Positive self-view connotes a sense of social comparison, which emphasizes the superiority of the narcissist over others (Campbell & Foster, 2011). Indeed, prior work on narcissism shows that narcissists believe they are more intelligent (Gabriel et al., 1994) and creative (Raskin & Shaw, 1988). Additionally, in task-oriented experiments, narcissists evaluate themselves as superior when working in dyads (Campbell et al., 2000; Farwell & Wohlwend-Lloyd, 1998) and small groups (Gosling et al., 1998; John & Robins, 1994). They tend to believe they are unique and special individuals (Emmons, 1984) with grandiose delusions (Raskin & Novacek, 1991) and have a sense that they are entitled to more resources than their counterparts (Campbell et al., 2004; Campbell et al., 2005). Moreover, narcissists are prone to seek out opportunities and are oriented toward success (Campbell & Foster, 2011), which is why narcissists are prevalent in executive positions (Chatterjee & Hambrick, 2007).

Lack of Empathy

The associations between narcissism and low empathy are well documented (Ehrenberg et al., 1996; Ghorbani et al., 2010; Hepper, Hart, & Sedikides, 2014; Jonason et al., 2013; Urbonaviciute & Hepper, 2020; Vonk et al., 2013; Wai & Tiliopoulos, 2012; Watson et al., 1984; Watson & Morris, 1991). These associations are prevalent at the self-report level across various operationalization of empathy (Campbell et al., 2002; Carroll, 1987), such as concern for others (Ghorbani et al., 2010), and can manifest in narcissist's relationships with others (Campbell, 1999). Relatedly, the lack of empathy associated with narcissism also influences social decision-making, such as reduced generosity (Böckler et al., 2017) and an increased likelihood of criminal behavior (Hepper et al., 2014). Indeed, recent meta-analyses support the broader claims that narcissism is consistently associated with a lack of empathy (Urbonaviciute & Hepper, 2020).

Self-Regulation Strategies

The most well-accepted narcissism concept among social psychologists is the notion of self-regulation (Campbell & Foster, 2011). This acceptance is primarily because narcissism's self-regulation framework helps explain the interrelated motives, behaviors, thoughts, and emotions associated with a narcissistic individual. While the introduction of several frameworks helps to explain narcissism from specific perspectives (Baumeister & Vohs, 2001; Raskin et al., 1991; Tracy & Robins, 2004), two more general models can serve as guiding assumptions for why and how narcissists operate, which provide a lens for the theoretical argumentation of this manuscript.

The Dynamic Self-Regulatory Processing Model of Narcissism (DYSRPMN).

Introduced by Morf and Rhodewalt (2001), the DYSRPMN adopts the social-cognitive processing model perspective (Cantor & Kihlstrom, 1987; Dweck & Leggett, 1988; Higgins, 1987; Kihlstrom & Cantor, 1989; Mischel & Shoda, 1995; Barry R Schlenker, 1985; Swann, 1985). The authors propose that "people are active in structuring their social environments to bring them in line with their goals, rather than just passively reacting to these situations" (Morf & Rhodewalt, 2001, p. 180). Moreover, the authors postulate that behavior, cognition, and affect are part of an interconnected system that operates together to align the individual's goals with the opportunities present in a given situational context. Applying this framework to narcissism, the DYSRPMN explains the actions of a narcissist as an active strategy that utilizes their social context to "strategically interact with their social worlds to construct and regulate their desired selves" (Morf & Rhodewalt, 2001, p. 182). Put differently, the social context/environment of the narcissist are tools to be used to "engineer" desired social feedback (e.g., admiration) to maintain their inflated self-views. The model broadly articulates the narcissists' intrapersonal and interpersonal strategies, which I discuss next.

Intrapersonal strategies refer to motivation, affect, and internal cognitive processes that narcissists use to tune and maintain their exaggerated positive self-views and help them skew and bias incoming contextual information in ways that benefit their aggrandized self. For instance, research indicates that narcissists ascribe any initial success to be inherent in their ability (Rhodewalt & Morf, 1995, 1998). Similarly, research shows that narcissists believe they are generally superior to others. For instance, group studies show narcissists rating themselves higher in group-task activities (John & Robins, 1994). Extending this line of research, Gosling et al. (1998) used independent judges to rate the performance of individuals working in groups. The study showed that narcissistic individuals consistently rate themselves higher in relation to independent judges. Indeed, research indicates that narcissists use these types of strategies across various criteria, including self-ratings of intelligence and attractiveness (Gabriel et al., 1994) and final course grades (Farwell & Wohlwend-Lloyd, 1998), and socially desirable personality characteristics (Paulhus, 1998). Furthermore, even when confronted with their overestimation or apparent failure, narcissists tend to believe the inferiority of their evaluators or the technique used to evaluate them (Kernis & Sun, 1994; Morf & Rhodewalt, 1993; Smalley & Stake, 1996), which includes memory distortion that aligns with these beliefs (Morf & Rhodewalt, 2001).

On the other hand, interpersonal strategies of a narcissist are the visible social strategies that describe the tendency for "narcissists [to] exploit and use others to increase their self-worth, with little regard for others' feelings or the interpersonal conflict the narcissists may be creating" (Morf & Rhodewalt, 2001, p. 182). Research examples of the implementation of interpersonal strategies show support for this notion. For instance, narcissists encountering a threat to their positive self-view will use face-to-face interactions to demean or devalue others personally to recuperate their self-view (Morf & Rhodewalt, 1993). These examples are as fine-grained as the language narcissists use to present themselves in conversations (Morf & Rhodewalt, 2001) to self-handicapping to appear more successful (Rhodewalt et al., 2006). Where this model ends at the generalities for interpersonal strategies, the agency model of narcissism theorizes specific interpersonal strategies narcissists use in their social interaction to enhance their positive self-view.

Agency Model of Narcissism (AMN). The AMN builds from the DYSRPMN in that it assumes narcissism is a self-regulation process wherein interpersonal skills and strategies are used to inflate or sustain the narcissist's positive self-view—what the authors call "Narcissistic Esteem" (Campbell & Foster, 2011). The authors describe two primary ways narcissists enhance their self-views from social interactions: 1) interpersonal skills and 2) interpersonal strategies. On the one hand, interpersonal skills are characteristics associated with narcissists (e.g., confident, charming, charismatic) that facilitate interpersonal strategies implementation and success. On the other hand, the authors identify several interpersonal strategies that narcissists use to regulate their narcissistic esteem, including game playing, self-promotion, and the better-than-average strategy (Alicke et al., 1995). The model shows that interpersonal skills and strategies work together in the self-regulation process, serving the self-view needs as the system demands them. A later extension of this model (Campbell & Green, 2013) describes how narcissists use others as "fuel" for their narcissistic self-regulation, such as admiration seeking (Wallace & Baumeister, 2002), material status signaling (Brunell & Campbell, 2011), status-by-association (Campbell, 1999), competition or game framing, and failure repositories (Brunell & Campbell, 2011). Both theories build a foundational framework to understand how narcissistic individuals could impact their organizations and how narcissistic leaders' interpersonal skills and strategies could influence critical organizational processes. Continuing with this literature review, I now turn attention to organizational research investigating narcissism at the leader and executive level.

Executive Narcissism

The topic of narcissism and leadership is not a new one. Organizational theorists have speculated since the 1980s on the relationship narcissism has to leadership and the downstream consequences on the organization (de Vries & Miller, 1985). Because this manuscript focuses on executives, I briefly discuss the theory and research regarding why narcissists are likely to become leaders and some of the ways they can rise in their organizations. I then provide a conceptual overview of Upper Echelons Theory (UET) (Hambrick & Mason, 1984), which utilizes psychology research to theorize how executive personality can influence strategic decision-making. Then, I summarize the research on executive narcissism through the framework of UET. Specifically, I show that while the field's understanding of the relationship between executive narcissism and the firm has grown, the broader research stream indicates divergent findings, limited criteria scope and theoretical approaches, and an apparent lack of clarity on the benefits and detriments of executive narcissism.

How and Why do Narcissists Become Leaders?

Sometimes taken as self-evident (Chatterjee & Hambrick, 2007), scholars have long assumed that leaders tend to be narcissistic (Maccoby, 2000; Rosenthal & Pittinsky, 2006). Researchers base this assumption on the impressions of well-recognized leaders such as Michael Eisner or Steve Jobs (Robins & Paulhus, 2001; Sankowsky, 1995)—indeed, Freud (a psychologist) presumed that leaders need to be "absolutely narcissistic" (1921, p. 123-124). Some scholars have also theorized that narcissists emerge as leaders because of the prototypical preordained implicit leader theories, which label leaders as confident and socially dominant (Lord, 1985; Lord & Maher, 2002). Empirical findings lend support to this theory showing that individuals with interpersonal skills associated with narcissism, such as charisma, charming, and confidence, are perceived to be more leaderlike (Galvin et al., 2010; Grijalva et al., 2015; Judge et al., 2002; Leckelt et al., 2015). Put differently, the theory regarding narcissistic leaders suggests that narcissists fit the mold of what people look for in a leader (Brummelman et al., 2021; Grijalva et al., 2015); but do narcissists want to become leaders?

There are some indicators that this is a matter of common sense based on the tendencies of a narcissist. Indeed, the grandiose nature of narcissists manifests through leadership behavior such as visionary boldness (Galvin et al., 2010) and transformational leadership (Judge et al.,

2006) that could enable narcissists to obtain forms of recognition and admiration (fueling their narcissistic supply). This evidence speaks to the more general notion that a leader's decision for their group or organization is highly visible, with outcomes capable of impacting many peoples' and organizations' lives (Petrenko et al., 2016). Moreover, because narcissists use their social context to align their goals with what is available to them in the situation (Back & Gerlach, 2013), a leadership position presents a wealth of opportunities to apply interpersonal skills and strategies to maintain a positive and inflated self-view (Brummelman et al., 2021). Thus, the social opportunities available to narcissistic leaders attract them to positions of power, such as in the case of the CEO position.

How do Narcissistic CEOs Influence Their Organization?

Generally, theory and research on narcissistic CEOs suggest that these CEOs use strategic outcomes to inflate or maintain an inflated ego (Buchholz et al., 2018; Chatterjee & Hambrick, 2007, 2011a; Chatterjee & Pollock, 2017; Gerstner et al., 2013; Kashmiri et al., 2017; Olsen et al., 2014; Petrenko et al., 2016; Zhu & Chen, 2015b). These studies use Upper Echelons Theory (UET) as a conceptual framework to explain how a CEO's personality can influence the firm. Specifically, UET proposes that CEOs are reflections of their firm, and firms are reflections of their CEO (Hambrick, 2007; Hambrick & Mason, 1984). Scholars such as Aime (Aime et al., 2020; Hill et al., 2019; Petrenko et al., 2019; Recendes et al., 2022; Ridge et al., 2017) and Petrenko (Chandler et al., 2021; Hill et al., 2019; Petrenko, 2020) have continued this researching, showing how individual differences in executives shapes firm strategy. In my own work (Blake et al., 2020; Brown et al., 2017; Cooper et al., 2020; McAllister et al., 2021; Twenge et al., 2020, 2021), I extend the tradition by bringing the psychological conceptual lens to the study of executives. Moreover, UET assumes that the CEO's stable characteristics (e.g., personality, narcissism) influence the interpretation of information and eventual strategic action. Grounded in this assumption, I now describe the management literature conceptualization of CEO narcissism and review research findings to highlight the gaps this study aims to close.

Conceptualization and Measurement

While management scholars generally conceptualize and measure CEO narcissism in its sub-clinical form, the typical definition of narcissism used in management research is adopted or adapted from the Diagnostic and Statistical Manual for Mental Disorder (DSM), which psychologists use to diagnose clinical mental disorders (Cragun et al., 2020). Although "widely accepted" in the management literature (Judge et al., 2006; Raskin & Terry, 1988), this treatment of narcissism, while helpful, blurs the conceptual lines between clinical and sub-clinical narcissism, opening the door for potential concerns in measurement.

There have been several operationalizations of CEO narcissism in the management literature. First is the CEO narcissism index (Chatterjee & Hambrick, 2007, 2011), which is an unobtrusive measure of narcissism that uses an inconsistent number of indicators (five then four respectively) and happens to be the most popular (Chatterjee & Hambrick, 2007, 2011b; Engelen et al., 2016; Gerstner et al., 2013; Ingersoll et al., 2019; Judd et al., 2017; Kashmiri et al., 2017; Marquez-Illescas et al., 2019; Oesterle et al., 2016; Olsen et al., 2014; Patel & Cooper, 2014; Rijsenbilt & Commandeur, 2013; Schrand & Zechman, 2012; Tang et al., 2018; Zhu & Chen, 2015b). The second is the Narcissism Personality Inventory (Raskin & Terry, 1988), which scholars apply to both self-report (S. J. Peterson et al., 2012; Reina et al., 2014; Wales et al., 2013) and videometric (Petrenko et al., 2016) measurement techniques. The third is the frequency of personal pronoun usage, which taps into the self-focus of narcissism (Aktas et al., 2016; Capalbo et al., 2018; de Bodt et al., 2015). Notably, the validity (Carey et al., 2015) and reliability (Chatterjee & Hambrick, 2011) have come into question with this indicator of narcissism. Fourth, some scholars have used signature size to unobtrusively measure CEO narcissism (Ham et al., 2018) with the rationale that the size of the signature is an indicator of grandiosity. Overall, the proliferation of measurement techniques speaks to the creativity of scholars in overcoming the challenge of accessing the executive population (Hill et al., 2019), yet, except for the NPI, the measurement of CEO narcissism is imprecise due to the inability to identify reliable and specific indicators of the narcissism construct (Cragun et al., 2020). Moreover, the factor structure of the NPI is inconsistent, creating further ambiguity about which indicators of CEO narcissism drive the relationship to critical firm outcomes such as firm performance, innovation, and risk-taking.

Review of Empirical Findings

This review aims to substantiate the link between CEO narcissism and firm outcomes that illustrate how narcissistic CEOs can impact the social approval asset creation or destruction for the CEO. While there is conceptual progress on the topic (Chatterjee & Pollock, 2017), a limited number of studies empirically examine internal firm outcomes associated with CEO narcissism (Chatterjee & Pollock, 2017). Therefore, I discuss broad research areas within the CEO narcissism research stream, which directly or indirectly theorize about the narcissistic CEO's ability to create or destroy social approval assets that have internal consequences on the firm and the focal dependent variables in this manuscript.

There is an accumulation of research that examines CEO narcissism and firm performance. Some scholars have found positive relationships between CEO narcissism and firm performance by examining performance extremes (Chatterjee & Hambrick, 2007), ROA (Reina et al., 2014), and stock price (Olsen et al., 2014), with a recent meta-analysis supporting an overall positive relationship (Cragun et al., 2020). One theoretical explanation for these findings is that TMT perception of CEO charisma (a skill commonly associated with narcissism) increases TMT behavioral integration (Reina et al., 2014). The authors propose that TMT perception of CEO charisma promotes collaboration, knowledge sharing, and joint decision-making (Schaubroeck et al., 2007; Varella et al., 2012). These findings suggest that charisma—a social skill of narcissists—can help to generate social approval assets for the CEO.

Additionally, research supports the notion that CEO narcissism positively relates to firm innovation. Upper echelons scholars test this notion on several dependent variables associated with innovation, including new product innovation, the proportion of radical innovation, and research and development funding (Chatterjee & Hambrick, 2011b; Kashmiri et al., 2017). Some scholars interpret these findings partly due to the narcissistic CEO's constructed reality (Chatterjee & Pollock, 2017). Indeed, evidence indicates that CEO narcissism (coupled with humility) can instill values in their TMT and larger organization to pursue innovation (H. Zhang et al., 2017). Researchers also propose that socially dominant behavior and attraction to novelty associated with narcissistic CEOs help to drive this relationship (Gerstner et al., 2013; Rosenthal & Pittinsky, 2006; H. Zhang et al., 2017). Again, these behaviors encompass the larger set of interpersonal skills a CEO narcissist uses to influence social approval assets.

However, the inaccurate conceptualizations of narcissism (i.e., using clinical definitions) combined with imprecise measurement techniques make it difficult to generalize these findings beyond the focal study. Below, I draw from novel psychological theory on narcissism to distinguish between clinical and sub-clinical narcissism. Through this disambiguating process, I develop theory on four internal firm outcomes likely to be influenced by CEO sub-clinical narcissism. Moreover, because sub-clinical narcissism contains two divergent dimensions with separate nomological networks, I argue that each dimension of CEO narcissism will impact the creation or destruction of social approval assets, causing differential outcomes in CEO tenure, CEO succession, TMT turnover, and Vertical pay disparity.

Theory and Hypothesis Development

New Theoretical Insight on Narcissism

In response to the conceptual ambiguity in narcissism research on sub-clinical narcissism, psychology researchers have introduced a new framework and measurement for this phenomenon. This framework, referred to as The Narcissistic Admiration and Rivalry Concept (NARC) (Back, 2018; Back & Gerlach, 2013), builds upon the basic assumptions of narcissism discussed earlier in this manuscript that: 1) narcissism is a self-regulatory system that relies on external social means to regulate a balanced inflated self-view and 2) individual's response to imbalances in the self-regulation system through intrapersonal (cognitive) and interpersonal (behavioral) strategies initiated by the individual. The differentiation of NARC is the integration of two basic psychological principles of motivation, which posits that people tend to be motivated to either self-enhance or self-protect their self-views (Alicke & Sedikides, 2009, 2011; Higgins, 1998). In the case of narcissists, their grandiose self-view exaggerates the self-enhancement or self-protection strategies typically associated with less narcissistic individuals. The exaggeration of these strategies, in turn, forms diverging dimensions of narcissism (admiration and rivalry, respectively) that are consistent across time and context for individuals and demarcated by distinctive nomological networks of goals/motivation, behavior and personality characteristics, cognitive and behavioral strategies, and social outcomes that are aptly named admiration (narcissistic self-enhancement) and rivalry (narcissistic self-protection).

The narcissistic admiration dimension is marked by the exaggerated and assertive self-enhancement strategy to create and maintain a grandiose self-view. The grandiose self-view corresponds to the belief of being special, unique, or "a star." The activation of this exaggerated self-enhancement strategy leads to a set of interconnected behavioral dynamics that include affective-motivational (striving for uniqueness), cognitive (grandiose fantasies), and behavioral (charmingness) domains that attempt to produce social outcomes (social potency) that reinforce grandiose fantasies. Researchers identify these behavioral dynamics as narcissistic admiration.

Regarding the dimension of narcissistic rivalry, this begins with the idea that narcissists will be active in antagonistic self-protection strategies associated with a grave fear of failure. The NARC model shows that this antagonistic self-protection will form a different set of narcissistic behavioral dynamics, including striving for supremacy (affective-motivational), devaluation of others (cognitive), and aggressiveness (behavioral) called narcissistic rivalry. Narcissistic rivalry attempts to produce social conflict outcomes that "strengthens the negative view of the generalized other, thereby intensifying the intention to prevail over one's rivals and boosting aggressive behaviors" (Back & Gerlach, 2013, p. 1016).

CEO Narcissistic Admiration and Rivalry and its Impact on Firm's Internal Process

To this point, I presented the NARC to describe how diverging dimensions of narcissism could produce CEO behaviors that influence social approval assets in the firm. According to the NARC model, the social strategies and behaviors associated with narcissistic admiration (compared to rivalry) aim to achieve different social outcomes which impact the admiration, trust, and popularity of the CEO in positive (admiration) or negative (rivalry) ways. Now, I integrate theory and empirical patterns from microfoundations research to theorize how these different social outcomes for the narcissistic CEO can influence the creation or destruction of social approval assets, respectively, which have significant consequences on the firm.

CEO Tenure

CEO tenure describes the degree of time an individual is in the CEO position. Generally, CEO tenure is considered a factor in how firms develop and implement strategy and impact their performance. Early work examining tenure in a study of basketball coaches proposed that "longevity may, indeed, be a significant variable affecting performance in a single role in an organization" (Eitzen & Yetman, 1972, p. 115). These findings imply that the leader's strategic decision-making process changes with how long the individual remains in the organizational role. Other researchers have developed this notion further, postulating specific seasons of a CEO's tenure, highlighting the potential for strategic rigidity as tenure increases (Hambrick & Fukutomi, 1991). Some evidence supports this framework, suggesting that CEOs have life cycles that impact product release and performance (Miller & Shamsie, 2001) and tend to ignore environmental information as their tenure increases (Miller, 1991). Relatively recent work shows that the life cycle of the CEO can fit with specific environmental dynamics associated with the firm's industry and the firm's current performance (Chen & Hambrick, 2012; Henderson et al., 2006). Thus, exploring the antecedents of CEO tenure is critical to firm strategy and performance.

I argue that CEO admiration and CEO rivalry social strategies and behaviors will respectively influence the creation or destruction of crucial social approval assets critical to tenure length. Specifically, the social strategies associated with CEOs with high narcissistic admiration will facilitate longer CEO tenure through social approval assets. First, narcissistic admiration produces a striving for uniqueness in CEOs. CEOs high on admiration will likely develop a reputation of being unique. This reputational uniqueness of the CEO will obscure the presence of objective obsolescence or rigidity in the firm's strategy. Second, CEOs high on admiration display more charismatic behaviors, especially when communicating their grandiose visions. Research in leadership suggests that communicating grand visions in a charismatic way can influence organizational identity and group performance (Galvin et al., 2010). Therefore, because the CEOs tie their identity to the firm, admiration CEOs are free to create a future image with the incumbent CEO leading the firm (Reina et al., 2014). Third, behavioral characteristics of the narcissistic admiration dimension, including self-assured, dominant, and expressive behaviors, are likely to lead to higher popularity among stakeholders in the organization and their team. These social approval assets can buffer attempts to dismiss the CEO for instances of poor performance (McDonald & Westphal, 2003) or obscure obsolescence because of the CEO's influence associated with these social approval assets (Magee & Galinsky, 2008). Thus, it is likely that the factors associated with narcissistic admiration enable the CEO to remain in the position longer than less narcissistic admiration CEOs.

H1: CEO admiration is positively associated with CEO tenure.

Narcissistic rivalry CEOs (rivalrous CEOs) are likely to have the opposite and destructive effect on these social approval assets. This opposite effect occurs because rivalrous CEOs consistently strive for supremacy and power to engender social conflict. Specifically, these CEOs will tend to devalue their fellow team and board members. These devaluation behaviors will likely destroy any relational capital, which refers to "the level of mutual trust, respect, and friendship that arises out of close interactions" (Kale et al., 2000, p. 218). Additionally, rivalrous CEOs' firm strategy is likely to stagnate and become obsolescence more rapidly over time. This obsolescence occurs because of the grave fear of failure and uncertainty in oneself, likely fostering strategic decisions that conform to rival firms (Bandura, 1978; Zhu & Chen, 2015a). Generally, research on CEO tenure obsolescence of CEO strategies increases the firm's likelihood of dismissing the CEO (Hambrick & Fukutomi, 1991). While not in and of itself a social approval asset, the ability to create unique ideas is generally considered valuable in organizations (Pistrui, 2018), this lack of competence coupled aggressive and angry behavior associated with rivalrous CEOs, will destroy the CEOs status—respect and admiration—among their team and board which decreases the CEOs influence (Magee & Galinsky, 2008) and their ability to stay in power (McDonald & Westphal, 2003). Therefore, I hypothesize:

H2: CEO rivalry is negatively associated with CEO tenure.

CEO Succession (heir apparent)

There is a widespread belief that CEO succession is a disruptive event in an organization's life (Beatty & Zajac, 1987). Indeed, research suggests that "succession seems to break organizational momentum," which causes changes in the organizational structure such as power dispersion, information processing, and competitive aggressiveness (Miller, 1993, p. 656). While implying fluctuations in firm performance (Zajac, 1990), these changes also show why firm boards emphasize selecting a new CEO, particularly in the selection of heirs apparent (Vancil, 1987; Y. Zhang & Rajagopalan, 2006). Sometimes referred to as "passing the baton," heirs apparent reference to the selection of prospective CEOs to replace the incumbent long before the incumbent CEO exits the firm, and the belief is that selecting and grooming a successor decreases the disruption that CEO exits causes (Cannella Jr & Shen, 2001). This heir apparent process is heavily influenced by the incumbent CEO, particularly their personality and motivations to remain in power, cling to power, facilitate growth after exit, or change careers (Sonnenfeld, 1991). Thus, I expect the social strategies used by different dimensions of CEO narcissism will influence the presence of an heirs apparent.

CEOs with high narcissistic admiration (admiration CEOs) are motivated to self-enhance with grandiose visions of themselves. Because the firm is part of the CEO's identity, self-enhancement will likely continue after the incumbent CEO exits, which is tied directly to the firm's future success (Reina et al., 2014). Incumbent admiration CEOs will thus seek a succession process that increases their ability to continue influencing firm action and, subsequently, their own identity (the firm) like that of Sonnenfeld's ambassador style, which describes the selection and grooming of a protégé, whom the incumbent CEO can support after exiting (1991). Further, admiration CEOs will have the social approval assets with the board, and other team members (relational capital, status) that will enable them to select a successor that they feel can best perpetuate the firm's grandiose visions set out by the incumbent CEO.

H3: As incumbent CEO admiration increases, the likelihood that an heir apparent exists increases.

Rivalrous CEOs and their strive for supremacy will likely do whatever is necessary to slow down or halt the succession process and protect their power. I argue that two essential components are likely decreasing the likelihood a firm uses an heir apparent succession strategy under a rivalrous CEO. First, rivalrous CEOs tend to devalue others in social interactions actively. This tendency will influence the information asymmetry process, creating ambiguity about who can become the successor CEO. The CEO's discussions with the board will likely result in a barrage of devaluation statements about potential candidates, forcing the board to reappraise candidates, subsequently stalling the succession process for the incumbent CEO. Second, any potential candidate that can break through the ambiguity created by the incumbent CEO will encounter various attacks by the incumbent rivalrous CEO, including demotion, termination, or reassignment (Sonnenfeld, 1988). Thus,

H4: As incumbent CEO rivalry increases, the likelihood that an heir apparent exists decreases.

TMT Turnover

When top executives exit their firm, this initiates a costly domino effect to find a replacement. Firms pour resources such as time, attention, and finance into the replacement process costing the firm up to 40 times the salary of the exiting executive (Cascio & Boudreau, 2010; Downey, 2001). These costs associated with executive replacement have led management scholars to examine the causes of why top executives leave their firms (Cannella et al., 2009). Beyond compensation and the labor market, internal firm social factors influence the likelihood of turnover in the top management team (Andrus et al., 2019). The CEO, being an integral influence on the social factors of the top management team (Colbert et al., 2008; R. S. Peterson et al., 2003), can contribute to the pattern of turnover within their team and organization (Holtom et al., 2008). In particular, I argue that relational capital between the CEO and TMT and member reputation can influence TMT turnover patterns in firms (Andrus et al., 2019) that is being increased in TMTs with admiration CEOs and decreased in firms with rivalrous CEOs.

From the standpoint of admiration CEOs, I theorize that admiration strategies and behaviors will foster social approval assets for at least two reasons, decreasing the desire for the

TMT to leave the organization or be dismissed. First, the charismatic behavior associated with the admiration of CEOs fosters the development of admiration and trust for the CEO among the TMT (Judge & Piccolo, 2004). Research suggests this strengthens relational identification, which can generalize to organizational identification (Sluss & Ashforth, 2008) and bolster person-organizational fit (Kristof-Brown et al., 2005; Mitchell & Lee, 2001; Waldman et al., 2015). Second, an attractive vision of the firm's strategy can instill a collective purpose and facilitate the adoption of group and organizational goals. In turn, this goal alignment will reinforce stronger person-organizational fit and reinforce staying (Kristof-Brown et al., 2005; Mitchell et al., 2001; Waldman et al., 2015). Taken together, I hypothesize:

H5: CEO admiration is negatively associated with TMT turnover.

Rivalrous CEOs' social strategies and behaviors will prohibit or destroy social approval assets, increasing the TMT turnover rate in the firm for two reasons. First, the rivalrous CEOs' need for supremacy will manifest through the devaluation of others in social interactions. These social interactions will generate the need for members of the TMT to protect their reputation (Andrus et al., 2019; Gagné & Deci, 2005). One option members of the TMT can use to improve their social situation is to voluntarily exit from the firm (Aime et al., 2020). I argue that TMT members are more likely to exit under the conditions of a rivalrous CEO because reputation is associated with mobility and compensation; therefore, TMT members are more likely to exit to distance themselves from the firm and the CEO. Second, the impulsive and aggressive nature of the rivalrous CEO will decrease the predictability of team interactions and norms, which undermine the team's overall trust (Nahapiet & Ghoshal, 1998). This lack of trust in the team will decrease the team's trust in one another (including the CEO), making it more challenging to complete their interdependent work (Barrick et al., 2007). Moreover, research suggests a lack of trust can lead to a less committed TMT (Hambrick, 1994), decreasing relational capital among the team and increasing the likelihood they will leave their position (Griffeth et al., 2000). Thus, I argue that because rivalrous CEOs destroy the social approval assets of their TMT, this will create an environment that promotes TMT turnover.

H6: CEO rivalry is positively associated with TMT turnover.

Vertical pay disparity

Executive compensation continues to be a relevant topic in the management literature. Although examined under behavioral and economic theoretical assumptions, the general belief is that distance between the CEO's pay and the top management team's pay is essential in explaining firm performance (Ridge et al., 2015). Scholars who have examined the antecedents of executive compensation gap attribute it partly to the social factors in the top management team (Henderson & Fredrickson, 2001; P. A. Siegel & Hambrick, 2005). Moreover, research indicates that CEOs are highly influential in top management team compensation committees (Chin & Semadeni, 2017), influenced by their personality and social abilities (Wowak & Hambrick, 2010). I extend this line of thinking by exploring the influence of CEO narcissism, and its two diverging dimensions, by theorizing how the underlying motives to self-enhance or self-protect drive CEOs to arrange TMT compensation to sustain their exaggerated self-view.

While I theorize in this manuscript primarily on the creation or destruction of social approval assets, I examine CEO-TMT pay disparity as a direct consequence of narcissistic admiration and rivalry social strategies and behaviors. Following prior work on TMT compensation, which shows that CEO values influence how CEOs evaluate and set pay for their

TMT (Chin & Semadeni, 2017), I argue that the values for social potency and social conflict are associated with admiration and rivalry, respectively will manifest in TMT pay arrangements. Thus, by examining TMT pay compensation, I can test the expression of narcissistic admiration and rivalry to a firm outcome more proximal to the CEO. Also, the testing of CEO-TMT pay disparity provides additional evidence to my focal assumption that admiration CEOs seek to create social approval assets while rivalrous CEOs seek to destroy them.

Aligning with the self-enhancement strategies of admiration CEOs, I argue that these CEOs will proactively seek to decrease the pay gap between themselves and their team. The assertiveness of the CEO to bridge the pay gap is motivated by their need to attain social potency, particularly admiration and respect. Beyond the associated admiration and status that comes with higher performance (Chatterjee & Hambrick, 2007) brought about by low pay disparity (Ridge et al., 2015), low CEO-TMT pay disparity will create opportunities for exhibitionism by allowing CEOs to "tak[e] the moral high ground on socially acceptable behaviors" (Petrenko et al., 2016, p. 265). Additionally, admiration CEOs avoid negative attention. Increases in the vertical pay gap can create a dysfunctional work environment, with the focal point being uneven compensation. Therefore, it is in the best interests of admiration CEOs to foster a more even pay gap to avoid being seen negatively (Petrenko et al., 2016). Therefore:

H7: CEO admiration is negatively related to vertical pay disparity (CEO-TMT).

In contrast, rivalrous CEOs likely thrive in social conflict and will likely act to increase the pay gap between themselves and the team in at least two ways. First, the rivalrous CEO's belief that they are superior will likely ensure their salary is far beyond their non-CEO counterparts. This increase in the pay gap will affirm that the CEO is superior and create a work environment higher in conflict. Second, a large pay gap will likely generate a tournament scenario with other top management team members. Albeit likely that the rivalrous CEO does not select a winner, tournaments and the high performance associated with them in top management teams (e.g., Ridge et al., 2015) will offer rivalrous CEOs the opportunity to take credit as well as justify high Vertical pay disparity. Therefore, I hypothesize that:

H8: CEO rivalry is positively related to vertical pay disparity (CEO-TMT).

Copresence of high admiration and rivalry among CEOs

Generally speaking, theory and empirical evidence indicate that admiration and rivalry are two distinct and separate dimensions of narcissism (Back & Gerlach, 2013; Grapsas et al., 2019). However, there can be cases where individuals, including CEOs, score highly on both dimensions (Back & Gerlach, 2013). While theorists haven't completely disentangled how these narcissists behave (cf. Grapsas et al., 2019), day-to-day admiration and rivalry behavior should be present in individuals and CEOs' lives when there is a high copresence of these dimensions; requiring a deeper explanation as to how the social dynamics among senior executives and other organizational members should operate under the leadership of such a chief executive.

Assuming that senior executives and organizational members experience relatively consistent positive (admiration) and negative social interactions (rivalry) from these CEOs, a possible explanation can be revealed by examining how audience members weigh positive and negative experiences from the same source. Drawing from the social psychology tradition, a wealth of research has shown that people tend to weigh and remember negative experiences and social interactions over positive ones, which psychologists have formally coined the "negativity bias" (Rozin & Royzman, 2001). Various studies support this negativity dominance principle

(Norris, 2021), including the domains of decision making, impression formation, and social contagion (Rozin & Royzman, 2001). Indeed, in a review of negativity bias in close relations and social networks, the authors concluded: “all in all, the evidence is fairly clear and unanimous in indicating that relationships are more affected by bad events than good ones. As seen in daily interactions, broad patterns, affect of problem-solving, and marital communication…” (Baumeister et al., 2001, p. 330). Therefore, it is likely that in cases in which CEOs are high in admiration and rivalry, the behavior associated with rivalry will likely be weighted more than admiration behaviors, leading to the effects of admiration being effectively washed out and rivalry behavioral effects becoming dominate (see Figure 1 2x2 for a visual explanation).

Method

Sample and Procedure

I use a randomly selected set of 300 CEOs from the SP500 in 2018. I collected all industry, firm, TMT, and CEO archival data using Compustat and Execucomp, respectively, and used BoardEx for board information. To assess representativeness in my sample, I compared my data to randomly sampled CEO/firms who entered the SP500 in 2018 (excluding my sample) using the Kolmogorov-Smirnov (K-S) two-sample test (S. Siegel, 1956; Westphal & Bednar, 2005). Essentially, the K-S test tests the distribution of two of the same variables from different samples, which allows me to observe if there is a difference in the variable distribution between these samples. The K-S test includes skew, kurtosis, and central tendency and is a standard method used in corporate governance and upper echelons research. I test several key variables, including CEO tenure, CEO age, CEO duality, CEO ownership, ROA, firm size, and ROE. I use the ksmirnov function in Stata to perform this test (StataCorp, 2007). The K-S test indicated no significant differences. After removing missing data and temporary CEO assignments, my final sample consisted of 191 firms, 1,579 observations from 1999-2021.

Measurement

Independent Variable

To measure CEO narcissism, I used The Narcissism Admiration and Rivalry Questionnaire (NARQ) (Back & Gerlach, 2013). To collect the personality data, I use the videometric approach (Hill et al., 2019; Petrenko et al., 2016), designed to capture CEO personality unobtrusively. The videometric approach is a method by which personality experts (generally clinical psychologists) assess the personality of individuals based on archival video data. Beyond its increase in usage in management research (Chandler et al., 2021; Petrenko et al., 2019), the use of third-party ratings for psychometrically validated scales has shown validity in meta-analytic work (Oh et al., 2011) and does not suffer from self-report inflation (Van Iddekinge et al., 2005). Moreover, the third-party measurement of executive personality traits is beneficial because it successfully sidesteps the availability and scarcity of access to CEOs (Hill et al., 2019). Following prior work (Petrenko et al., 2016), I recruit four clinical psychologists to assess each CEO's personality from a two-and-a-half-minute video of the CEO. Each video will be examined and edited to obscure the CEO’s identity (e.g., editing out the CEO’s name in speech or blurring on-screen text identifying the CEO). I score the 18-item NARQ using the multicon package in R (Sherman & Serfass, 2015). I test the agreement of ratings for each CEO using intraclass correlation coefficient analysis (ICC). Specifically, I follow the recommendations of Shrout and Fleiss (1979), who suggest using ICC(3,k) to set up my proposed study. Each CEO is rated by the same k judges (p. 421). As shown in equation 1, ICC(3, k) is the difference of between target mean square (BMS) and within target residual

(EMS) divided by BMS. I use the psych package in R to conduct my ICC analysis (Revelle & Revelle, 2015). Assuming a sufficient level of agreement (generally .30), I then average the four scores from each judge of CEO narcissism and conduct a Cronbach alpha reliability test on the overall measure (Cronbach, 1951).

$$ICC(3, k) = (BMS - EMS)/BMS \tag{1}$$

Dependent Variables

CEO Tenure. I use the SMART tool to compute CEO tenure (http://smartdatatool.net/). As shown in equation 2, the SMART tool extracts the year from the becameceo date in Execucomp (becameceo_year), then subtracts that from the focal year (year).

$$CEO\_TENURE_{it} = YEAR_{it} - BECAMECEO\_YEAR_{it} \tag{2}$$

Heir apparent promotion. Following prior research and theory (Ridge et al., 2015), I identify an heir apparent using two criteria: 1) an individual on the TMT who does not hold the CEO title and holds the title of COO, president, or both; 2) the individual is at least four years younger than the CEO. This will be a dichotomized variable.

TMT Turnover. Following prior research and as shown in equation 3 (Cho & Shen, 2007), I calculate TMT turnover by summing exited executives and newly appointed executives as a percentage of the total TMT size at the beginning of the year.

$$TMT\ Turnover = \left(\frac{Exited_{it} + New_{it}}{Total_{it}}\right) \times 100 \tag{3}$$

Vertical pay disparity. Following prior research (Ridge et al., 2015; P. A. Siegel & Hambrick, 2005), I use the ratio of CEO total compensation divided by the average total compensation of the TMT.

$$Pay\ Gap = \frac{CEO\ Total\ Compensation_{it}}{TMT\ Total\ Compensation_{it}} \tag{4}$$

Control Variables

CEO Controls. I control for CEO variables shown to be relevant to top management team dynamics. I control for CEO demographics, including CEO gender and CEO age (Dezsö & Ross, 2012; Wiersema & Bantel, 1992). I also control for CEO structural power by utilizing the dichotomous variable of CEO duality (i.e., the CEO is also the Chairman of the board) (Li & Tang, 2010).

Board/TMT Controls. I also control for top management team and board variables that are shown to impact executive routines. I include board independence, a ratio variable of the total number of insiders divided by the total number of members on the board, and the board size to control for board power structure and flexibility (Rajagopalan & Spreitzer, 1997; Zajac & Westphal, 1994). I also control for TMT size because that can influence the frequency and degree to which the CEO socially interacts with individual members and TMT age, a proxy for skill set variety (Nadkarni & Herrmann, 2010). I also control for TMT average tenure, which could be related to the rate of TMT turnover.

Industry and Firm Controls. I also control for firm and industry-specific characteristics because they are thought to be related to firm strategy and performance. I use the Fama French (http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data_Library/det_17_ind_port.html) industry codes to control for industry characteristics, which is commonly used in strategic management (Chen et al., 2021; Feldman et al., 2018). I include market concentration, slack resources, previous year ROA, and average stockholder equity regarding firm-specific controls. I control industry performance using SIC-2 industry ROA as a control (Hambrick & Quigley, 2014).

Analysis Plan

Following prior work (Chatterjee & Hambrick, 2007), I use generalized estimating equations (GEE) to estimate my models. I use GEE analysis for three reasons. First, while CEO narcissism is inherently stable, the remaining structure of my proposed data set will be repeated measures and thus autocorrelated. GEE is designed to estimate my associations of interest under these conditions. Second, GEE relies on fewer assumptions than more common random-effects models (e.g., mixed-effects), which allows for potentially less biased estimates of my associations of interests (Hubbard et al., 2010). Third, GEE estimates are resistant to conditional model misspecification for joint distributions of repeated observations because GEE treats the dependence of time as a “nuisance” as a trade-off for a less biased covariate estimate (Liang & Zeger, 1986). I use robust variance estimators proposed by White (1980), which provide consistent estimations of model variance under heteroskedasticity that provide more precise model estimates.

Except for the heir apparent model, I specify a Gaussian distribution with an identity link function and exchangeable correlation structure for my GEE analysis. I specify Gaussian distribution because I assume the arguments of the central limit theorem, which postulates that randomly selected independent variables will follow a normal distribution in most cases. I select the identity link function (except for heirs apparent) because the outcome is naturally ordered (numeric) with a fixed unit of measurement. I use an exchangeable correlation structure because the covariance between time points is unclear. For the heir apparent model, I use a binomial distribution that expresses the probability of a yes/no binary variable. I also specify a log link function for this model, enabling me to test a linear relationship between the discrete apparent outcome and CEO narcissism.

Results

Table 1 reports the correlation table for all continuous variables in our models. I report the means and standard deviations for all continuous variables in Table 2. To test the interrater reliability of CEO narcissism, I computed rwg(j) (James et al., 1984) and ICC scores (Petrenko et al., 2016). The rwg(j) scores for CEO admiration and CEO Rivalry were 0.953 and 0.937, respectively, indicating satisfactory agreement. ICC(3,4) estimates indicated a significant agreement for CEO admiration (ICC = 0.207; p = 0.011) and an insignificant ICC(3,4) for CEO rivalry (ICC = 0.101; p = 0.15). Alpha scores were .87 and .90 for admiration and rivalry respectively. While the ICC for CEO rivalry was not significantly different from zero, the relatively high rwg(j) score indicated strong agreement between raters (cf. Petrenko et al., 2016), and thus I proceeded with the analysis for both CEO admiration and CEO rivalry.

As seen in Table 3, results support Hypothesis 1 and Hypothesis 2 which states that CEO admiration is positive to CEO tenure (b = -0.723, p = 0.042) and CEO rivalry is negative to CEO tenure (b = 0.503, p = 0.094). Recall that these coefficients are in likelihood to exit, with admiration decreasing the likelihood that the CEO exits the firm and rivalry increasing the likelihood of exit.

For Hypothesis 3 and Hypothesis 4, I theorized that CEO admiration would increase the likelihood of heir apparent, and CEO rivalry would decrease the likelihood of heir apparent. According to results seen in Table 4 Model 2, the results did not support the relationship between CEO admiration and heir apparent presence (b = -0.173, p = 0.359). The results also did not support the relationship between CEO rivalry and heir apparent presence (b = -0.106, p = 0.574).

Regarding Hypothesis 5 and Hypothesis 6, which argue that CEO admiration is negatively associated with TMT turnover and CEO rivalry is positively associated with TMT turnover, results are posted in Table 5 Model 2. For Hypothesis 5, the results did not support my hypothesis that CEO admiration is negatively associated with TMT turnover ($b = 5.177$, $p = 0.056$). For Hypothesis 6, model estimates did not support my theory that CEO rivalry is positively associated with TMT turnover ($b = -5.705$; $p = 0.019$). Results for both Hypothesis 5 and Hypothesis 6 were statistically significant at $p < .10$ in the opposite direction. I explore this further in the post hoc analysis following the results section.

Finally, Hypothesis 7 and Hypothesis 8 posits that CEO admiration is negatively associated with vertical pay disparity while CEO rivalry is positively associated with vertical pay disparity, respectively. As shown in Table 6, Model 2, results did not support this hypothesis ($b = 1.223$, $p = 0.050$). Similarly, results did not support Hypothesis 8, with CEO rivalry and vertical pay disparity ($b = -1.041$, $p = 0.035$). However, because these results were significant in the opposite direction ($\alpha = .05$), I explore potential explanations for these results in the discussion section

Post Hoc Analysis

Judge Agreement

The insignificant ICC for CEO rivalry prompted a deeper exploration into the general results. To resolve the agreement issue, I used the Cronbach alpha score to identify the potentially unreliable judge using the psych package in R (Revelle, 2021). I used this analysis because it provides estimates of alpha score reliability of a measure if a given item, or in this case, judge, is dropped from the analysis. In both CEO admiration and CEO rivalry cases, the analysis indicated that the same judge was unreliable relative to the other three coders. I removed this judge from the analysis, then reanalyzed the rwg(j) and ICC scores. As expected, the Rwj and ICC improved in CEO admiration and CEO rivalry. Most notably, the ICC score for CEO rivalry estimates differed significantly from zero, indicating agreement among the judges. I then used the new CEO admiration and CEO rivalry scores in the same models and found that coefficients became stronger and their standard errors became weaker (i.e., lower p-values) across each significant model.

Opposite Regression Coefficient

Regarding Hypothesis 5 and Hypothesis 6, which argued that CEO admiration is negatively related to TMT turnover and CEO rivalry is positively related to TMT turnover, results showed a statistically significant effect for CEO admiration and rivalry in the opposite direction than hypothesized. Results showed that CEO admiration is positively associated with TMT turnover, and CEO rivalry is negatively associated with TMT turnover. To explore this effect further, I conducted five post hoc analyses using newly constructed dependent variables. All five dependent variables were designed to be indicators of the CEO’s willingness to let go of a team member or to keep them. The logic is that CEOs high in admiration should create a revolving door of TMT members because of the CEO’s need for admiration, which can decline or become less satisfying over time with people familiar to them (Back et al., 2013) and therefore cause their TMT members to be relatively new from year to year. Compared to CEOs high on rivalry, this relationship should keep TMT members close (i.e., less likely to let go) because of their dominant and controlling nature over them (cf. Back et al., 2013). In sum, I expect CEO admiration to have relatively new TMT and CEO rivalry to have relatively older TMT members.

I used R and Execucomp database to compute all dependent variables. I first created unique pairs of CEO execid and TMT execid. Then, I created a static variable that counted the number of firms a unique CEO-TMT pair was on together over the entire Execucomp dataset, then averaged this number to create a static score of the average number of firms a focal CEO was on across all possible dyads. The second variable I created is the average length a given TMT member stayed with the CEO from year to year. The third variable I created was a repeated measure variable that measured the longest (max) tenure of a focal CEO-TMT dyad in a given year. The fourth variable I created was a repeated measure variable that measured the number of TMT members with the CEO two years are more divided by total TMT size (minus CEO). The fifth variable was static and measured the average lifespan of all dyads over the CEO's career.

The fourth variable, which measured the number of TMT members with the CEO two years or more (scaled by TMT size), indicated results supporting the CEO rivalry logic. Specifically, CEO rivalry is positive and significant ($b = 0.036$; $p = 0.025$) when removing TMT size from the original model (because it is directly included in the dependent variable). Therefore, the results indicate that CEO rivalry positively predicts the percentage of TMT members that stay with the CEO for two or more years. I unpack this further in the discussion section.

Discussion

In this study, my goal was to expand upon prior research in executive narcissism literature by conducting an in-depth empirical examination of a relatively more robust conceptualization and measurement of CEO narcissism. I first conducted a comprehensive review of social psychology and strategic management to provide a clear historical and current understanding of the narcissism construct from these perspectives. Compared to social psychology's perspective on narcissism, strategic management literature, particularly the stream related to executive narcissism, differed in the depth and scope of understanding of narcissism's functioning and social processes. Specifically, findings from the field of Strategic Management indicated an out-of-date view of the narcissism concept, inconsistent findings across several key indicators of the firm, including firm performance and risk-taking, and a limited focus on the social dynamics that executive narcissism should likely influence (cf. Cragun et al., 2020). On the other hand, social psychology has formulated and developed a new conceptualization of narcissism, specifically the Narcissism Admiration and Rivalry Concept (and questionnaire), which provided a robust explanation, both theoretical and empirical, of the developmental origins and motivations of trait narcissism by dividing narcissism into two distinct social dimensions. As noted by other executive narcissism scholars but never explicitly explored (to my knowledge) (see Chatterjee & Pollock, 2017 and Cragun et al., 2020), the NARC provided an opportunity to expand the understanding of how executive narcissism operates in the firm, which led me to adopt this new narcissism concept in resolving some of the shortcomings found in executive narcissism research (cf. Cragun et al., 2020).

Because the NARC is built almost entirely on the premise of divergent social patterns and the executive narcissism literature's limited focus on social dynamics, I emphasized my study on firm outcomes that are likely to be influenced by the CEO and the social circumstances they create. Ultimately, I settled on four distinct firm outcomes, including CEO tenure, the presence of an heir apparent, TMT turnover, and vertical pay disparity. The undergird of each firm outcome was derived from the assumption that they are highly related to the social dynamics each dimension of narcissism is shown to produce, specifically, that CEO admiration should create greater favorability among organizational members and CEO rivalry should create greater unfavorability among organizational members, influencing the collective decision-making of the firm, particularly regarding these strategic decisions. While results for CEO tenure provided initial support for this overarching idea, non-significant results for heir apparent presence and opposite significant results for TMT turnover and vertical pay disparity indicated an unexplored complexity to my initial theorizing regarding the social dynamic effects of CEO admiration and rivalry. Below I review a some directions for future reflective of these results.

Pathway Forward

CEO Tenure

Consistent with findings in CEO succession literature, which suggests that the quality of relationships that the CEO forms among members of their organization can explain CEO tenure length (Shen, 2003), my results show that CEO admiration decreases the likelihood of a CEO exit and CEO rivalry increases the likelihood of CEO exit, providing initial support to my notion that the divergent social dynamics created by CEO admiration and rivalry can influence how long a person remains as a CEO. Given the growing excitement to understand CEO succession processes (Gentry et al., 2021), a possible pathway forward is to understand specific boundary conditions such as national culture (Blake et al., 2022) or industry (Siegel & Hambrick, 2005) that could shape how the differing social dynamics of narcissism impact the tenure process.

Heir Apparent

Unsupported, non-significant findings of the relationship between CEO narcissism and heir apparent presence, while surprising, can still provide a reasonable understanding of how to examine the social dynamics of CEO narcissism. First, the heir apparent presence measurement aligns conceptually with theory; however, it can be imprecise given the complexity of the succession, i.e., the number of people ultimately involved in the process (Cannella et al., 2009) paper). I suspect this variable marginally taps into the divergent social dynamics this study is focused on and therefore, likely contributed to the non-significant findings. Second, there could be unexplored boundary conditions shaping the succession process (Vancil, 1987). For instance, one study of a sample of large public firms (over $100 million in revenue) found that intrafirm structure, such as board characteristics, directly influenced the succession process. A richer conceptual overview and empirical of the intrafirm market dynamics associated with the CEOs narcissistic social tendencies could yield a prudent direction forward in better understanding the succession process.

TMT Turnover

The results for TMT turnover were opposite significant of my hypotheses. For CEO admiration, the favorability generated by the CEO should have decreased the turnover while the unfavorability should have increased turnover. I found that CEO admiration had a positive effect on TMT turnover while CEO rivalry had a negative effect on TMT turnover, prompting a deeper look into the TMT turnover process. Compared to my original theorizing, which assumed a high degree of agency for a focal TMT member to select in and out of a focal firm, these results suggest that CEOs may have greater control over their team's entrance and exit into senior leadership. Specifically, regarding CEO admiration, perhaps as admiration from familiar others becomes less satisfying over time (Back et al., 2013), CEOs high in admiration will remove and bring in new senior executives to maintain a highly satisfying dynamic of admiration. Moreover, it could be that new TMT candidates are highly attracted to CEOs high in admiration because of their perception of competence (Back et al., 2013; Andrus et al., 2019).

At the same time, CEOs high in rivalry could be less attractive to TMT candidates because of the general aggressiveness and hostility of the CEO, limiting the applicant pool. Those candidates comfortable with being dominated and controlled by a rivalrous CEO could likely remain longer with the CEO. Specifically, because rivalrous CEOs are motivated to maintain social superiority over others (Back et al., 2013), they should be motivated to keep around senior executives comfortable with them. As shown in the post hoc examination, TMT members working for rivalrous CEOs are likelier to stay with the CEO than less rivalrous CEOs. Overall, the opposite findings of CEO admiration and CEO rivalry capture a relatively novel mechanism in TMT turnover research, and a deeper examination into how CEOs who are high on admiration or rivalry use TMT members socially could provide a wealth of insight into how firm's make senior executive decisions and enhancing the understanding on how the market for senior executives influences this process.

Vertical Pay Disparity

Similar to TMT turnover, empirical results indicate opposite and significant effects contrary to my hypotheses. Specifically, I theorized that CEO admiration should be negatively related to vertical pay disparity and CEO rivalry should be positive to pay disparity because of the divergent tendencies to act in ways that generate favorability and unfavorability among their team, respectively. However, results showed that CEO admiration is significantly positive to vertical pay disparity while CEO rivalry is significantly negative. There is a developing theory in social psychology on narcissism that could help to explain these results.

In particular, the heirometer (pronounced *hero*) theory indicates that narcissism is highly related to social status, with admiration tending to elevate status and rivalry reducing status among their audience (Grosz et al., 2020; Zeigler-Hill et al., 2019). This notion can be crucial for vertical pay disparity as higher status tends to increase CEO pay (Graffin et al., 2008) which can naturally widen the gap between the CEO's pay and their TMT (Graffin et al., 2008). Moreover, current and future TMTs may also be more willing to be paid less relative to CEOs with higher status because of the opportunity for status dispersion and greater career prospects (Graffin et al., 2008). This notion also reveals the possibility that TMT members working with highly rivalrous CEOs could be more willing to stay because they are seen more as peers when comparing themselves to the CEO (Ridge et al., 2015). Therefore, in my future work, I intend to explore this idea further to explore how the social dynamics of narcissism can shape outcomes related to the TMT.

Conclusion

In this study, I adopted the cutting-edge approach to narcissism conceptualization and measurement to understand further how and why CEO narcissism shapes the firm's direction. While the results did not entirely align with my hypotheses, they did reveal the importance of studying executive narcissism with greater nuance. They provided several directions to explore in future research, such as conceptually and empirically uncovering the significant impact of CEO admiration and CEO rivalry on TMT social dynamics and outcomes that the results clearly showed. Taken together, this study pushes the bounds of current thought on executive narcissism decision making and provides a wealth of opportunity for future research.

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Table 1

Correlation Table

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	Tangibility																					
2	Market to Book	-0.04																				
3	ROA	-0.14	0.06																			
4	TSR	-0.07	0.05	0.09																		
5	Tobin's Q	-0.15	0.12	0.48	0.22																	
6	Firm Size	0.05	-0.00	0.06	-0.05	-0.22																
7	Firm Diversification	-0.19	-0.01	-0.08	-0.00	-0.20	0.22															
8	Firm Risk Taking	0.40	-0.03	-0.06	-0.09	-0.12	0.44	0.10														
9	Board Independence	0.04	-0.02	-0.12	0.03	-0.16	0.13	0.07	0.03													
10	Board Size	0.03	-0.02	-0.12	-0.06	-0.22	0.37	0.15	0.28	0.23												
11	Board Tenure	-0.01	0.05	0.07	-0.06	0.01	0.22	0.01	0.07	0.10	0.14											
12	TMT Size	0.05	-0.02	-0.03	-0.04	-0.05	0.05	0.01	0.05	-0.06	0.12	-0.15										
13	TMT Tenure	0.02	0.05	0.01	-0.04	-0.03	0.14	0.00	0.01	-0.03	0.06	0.64	-0.19									
14	TMT Turnover	-0.04	-0.03	0.02	-0.03	0.03	0.00	0.01	0.02	-0.00	0.03	-0.18	0.16	-0.40								
15	Heir Apparent	0.05	-0.02	0.02	0.04	0.03	0.06	0.01	0.03	0.00	0.05	0.04	-0.01	0.05	-0.01							
16	TMT Pay Gap	-0.02	0.05	0.07	-0.03	0.13	0.01	-0.04	0.01	-0.05	0.02	0.03	-0.00	-0.03	0.02	0.02						
17	CEO Duality	0.08	-0.03	-0.02	-0.01	-0.09	0.17	0.10	0.06	0.05	0.02	0.01	-0.08	0.07	-0.09	0.01	0.10					
18	CEO Gender	-0.10	0.01	-0.00	-0.01	-0.03	0.02	0.04	-0.02	-0.02	-0.02	0.08	-0.07	0.07	-0.01	0.01	0.04	0.14				
19	CEO Age	0.02	0.02	0.08	0.00	0.08	0.24	0.08	0.15	0.12	0.14	0.28	-0.04	0.30	-0.06	0.22	0.12	0.19	0.06			
20	CEO Ownership	-0.02	-0.01	0.06	0.00	0.01	-0.08	0.05	-0.04	-0.27	-0.18	-0.09	-0.01	0.08	-0.08	0.01	0.01	-0.03	0.01	0.05		
21	CEO Admiration	0.06	-0.00	-0.05	-0.02	-0.01	0.02	-0.11	0.01	-0.00	-0.09	-0.09	-0.01	-0.05	0.01	-0.06	0.06	-0.03	-0.11	-0.07	0.01	
22	CEO Rivalry	-0.02	0.01	0.05	-0.04	0.02	-0.06	-0.04	-0.02	-0.08	-0.03	-0.03	-0.04	-0.05	-0.01	-0.06	-0.04	-0.08	0.01	-0.01	0.10	0.50

Table 2

Mean and Standard Deviations of Continuous Variables

	Mean	SD
Tangibility	0.25	0.24
Market to Book	5.00	39.72
ROA	0.06	0.09
TSR	0.14	0.43
Tobin's Q	2.24	2.03
Firm Size	2.94	1.52
Firm Diversification	0.48	0.54
Firm Risk Taking	6.57	1.61
Board Independence	0.66	0.08
Board Size	14.69	3.12
Board Tenure	6.04	2.50
TMT Size	5.80	1.11
TMT Tenure	5.20	2.89
TMT Turnover	28.52	26.93
Heir Apparent	0.25	0.44
CEO-TMT Pay Gap	3.06	3.31
CEO Duality	0.56	0.50
CEO Gender	0.98	0.14
CEO Age	55.47	6.81
CEO Ownership	1.70	5.08
CEO Admiration	3.98	0.35
CEO Rivalry	2.63	0.38

Note. SD represents standard deviation.

Table 3

Survival results for Hypothesis 1 and Hypothesis 2 (CEO Tenure)

	Model 1		Model 2	
	b	*p*	*b*	*p*
Tangibility	0.95 (0.53)	[0.07]	1.33 (0.55)	[0.02]
Market to Book	-0.04 (0.02)	[0.06]	-0.03 (0.02)	[0.10]
ROA	0.71 (1.17)	[0.54]	0.42 (1.14)	[0.71]
TSR	0.47 (0.30)	[0.12]	0.43 (0.31)	[0.17]
Tobin's Q	-0.04 (0.07)	[0.58]	-0.06 (0.07)	[0.41]
Firm Size	-0.06 (0.10)	[0.53]	-0.03 (0.10)	[0.78]
Firm Diversification	-0.50 (0.19)	[0.01]	-0.51 (0.20)	[0.01]
Firm Risk Taking	-0.12 (0.09)	[0.17]	-0.14 (0.09)	[0.11]
Board Independence	-0.68 (1.42)	[0.63]	-0.49 (1.44)	[0.73]
Board Size	-0.02 (0.04)	[0.58]	-0.02 (0.04)	[0.54]
Board Tenure	-0.26 (0.06)	[0.00]	-0.26 (0.06)	[0.00]
TMT Size	-0.05 (0.11)	[0.62]	-0.05 (0.11)	[0.62]
TMT Tenure	-0.30 (0.05)	[0.00]	-0.31 (0.05)	[0.00]
CEO Duality	-0.30 (0.19)	[0.12]	-0.23 (0.19)	[0.23]
CEO Gender	0.16 (0.50)	[0.75]	-0.06 (0.51)	[0.91]
CEO Age	0.02 (0.02)	[0.39]	0.02 (0.02)	[0.38]
CEO Ownership	0.00 (0.03)	[0.92]	0.02 (0.03)	[0.48]
CEO Admiration			-0.72 (0.36)	[0.04]
CEO Rivalry			0.50 (0.30)	[0.09]

Table 4

GEE results for Hypothesis 3 and Hypothesis 4 (Heir Apparent)

	Model 1		Model 2	
	b	*p*	*b*	*p*
Tangibility	-0.10	[0.78]	-0.12	[0.73]
	(0.35)		(0.36)	
Market to Book	-0.01	[0.04]	-0.01	[0.03]
	(0.01)		(0.01)	
ROA	0.11	[0.86]	0.10	[0.87]
	(0.62)		(0.61)	
TSR	0.18	[0.06]	0.17	[0.07]
	(0.09)		(0.09)	
Tobin's Q	0.02	[0.56]	0.02	[0.56]
	(0.03)		(0.03)	
Firm Size	-0.00	[0.97]	0.01	[0.88]
	(0.06)		(0.06)	
Firm Diversification	0.03	[0.83]	0.01	[0.93]
	(0.12)		(0.12)	
Firm Risk Taking	-0.02	[0.61]	-0.02	[0.56]
	(0.04)		(0.04)	
Board Independence	-1.02	[0.16]	-1.02	[0.16]
	(0.72)		(0.72)	
Board Size	0.03	[0.19]	0.02	[0.22]
	(0.02)		(0.02)	
Board Tenure	-0.01	[0.86]	-0.01	[0.84]
	(0.03)		(0.03)	
TMT Size	-0.05	[0.32]	-0.05	[0.27]
	(0.05)		(0.05)	
TMT Tenure	-0.01	[0.71]	-0.01	[0.66]
	(0.02)		(0.02)	
CEO Duality	-0.22	[0.04]	-0.22	[0.04]
	(0.11)		(0.11)	
CEO Gender	0.19	[0.57]	0.14	[0.66]
	(0.33)		(0.31)	
CEO Age	0.06	[0.00]	0.06	[0.00]
	(0.01)		(0.01)	
CEO Ownership	-0.01	[0.31]	-0.01	[0.47]
	(0.01)		(0.01)	
CEO Admiration			-0.17	[0.36]
			(0.19)	
CEO Rivalry			-0.11	[0.57]
			(0.19)	
Constant	-4.47	[0.00]	-3.37	[0.00]
	(0.89)		(1.17)	

Note. Standard errors in parentheses. P-values in brackets. Fama industry control included in both models.

Table 5

GEE results for Hypothesis 5 and Hypothesis 6 (TMT Turnover)

	Model 1		Model 2	
	b	*p*	*b*	*p*
Tangibility	0.61	[0.92]	-0.66	[0.92]
	(6.15)		(6.28)	
Market to Book	-0.00	[0.14]	-0.00	[0.18]
	(0.00)		(0.00)	
ROA	-0.50	[0.96]	1.10	[0.91]
	(10.02)		(9.94)	
TSR	-2.54	[0.08]	-2.60	[0.08]
	(1.47)		(1.48)	
Tobin's Q	-0.29	[0.56]	-0.30	[0.55]
	(0.50)		(0.51)	
Firm Size	0.14	[0.87]	0.11	[0.89]
	(0.81)		(0.79)	
Firm Diversification	-0.05	[0.97]	-0.05	[0.97]
	(1.39)		(1.42)	
Firm Risk Taking	0.28	[0.67]	0.19	[0.77]
	(0.66)		(0.66)	
Board Independence	-11.51	[0.18]	-12.10	[0.16]
	(8.53)		(8.65)	
Board Size	0.42	[0.24]	0.48	[0.17]
	(0.36)		(0.35)	
Board Tenure	1.67	[0.00]	1.75	[0.00]
	(0.49)		(0.48)	
TMT Size	1.22	[0.14]	1.14	[0.17]
	(0.83)		(0.82)	
TMT Tenure	-5.02	[0.00]	-5.11	[0.00]
	(0.42)		(0.42)	
CEO Duality	-3.42	[0.03]	-3.60	[0.03]
	(1.62)		(1.63)	
CEO Gender	3.83	[0.28]	4.94	[0.19]
	(3.57)		(3.80)	
CEO Age	0.44	[0.00]	0.45	[0.00]
	(0.14)		(0.14)	
CEO Ownership	-0.42	[0.16]	-0.44	[0.14]
	(0.30)		(0.29)	
CEO Admiration			5.18	[0.06]
			(2.71)	
CEO Rivalry			-5.71	[0.02]
			(2.44)	
Constant	15.79	[0.23]	8.94	[0.57]
	(13.05)		(15.86)	

Note. Standard errors in parentheses. P-values in brackets. Fama industry control included in both models.

Table 6

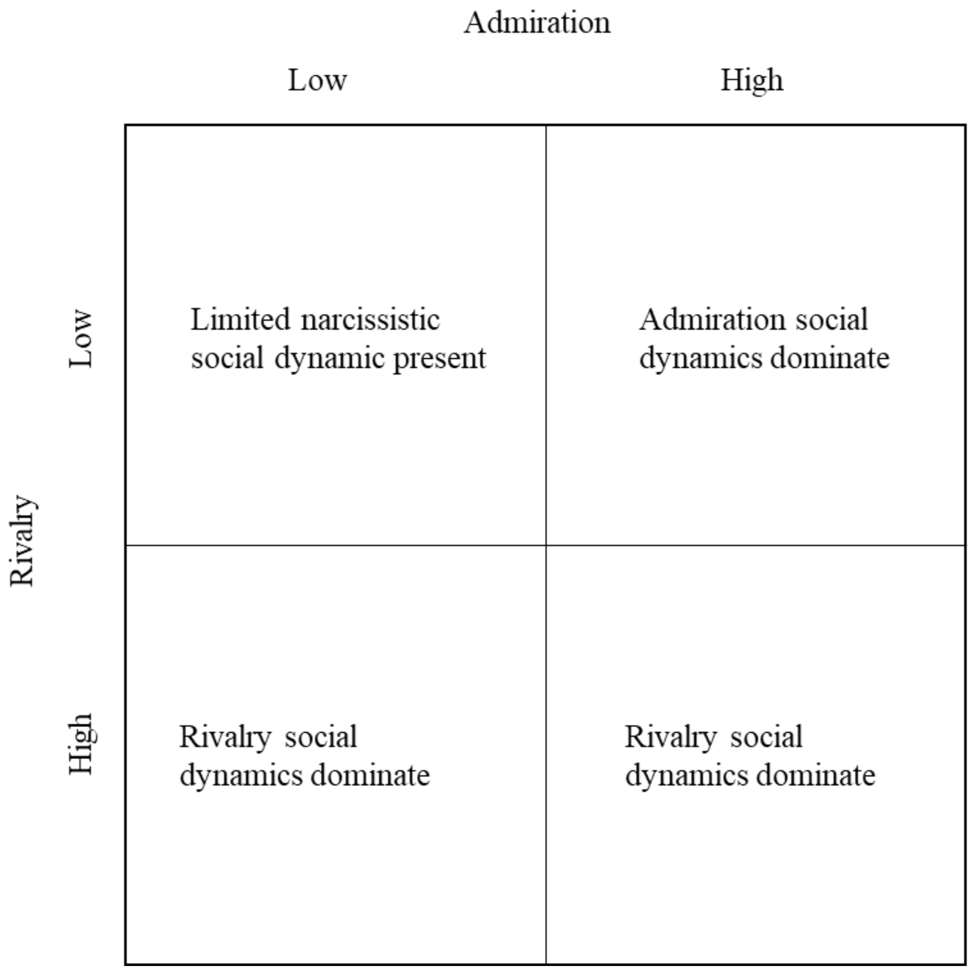
GEE results for Hypothesis 7 and Hypothesis 8 (Vertical Pay Disparity)

	Model 1		Model 2	
	b	*p*	*b*	*p*
Tangibility	-1.88	[0.06]	-2.02	[0.05]
	(1.00)		(1.01)	
Market to Book	0.00	[0.00]	0.00	[0.00]
	(0.00)		(0.00)	
ROA	0.25	[0.87]	0.53	[0.73]
	(1.59)		(1.53)	
TSR	-0.65	[0.02]	-0.67	[0.02]
	(0.28)		(0.28)	
Tobin's Q	0.18	[0.16]	0.18	[0.15]
	(0.13)		(0.13)	
Firm Size	-0.05	[0.71]	-0.07	[0.62]
	(0.13)		(0.13)	
Firm Diversification	-0.03	[0.88]	0.00	[1.00]
	(0.23)		(0.22)	
Firm Risk Taking	-0.04	[0.70]	-0.05	[0.61]
	(0.10)		(0.10)	
Board Independence	-1.27	[0.36]	-1.45	[0.28]
	(1.40)		(1.34)	
Board Size	0.11	[0.03]	0.11	[0.02]
	(0.05)		(0.05)	
Board Tenure	0.09	[0.18]	0.10	[0.14]
	(0.07)		(0.07)	
TMT Size	-0.10	[0.37]	-0.10	[0.36]
	(0.11)		(0.11)	
TMT Tenure	-0.12	[0.00]	-0.13	[0.00]
	(0.04)		(0.04)	
CEO Duality	0.60	[0.00]	0.60	[0.00]
	(0.19)		(0.20)	
CEO Gender	0.62	[0.28]	0.84	[0.14]
	(0.58)		(0.56)	
CEO Age	0.10	[0.00]	0.10	[0.00]
	(0.02)		(0.02)	
CEO Ownership	0.04	[0.51]	0.03	[0.59]
	(0.06)		(0.06)	
CEO Admiration			1.22	[0.05]
			(0.62)	
CEO Rivalry			-1.04	[0.04]
			(0.49)	
Constant	-3.29	[0.17]	-5.52	[0.08]
	(2.41)		(3.20)	

Note. Standard errors in parentheses. P-values in brackets. Fama industry control included in both models.

Figure 1

Admiration and Rivalry Copresence 2x2



Note. This 2x2 depicts how the dimensions of CEO admiration and rivalry should operate in the organization.