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Setting the tone to get their way: An attention-based approach to how narcissistic CEOs influence the board of directors to take more risk

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Abstract

Research Summary: Upper echelons research has generated insights into the organizational consequences of CEO narcissism. However, fewer studies have empirically attended to the mechanisms through which these consequences occur. Using the attention-based view, we introduce a process model examining how CEO narcissism is linked to corporate risk-taking through the board of director discussion tone of risk-taking during board meetings. We further note that narcissistic CEOs have an increased ability to do so when they are appointed to be board chair. We find strong support for each of our hypotheses by utilizing a unique data set of corporate board meeting transcripts encompassing 88 public firms and 197 CEOs over 20 years. Our results suggest that narcissistic CEOs are adept at controlling the attentional foci of boards of directors to get their way.

Managerial Summary: Our study offers an explanation as to how CEO narcissism influences firm risk-taking behavior. Specifically, we demonstrate that narcissistic CEOs are prone to drive board discussions about risk-taking to hold a positive tone—especially when they also serve as board chair—thereby enabling them to allocate increased resources toward risk-taking strategies. Through an extensive analysis of board

meeting transcripts spanning two decades across 88 companies, we illustrate how narcissistic CEOs wield substantial influence in molding board conversations to mirror their own pro-risk inclinations. This insight further considers the importance of understanding CEO behavior in guiding risk management strategies in the future.

KEYWORDS

attention-based view, Boards of Directors, CEO narcissism, firm risk-taking, strategic decision-making process

1 | INTRODUCTION

Upper echelons theory (UET) posits that chief executive officers (CEOs) wield considerable influence in shaping organizational decision-making and performance (Hambrick & Mason, 1984). In order to better understand why this might be so, scholars have examined the impact of CEOs' personalities on these important outcomes. In particular, CEO narcissism—defined as an inflated sense of self, feelings of entitlement, and a tendency to be arrogant, exploitative, and manipulative (Chatterjee & Hambrick, 2007; Grijalva et al., 2015; Grijalva & Harms, 2014)—has been linked to increases in firm risk-taking (Chatterjee & Hambrick, 2011), corporate social responsibility (Petrenko et al., 2016), and strategic dynamism (Chatterjee & Hambrick, 2007). Moreover, a recent meta-analysis demonstrated that CEO narcissism is associated with elements of a firm's performance (Cragun et al., 2020).

However, our understanding of *how* narcissistic CEOs may be able to impact organizational decision-making remains limited. Indeed, with few exceptions (e.g., Gerstner et al., 2013), little has been done to empirically assess the mediating mechanisms linking CEO narcissism to outcomes commonly observed within the UET literature, including risk-taking. The lack of research on the topic is surprising, given the numerous scholarly petitions to better understand the "black box" of strategic leadership processes (see Johnson et al., 2013). We answer the call to "delve deeper into the causal chain to understand [the effects of]...CEO narcissism" (Cragun et al., 2020, p. 920) by arguing that one way narcissistic CEOs influence risk-taking spending is through controlling the emotionality (e.g., positive and negative emotions) of risk-taking discussions during board meetings.

The board of directors is expected to prevent CEOs from pursuing interests that conflict with the interests of shareholders (Boivie et al., 2016) and traditionally serves as the primary gatekeeper for management access to sizeable resource allocations for risk-taking endeavors (Stiles, 2001). We propose that narcissistic CEOs take more risks because they are adept at shaping board meeting discussions about risk-taking to exhibit a positive tone. In doing so, directors' positive emotions toward risk-taking will lead to more open perspectives and greater willingness to utilize risk-taking as a viable strategic option (see Fredrickson, 2005). We further discuss how duality (i.e., the joint appointment of CEO and board chair) serves as a unique power condition that provides narcissistic CEOs with an enhanced ability to set the emotional tone during board meetings and get their way regarding increased risk-taking expenditures. By observing the interplay between narcissistic CEOs and the board of directors, we identify how narcissistic

CEOs position themselves to bypass internal governance mechanisms put in place to prevent excessive[1] risk-taking from occurring. Identifying such a mechanism is particularly critical because external reform efforts aimed at enhancing governance oversight and curbing unchecked risk-taking (e.g., the Sarbanes-Oxley Act of 2002 and the Dodd-Frank Act of 2010) have often been deemed ineffective, as excessive risk-taking within organizations continues to persist (see Illien, 2023; Van Scotter & Roglio, 2020; Wucker, 2019).

Our study uses a rich data set of board meeting transcripts from 88 publicly traded firms between 1994 and 2015. We offer a rare glimpse into the "black box" of strategic leadership and make unique contributions to existing literatures. First, we contribute to the growing literature on CEO narcissism by performing an empirical investigation of *how* and *when* narcissistic CEOs influence risk-taking and not just *whether* they do. While scholars have repeatedly advocated for incorporating mediating mechanisms into this area of research (see Chatterjee & Pollock, 2017; Cragun et al., 2020), few studies have explicitly done so. Our study proposes that one way narcissistic CEOs increase firm risk-taking is through their ability to shape board meeting discussions about risk-taking in such a way that it evokes positive emotionality.

Second, we provide an additional lens into understanding when CEO duality can facilitate CEOs' narcissistic behavior (see Cragun et al., 2020). In particular, we argue that duality enhances a narcissistic CEO's ability to influence board meeting discussions on risk-taking because CEOs with duality decide which topics will be discussed, who discusses these topics, and how much time will be allotted for such topics (Tuggle, Schnatterly, & Johnson, 2010). Thus, narcissistic CEOs with duality are uniquely situated to bypass governance mechanisms (e.g., increased board independence and heightened director liability) put in place to prevent ungoverned risk-taking from occurring. With this in mind, we propose that combining the CEO and board chair roles should be exercised with caution, as narcissistic CEOs with duality are likely aware of their capacity to control board attention in such a position.

Third, we contribute to research on the attention-based view (ABV). Ocasio (1997) suggested that firm behavior is a function of how firms channel and distribute decision-makers' attention. Existing work has assumed that all attention is equal, highlighting that the *amount* of attention decision-makers apportion to a particular subject is positively related to the number of resources allocated to that subject (e.g., Cho & Hambrick, 2006; Tuggle, Schnatterly, & Johnson, 2010). Scholars have more recently emphasized the *emotionality* of attention (see Vuori, 2023), such that "the emotions displayed and discursively expressed during conversations have a significant impact on the way strategy is developed and implemented" (Liu & Maitlis, 2014, p. 203). We posit that narcissistic CEOs are motivated to ensure that emotions surrounding board risk-taking discussions are positive, and that they have increased ability to do so when they possess duality.

2 | THEORY AND HYPOTHESES

2.1 | CEO narcissism and risk-taking

Narcissism is a frequent topic of investigation among organizational scholars and is often examined within the context of leadership (e.g., Grijalva et al., 2015). In particular, many studies

[1]We do not necessarily define or measure *excessive* risk-taking in our study, considering that risk appetites are different for each firm. Because prior work has shown that CEO narcissism is positively related to risk-taking (see Chatterjee & Hambrick, 2011; Zhu & Chen, 2015b), we suggest that firms led by narcissistic CEOs are much more likely to approach and exceed thresholds of "excessive" risk-taking than firms led by less-narcissistic CEOs.

emphasize narcissism's pervasiveness among an organization's most senior leader—its CEO (e.g., Chatterjee & Hambrick, 2007; Chatterjee & Pollock, 2017; Cragun et al., 2020; Petrenko et al., 2016). Prior research suggests that narcissists consider themselves superior to others (Resick et al., 2009) and likely to succeed even when the odds are stacked against them (Buelow & Brunell, 2018). Perhaps due to such inflated confidence levels, narcissistic CEOs are perceived as "visionaries" and see opportunities where others see obstacles (Maccoby, 2000). For example, scholars have shown that narcissistic CEOs often engage in risk-taking, expressed as a form of spending that yields uncertain returns (see Chatterjee & Hambrick, 2011; Zhu & Chen, 2015a).

Buyl et al. (2019) offer three primary reasons *why* narcissistic CEOs engage in risky activities. First, narcissistic CEOs view themselves as exceptional in many capacities and desire to have this view reinforced by others (Chatterjee & Hambrick, 2007; Zhu & Chen, 2015a). Consequently, to gain visibility and attention, narcissistic CEOs initiate bold and risky strategies to take advantage of opportunities for self-enhancement (Wallace & Baumeister, 2002). Second, narcissistic CEOs pursue risky strategies because they believe they are highly intelligent, socially skilled, and have high confidence in their abilities (Campbell et al., 2004). As a result, they are likely to hold biased expectations that their decisions are more likely to result in positive outcomes (Gerstner et al., 2013; Wales et al., 2013), thereby increasing their risk-taking propensity. Third, narcissistic CEOs are highly self-centered and prone to act agentically to secure personal rewards or elevated status (Patel & Cooper, 2014). In doing so, they focus more on potential gains—as opposed to potential losses—when making decisions about risky strategies (Buyl et al., 2019). Accordingly, narcissistic CEOs are more inclined to prefer high-risk strategies over other, less risky alternatives.

2.2 | CEO narcissism and positive tone in board meeting risk-taking discussions

While narcissistic CEOs are inclined to pursue risk-taking strategies, internal policies often limit the impact that CEOs can unilaterally have on firm decision-making. Indeed, CEOs must usually procure board support for major projects before allocating significant resources, including those associated with risk-taking activities (Haynes & Hillman, 2010; Stiles, 2001). Directors are tasked with supporting projects they believe will increase shareholder value and opposing projects that decrease shareholder value (Dalton et al., 2007). As such, narcissistic CEOs must carefully navigate the governance mechanisms put in place in order to position their firms to engage in increased risk-taking. We argue that narcissistic CEOs will attempt to garner support for risk-taking activities—even when they fail to align with shareholder interests—by carefully deploying a range of influence tactics during board meetings to persuade the board that risk-taking is a viable strategic option. Specifically, narcissistic CEOs use these tactics to ensure board meeting discussions about risk-taking maintain a positive tone.

Existing studies have demonstrated that CEOs actively shape the attention patterns of individuals around them (e.g., Cho & Hambrick, 2006; Gerstner et al., 2013). Attention, defined as a "cognitive process that involves the noticing, interpretation, and focusing of time and effort on the acquisition of knowledge and information" (Li et al., 2013, p. 894), plays an essential role in organizational decision-making and becomes a key focus for narcissistic CEOs in their attempts to generate acclaim or personal gain through risk-taking. As attention influencers, narcissistic CEOs extend their interests to the top management team and board of directors (Ocasio, 1997)

and prioritize risk-taking. Because directors are limited by time and cognitive capacity, they are likely to defer to the CEO during board meetings, thereby solidifying the CEO's impact on organizational attention (Ocasio, 1997; Tuggle, Sirmon, et al., 2010). In turn, because narcissistic CEOs are motivated to highlight the positive aspects of risk-taking, they carefully control how information about risk-taking is filtered to the board (Chatterjee & Pollock, 2017). This likely stems from recognizing that positive emotions can shape directors' attentional engagement and elicit cooperative behavior (Fan & Zietsma, 2017).

We argue that narcissistic CEOs not only direct board attention toward risk-taking but also seek to shape the emotional tone—whether positive or negative—associated with that attention. Specifically, narcissistic CEOs strive to highlight the positive attributes of risk-taking (e.g., opportunities) while downplaying its negative attributes (e.g., potential adverse outcomes). In doing so, they hope to achieve a positive group affective tone among the board. Group affective tone refers to a group's ability to reach "consistent or homogenous affective reactions" (George, 1990, p. 108). We discuss three distinct tactics identified in prior work that may be helpful for narcissistic CEOs in their attempts to ensure that risk-taking discussions are characterized by positive emotions, thereby fostering a favorable group affective tone.

First, narcissistic CEOs can "stack the deck" by appointing potential admirers to serve on the board (Zhu & Chen, 2015b). Moreover, narcissistic CEOs are inclined to surround themselves with "malleable individuals who are dependent on the CEO" (Chatterjee & Pollock, 2017, p. 712). In doing so, narcissistic CEOs increase the likelihood that board meeting discussions about risk-taking hold a positive tone, as supportive directors are less likely to probe or challenge the CEO about whether risk-taking will lead to positive outcomes for shareholders.

Second, narcissistic CEOs convey their ideas with heightened enthusiasm and confidence to garner support and impress their peers on the board (Goncalo et al., 2010). Their ability to do so may be partly explained by narcissism's overlap with charisma (Reina et al., 2014) and extraversion (Grijalva et al., 2015), attributes often associated with persuasiveness and influence (Oreg & Sverdlik, 2014). Additionally, research has also linked narcissism with an elevated promotion-focus (Patel & Cooper, 2014), thereby motivating narcissistic CEOs to attain advancement and gains through risk-taking rather than assuring safety and non-losses through alternative strategies (Crowe & Higgins, 1997). Thus, narcissistic CEOs naturally invoke risk-taking positively, as they may not consider the potential downsides of a particular risky action. In board meeting discussions on risk-taking, narcissistic CEOs are likely to speak early and often, using bold, narrative, and provocative language (Konig et al., 2011). We also expect them to focus on the positive and optimistic themes of risk-taking while avoiding any expressions of doubt, tentativeness, or fear (Goncalo et al., 2010). In doing so, narcissistic CEOs will elicit a positive tone at the board level and assuage any apprehension that the board may have about perceptions of risk.

Finally, while narcissists are often ascribed to be "disagreeable extraverts" (Paulhus, 2001, p. 228), narcissistic CEOs move up the corporate ladder faster (Rovelli & Curnis, 2021) owing to their confidence and capacity to be charming when doing so serves their purposes (Jonason & Webster, 2012). For example, O'Reilly and Pfeffer (2021) demonstrated that narcissists are skilled political actors capable of navigating various social situations, particularly when surrounded by others of high status. Because narcissistic CEOs seek praise and applause from their high-status peers (i.e., directors on their boards), they are likely to use "soft" influence techniques to achieve their purpose. Specifically, narcissistic CEOs can garner support from directors about risk-taking activities by using techniques such as "ingratiation, flattery, advice seeking, favor doing, and forming friendship ties" (Chatterjee & Pollock, 2017, p. 711).

Employing these techniques makes directors feel they have played a significant role in the decision-making process, leading them to speak positively about the decision (Westphal, 1998).

Taken together, narcissistic CEOs are highly motivated to control board communication about risk-taking. We expect that they will exercise several tactics to ensure positive group affective tone exists during risk-taking discussions. Naturally, as narcissistic CEOs are effective in stacking the deck to their liking, their ability to utilize enthusiasm, confidence, and political acumen as potential mechanisms for increasing positive tone in board discussions about risk-taking correspondingly rises. Formally, we hypothesize:

> **Hypothesis 1.** CEO narcissism is positively related to a positive tone in board discussions about risk-taking.

2.3 | Positive attention to risk-taking and risk-taking resource allocation

Our theorizing suggests that narcissistic CEOs view controlling the emotional tone of board discussions about risk-taking as an important step toward increasing their public profile. However, increasing the positive tone of risk-taking discussions is unlikely meaningful unless it ultimately leads to action (i.e., increased resource allocation to risk-taking activities). The ABV suggests that what decision-makers do relates directly to where they focus their attention (Ocasio, 1997; Ocasio, 2011). Research has shown that when decision-makers focus more on a particular subject, increased resources are allocated toward that subject. This tenet has been observed in the context of competitive responses (Kaplan et al., 2003), strategic change (Cho & Hambrick, 2006), and new product market entry (Eggers & Kaplan, 2009).

While the *amount* of attention that a board gives to a particular subject has received ample consideration by scholars (see Tuggle, Schnatterly, & Johnson, 2010; Tuggle, Sirmon, et al., 2010), we build on this foundation by examining the *emotionality* of board attention. Vuori (2023) notes that emotions and attention are often intertwined and that "what people notice triggers emotions in them, and their emotions influence their subsequent attention and behaviors." For example, positive emotion enhances individuals' receptivity to diverse perspectives and increases their willingness to pursue solutions that integrate these perspectives (Liu & Maitlis, 2014). Within the context of our study, as directors attach more positive emotion to risk-taking through active discussions, they will be more open to considering it as a viable strategy. Furthermore, fostering a positive group affective tone—wherein group members share similar feelings about a specific topic (George, 1990)—will likely prompt directors to employ a narrowed focus of attention (Isen, 2008). Consequently, by maintaining their positive states, directors may perceive the careful processing typically associated with critical decision-making as unnecessary (Schwarz & Bless, 1991) and will be inclined to reach a consensus to proceed with the agreed-upon outcome (George & King, 2007). We posit that positive emotion in board discussions about risk-taking will facilitate decisions to increase risk-taking spending. Moreover, we argue for a mediation effect, such that as CEO narcissism increases, the positive tone in board discussions about risk-taking should also increase, thereby facilitating higher levels of firm risk-taking expenditures.

> **Hypothesis 2.** Positive tone in board discussions about risk-taking positively relates to organizational risk-taking.

Hypothesis 3. Positive tone in board discussions about risk-taking has a positive impact on organizational risk-taking such that it mediates the positive relationship between CEO narcissism and organizational risk-taking.

2.4 | The moderating influence of CEO duality

Up to this point, our theorization has centered on the premise that narcissistic CEOs harbor a strong *motivation* to increase risk-taking expenditures and attempt to do so by influencing board meeting discussions. Nevertheless, it should be noted that not all narcissistic CEOs possess equal *ability* to control board meeting dynamics. Drawing upon agency theory, we contend that CEO duality is an important boundary condition for our previous hypotheses. CEO duality occurs when a CEO is also the board chair and represents structural power to be the unequivocal leader of an organization (Krause et al., 2014). Prior research contends that duality reduces the effectiveness of governance, granting CEOs the freedom to prioritize self-interests over shareholder interests (Mallette & Fowler, 1992). Augmenting potential concerns of agentic behavior, Cragun et al. (2020) found a positive association between CEO narcissism and duality and suggested that the power and prestige gained from obtaining the board chair role may help facilitate a CEO's narcissistic tendencies. In turn, we expect that the structural power exhibited through CEO duality will enhance a narcissistic CEO's ability to influence the emotional tone of board meeting discussions on risk-taking (Tuggle, Schnatterly, & Johnson, 2010).

Narcissistic CEOs with duality can more easily cultivate a positive tone in board meetings in at least three unique ways. First, the board chair sets the meeting agenda, dictating the extent to which risk-taking is discussed and the formality of the proceedings (e.g., whether all directors address the topic or specific individuals convey their thoughts). Second, they strategically select internal or external experts to present the implications of risk-taking, opting for individuals predisposed to favor such endeavors. Third, the board chair determines the meeting's location, deciding whether it is at the firm's headquarters or an alternative, more attractive destination. By controlling both the setting and information flow during board meetings, narcissistic CEOs with duality can ensure a positive framing of risk, thereby increasing the likelihood of garnering board support (Byun & Al-Shammari, 2021). Thus, narcissistic CEOs with duality are perfectly positioned to filter the information being relayed to the directors (Daily & Johnson, 1997). In doing so, they can more easily facilitate positive discussions on risk-taking.

Hypothesis 4. CEO duality strengthens the relationship between CEO narcissism and positive tone in board discussions about risk-taking.

3 | METHODS

We derived our sample from a larger sample of board meeting transcripts from 243 U.S. firms beginning in fiscal year 1994 and continuing through fiscal year 2015. In collecting our board transcript data, we contacted 1966 firms to request their participation in an academic research project about board of director discussions. To ensure risk-free participation and firm and director privacy, a confidentiality agreement was offered to each firm, along with the understanding that all data would be coded by certified public accountants from the firms' respective auditing firms. Of these firms, 431 agreed to participate, and 243 had board meeting transcripts with

sufficient detail for our study. Please refer to online Appendix A for a more detailed description of our data collection process.

Our final sample consisted of 197 CEOs and their respective boards of directors from 88 publicly traded firms spanning 48 industries. As described above, though we were able to collect board meeting transcripts from 243 firms, some firms were eliminated from the sample because our measure of CEO narcissism, detailed below, necessitates information about a CEO's second and third years in office and for information about total compensation packages for each firm's TMT to be available.[2] Other firms exited the sample throughout the sample period because of mergers, acquisitions, bankruptcies, or privatizing.

We sampled public firms spanning firm size and industry for over 20 years to garner panel breadth and board meeting discussion depth. Our sample is appropriate to test our model for several reasons. First, we chose public companies, as the Securities and Exchange Commission requires only public firms to report on financial data, TMT compensation, and board of director characteristics annually. Second, our coded sample of board meeting transcripts allows a unique opportunity to explore the effectiveness of a board's governance process regarding firm risk-taking in the possible presence of duality.

Our final sample size is consistent with other studies related to CEO narcissism (see Aktas et al., 2016; Engelen et al., 2016) and board discussions (Tuggle, Schnatterly, & Johnson, 2010; Tuggle, Sirmon, et al., 2010). Because our dependent and primary independent variables were gathered from different sources, common methods bias was not a concern. We conducted a power analysis to determine the risk of a Type II error from a sample of this size. The analysis revealed that our sample was sufficient to detect a correlation as low as 0.09 (i.e., a relationship explaining less than 1% of the variance in the dependent variable) at the threshold power level of 0.8. Thus, we considered this sample suitable.

We obtained information on risk-taking from Compustat and SDC Platinum; CEO narcissism information from ExecuComp, Factiva, and firm annual reports; and board discussion about risk-taking from board meeting transcripts (see online Appendix B for a more detailed description of our procedure for coding board meeting risk-taking discussion). Control variables were gathered from Compustat, SDC Platinum, ExecuComp, BoardEx, and firm proxy statements. In total, our sample is composed of an unbalanced panel of 1152 firm years.

Using the Kolmogorov–Smirnov two-sample test, we tested for sample-inclusion bias by comparing the characteristics of firms that "opted-in" to this study with firms that did not. This checks to see if two distributions differ and if it is reasonable to assume the samples are from the same population. The findings revealed no meaningful differences between "opted-in" and "opted-out" firms across archival variables in the study.

3.1 | Dependent variable

Consistent with Sanders and Hambrick (2007), we calculated *risk-taking* by collecting data on three different forms of spending, typically identified as having uncertain returns. These measures include R&D, capital expenditures, and acquisitions. While all three have been used as indicators of a firm's risk-taking, they are often used as substitutes (Zhu & Chen, 2015a), as, for example, a firm may decide to increase spending on capital expenditures instead of acquisitions.

[2]We attempted to collect CEO narcissism data on CEOs who were in office at the beginning of our sample, FY 1994; unfortunately, we were unable to obtain many of the information sources necessary.

As a result, using only one of these indicators merely paints a partial picture of risky outlays for a firm (Chatterjee & Hambrick, 2011). To account for the various circumstances under which a firm can accumulate risk, we aggregated all three forms of spending into one sum and used its natural log to calculate risk-taking for a given firm.

3.2 | Explanatory variables

We calculated our independent variable, *CEO narcissism*, by following the Chatterjee and Hambrick (2011) method for unobtrusive measures, assigning a CEO an aggregate narcissism score based on the following four indicators: (1) the *prominence of the CEO's photograph* in the company's annual report, (2) the *prominence of the CEO's name in press releases* relative to the rest of the TMT, (3) the *CEO's relative cash pay* relative to the next-highest paid member of the firm's top management team, and (4) the *CEO's relative non-cash pay* relative to the next-highest paid member of the firm's top management team. The CEO narcissism variable was then operationalized as an average score of these indicators from the second and third years of tenure ($t + 1$ and $t + 2$) for each CEO included in the sample.

We measured the proportion of positive board discussion on risk-taking, our mediating variable, as *positive risk-taking discussion*, which was calculated by first isolating all board discussion focused on firm risk-taking, then analyzing this risk-taking text with LIWC, a computerized text analysis software, to measure the use of positive and negative affective tone. To identify each board's discussion of firm risk-taking, we developed a list of words and phrases in accordance with our conceptualization of firm risk-taking.[3] Next, we used NVivo, a qualitative data analysis software, to highlight all occurrences of these words and phrases in the board meeting transcripts. Subsequently, two coders, prompted by the highlighted words, identified how many sentences surrounding these risk-taking words were relevant to the risk-taking discussion. Although board meetings range from semiformal to very formal, the corpus of risk-taking topics from the text shared high interrater reliability.[4] Finally, we ran the positive and negative affect libraries of LIWC analysis on risk-taking board discussions by board-year to identify the number of positive and negative affect words used in the risk-taking discussion. We created the following mediation variable to investigate the relative amount of positive tone vs. overall tone expressed by directors in discussing risk-taking: number of positive affect words/(number of positive affect words + number of negative affect words). For robustness, we estimated our models with an alternatively operationalized measure of the overall board meeting tone during the risk-taking discussion as the difference between the total number of positive tone words used in discussing risk-taking and the total number of negative tone words used. The results did not differ substantively.

[3]To develop this list of firm risk-taking "indicator" words and phrases, we examined the existing management literature encompassing the concepts of capital asset expenditures, research and development, and acquisitions of other firms. We then used a thesaurus to identify major synonyms of these indicator words. Additionally, we asked eight executives currently serving on boards of directors to examine our list to ensure that the list encompassed the board meeting vernacular used to discuss our concepts of interest. They confirmed that our list was representative of language used by directors to discuss firm risk-taking.

[4]We note that it is important to have multiple coders review the automated word use of interest, as some "risk-taking" words are used in a context that, indeed, has little to do with risk-taking. Therefore, a simple count of risk-taking words is less precise if the words are not verified to be used in the proper context.

Duality, our moderating variable, was measured dichotomously. Firms employing CEOs who also chaired the board were coded as 1, and firms separating the responsibilities as 0.

3.3 | Control variables

3.3.1 | Firm controls

Because larger and older firms are likely to have distinct risk-taking tendencies (Chatterjee & Hambrick, 2011), we believe that both the size and age of a firm impact risk-taking. We measured *firm size* as the natural logarithm of assets and *firm age* as the years since a firm was founded. Since firms with access to resource availability are more likely to participate in risky endeavors than those without, we controlled for the firm's *current ratio*, which we measured by including the ratio of current assets to current liabilities. We additionally controlled for the firm's *debt to assets ratio*. We included the firm's *prior risk-taking* $(t-1)$ as a control since the degree to which a firm takes on risk in a prior year may affect how much it will allocate in the current year (Audia & Greve, 2006). Because a firm's prior performance may profoundly affect its strategic direction for the following year, we controlled for *return on equity* by dividing its net income by its total equity. We also controlled for the *number of articles written about a firm* because we expected that firms taking on more risk would receive more media coverage than firms that are more conservative in their risk outlays. Finally, we controlled for the following three federal corporate governance laws that occurred during our sample period: *Post-Basel II*, *Post-Dodd-Frank*, and *Post-SOX*. To differentiate between pre- and post-Basel II, pre- and post-Dodd-Frank, and pre- and post-SOX periods, we created a binary variable with a value of 1 for years after adoption and 0 for all years prior.

3.3.2 | CEO controls

We believe that a CEO's risk-taking behavior may be affected by several factors. For instance, we control for *CEO age* because risk-taking behavior decreases with CEO age, as shown by conservative investment policies such as reduced R&D or diversified operations and acquisitions (Serfling, 2014). We further control for both *CEO tenure* and *CEO board tenure* since tenure is related to experience, a deeper knowledge of the firm's environment, and more integration with the networks of key players, allowing them to support more risky initiatives via their top management teams (Simsek, 2007). We also control for *CEO gender* because female CEOs have been found to be more risk-averse managers than male CEOs (Faccio et al., 2016). Finally, we controlled for *CEO risk incentive*, a ratio representing a CEO's equity and debt holdings. Large inside debt holdings expose the CEO to default risk, which manifests in less risky financial policies such as diversification and asset liquidity (Cassell et al., 2012).

3.3.3 | Board controls

We believe numerous variables concerning the board of directors will impact our study and have accounted for them in our analysis as control variables. We first controlled for *board size* since scholars have suggested that the number of individuals comprising a board will influence

the topics discussed at board meetings (Finkelstein et al., 2009; Tuggle, Sirmon, et al., 2010). We also controlled for *average board tenure*, which was calculated as the average of a director's board tenure divided by the CEO's tenure, because this can be a proxy representing the power dynamic between the CEO and the board, which may influence decisions for risk-taking expenditures. Just as we controlled for CEO age because of its potential effect on risk tolerance and strategic orientation, we controlled for *average board age*. Additionally, we controlled for *board outsider percentage*, as a higher percentage would suggest increased board independence. *Outside board ownership* was also used as a control, and was operationalized as the number of shares owned by outsiders on the board divided by the total number of outstanding shares. Because of our mediating variable, we controlled for *board meeting risk-taking discussion*. We calculated the total number of sentences that refer to risk-taking divided by the aggregate number of sentences found in a firm's board meeting transcripts over the fiscal year. Finally, we account for *post-CEO board* appointment as prior research suggests that the independence of directors elected during the tenure of the current CEO may be co-opted (Coles et al., 2014).

3.3.4 | Industry/environment controls

Finally, we control for average industry risk-taking because a firm's risk-taking may be contingent upon the industry in which it operates. We controlled for firm and year fixed effects to focus our analysis on firm-specific governance processes (Certo & Semadeni, 2006).

3.4 | Analysis

To test Hypotheses 1, 2, and 4, we modeled our data using linear regression with firm and year fixed effects and adjusted robust standard errors. All models were run on the full sample of 88 boards/firms. To test Hypothesis 3, we conducted a mediation analysis using structural equation modeling with bootstrapping (e.g., Aguinis et al., 2017).

4 | RESULTS

Table 1 reports summary statistics and correlations for our study's variables. We computed variance inflation factors for all models; these were less than 10 for all regressions, indicating that multicollinearity was not a concern. Table 2 shows the results for Hypotheses 1 and 4. Hypothesis 1 predicted the positive direct relationship between CEO narcissism and positive risk-taking discussion (leg one of the proposed mediation). Model 1 reports our base regression model, containing only those control variables we expected to impact our analyses when predicting positive risk-taking discussion. Model 2 adds our independent variable, CEO narcissism. The results suggest a positive relationship exists between CEO narcissism and positive risk-taking discussion (0.119, $p < .001$). Thus, Hypothesis 1 is strongly supported. These results demonstrate that compared to a CEO with a narcissism index score of 1 SD below the mean, a CEO with a narcissism index score of 1 SD above the mean will experience a 24.5% greater proportion of positive affect during the risk-taking discussion by the firm's board of directors.

Table 3 shows the results for Hypothesis 2. Model 4 reports the regression coefficients for the relationships between our control variables and risk-taking. Model 5 shows the results of

TABLE 1 Summary statistics and correlations.

	Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1	Current risk-taking	4.96	1.63												
2	CEO narcissism	0.03	0.89	0.35											
3	Positive affect of risk-taking discussion	0.63	0.19	0.46	0.51										
4	CEO duality	0.60	0.49	0.07	0.14	0.17									
5	Industry risk-taking	2.77	0.65	0.16	0.17	0.21	−0.07								
6	Firm age	15.23	5.83	0.15	0.06	0.11	−0.09	0.55							
7	Current ratio	0.37	0.28	−0.02	0.03	0.00	0.05	−0.01	−0.04						
8	Debt to assets	0.23	0.20	0.21	0.08	0.08	−0.07	0.08	0.03	−0.10					
9	Prior risk-taking	4.90	1.87	0.81	0.31	0.39	0.09	0.18	0.18	−0.05	0.25				
10	Firm size	7.44	1.50	0.72	0.31	0.37	0.11	0.20	0.27	−0.08	0.13	0.78			
11	Prior return on equity	0.27	2.62	0.05	0.02	0.01	0.05	0.00	0.01	−0.03	0.07	0.06	0.05		
12	Number of articles about firm	9.96	11.37	0.35	0.38	0.36	0.14	0.07	0.05	0.06	0.08	0.36	0.25	0.05	
13	Post-Basel II Guidelines	0.41	0.49	0.03	−0.01	−0.01	−0.06	0.39	0.76	−0.06	−0.06	0.02	0.11	−0.01	−0.05
14	Post-Dodd-Frank	0.29	0.45	0.03	0.00	0.00	−0.07	0.43	0.71	−0.05	−0.04	0.05	0.12	−0.01	−0.04
15	Post-SOX	0.71	0.45	0.07	0.06	0.10	−0.07	0.40	0.72	−0.06	−0.02	0.05	0.12	0.04	−0.07
16	Average board age	60.64	3.60	0.05	0.05	0.01	−0.05	0.19	0.34	−0.03	−0.07	0.14	0.24	0.01	0.02
17	Average board tenure	9.28	3.66	−0.03	0.00	−0.07	−0.04	0.03	0.09	0.05	−0.16	0.02	0.10	−0.02	−0.03
18	Board size	9.35	2.25	0.46	0.12	0.17	−0.01	0.04	0.05	−0.06	0.14	0.48	0.61	0.04	0.09
19	Board outsider percentage	0.76	0.16	0.16	0.26	0.15	0.16	0.23	0.37	−0.09	0.11	0.17	0.21	0.02	0.07
20	Board ownership percentage	0.08	0.21	−0.28	−0.17	−0.11	−0.11	−0.09	−0.09	0.01	0.14	−0.29	−0.29	−0.02	−0.09
21	Board meeting risk-taking discussion	0.17	0.14	−0.35	−0.21	−0.18	0.03	−0.17	−0.06	−0.06	−0.14	−0.40	−0.36	−0.03	−0.17
22	Post-CEO board	0.42	0.29	−0.17	0.00	−0.03	0.38	−0.10	−0.12	−0.01	−0.13	−0.17	−0.10	0.01	0.00
23	CEO gender	0.10	0.30	0.00	0.06	−0.01	−0.01	−0.08	0.01	−0.05	0.03	0.02	0.01	0.05	−0.05

TABLE 1 (Continued)

	Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
24	CEO age	56.47	6.63	−0.04	−0.05	−0.05	0.05	0.08	0.10	−0.03	0.10	−0.01	0.04	0.04	−0.06
25	CEO tenure	9.87	8.27	−0.16	−0.02	−0.10	0.27	−0.03	−0.02	0.02	−0.11	−0.14	−0.08	−0.01	−0.01
26	CEO risk-taking incentive	0.14	0.47	0.25	0.16	0.26	0.14	0.15	0.24	−0.01	0.12	0.25	0.29	0.04	0.14

	Variable	13	14	15	16	17	18	19	20	21	22	23	24	25
14	Post-Dodd-Frank	0.77												
15	Post-SOX	0.52	0.40											
16	Average board age	0.29	0.29	0.22										
17	Average board tenure	0.05	0.08	−0.06	0.50									
18	Board size	−0.02	−0.02	−0.01	0.03	0.02								
19	Board outsider percentage	0.33	0.29	0.35	0.02	−0.38	0.18							
20	Board ownership percentage	−0.08	−0.08	−0.02	−0.20	0.02	−0.18	−0.23						
21	Board meeting risk-taking discussion	0.09	0.07	0.01	−0.27	−0.04	−0.24	−0.05	0.46					
22	Post-CEO board	−0.08	−0.06	−0.11	−0.06	0.14	−0.04	−0.09	0.07	0.20				
23	CEO gender	0.01	0.04	0.03	0.04	0.05	0.04	0.05	−0.06	−0.03	0.03			
24	CEO age	0.13	0.15	0.08	0.40	0.14	0.01	−0.05	−0.12	−0.04	0.31	0.10		
25	CEO tenure	0.03	0.05	−0.07	0.13	0.50	−0.11	−0.22	0.08	0.16	0.79	0.06	0.39	
26	CEO risk-taking incentive	0.18	0.13	0.19	0.08	−0.07	0.17	0.19	−0.09	−0.11	0.01	0.01	0.13	−0.04

Note: $N = 1152$. All correlations with absolute values of $r > .06$ are significant at $p < .05$.

TABLE 2 Results of fixed-effects model analyses predicting positive affect of risk-taking discussion.

	Model 1			Model 2			Model 3		
Variables	***b***	***SE***	***p*-Value**	***b***	***SE***	***p*-Value**	***b***	***SE***	***p*-Value**
Industry risk-taking	−.001	0.015	.926	.002	0.013	.908	.003	0.013	.815
Firm age	−.003	0.003	.353	−.001	0.002	.545	−.001	0.002	.560
Current ratio	−.019	0.019	.305	−.007	0.017	.683	−.005	0.017	.767
Debt to assets	−.031	0.031	.318	−.043	0.028	.122	−.040	0.028	.151
Prior risk-taking	−.007	0.005	.176	−.003	0.005	.510	−.002	0.005	.612
Firm size	.008	0.010	.423	.010	0.009	.285	.011	0.009	.248
Prior return on equity	−.001	0.002	.455	−.000	0.001	.786	−.000	0.001	.759
Num. of articles about firm	.003	0.000	.000	.001	0.000	.003	.001	0.000	.004
Post-Basel II Guidelines	−.024	0.017	.153	−.017	0.015	.265	−.018	0.015	.227
Post-Dodd-Frank	.010	0.016	.536	.003	0.015	.846	−.000	0.015	.975
Post-SOX	.065	0.017	.000	.045	0.016	.005	.048	0.016	.002
Average board age	−.005	0.003	.059	−.001	0.002	.619	−.000	0.002	.959
Average board tenure	.005	0.003	.108	−.000	0.003	.925	−.001	0.003	.622
Board size	.001	0.004	.705	−.001	0.003	.685	−.001	0.003	.842
Board outsider percentage	−.007	0.050	.890	−.092	0.045	.044	−.116	0.045	.010
Board ownership percentage	−.045	0.030	.132	−.032	0.027	.230	−.047	0.027	.079
Board meeting risk-taking discussion	.055	0.063	.385	.147	0.057	.010	.178	0.057	.002
Post-CEO board	.070	0.033	.033	.053	0.030	.072	.055	0.029	.061
CEO gender	−.020	0.018	.282	−.028	0.016	.089	−.029	0.016	.075
CEO age	.001	0.001	.564	.000	0.001	.810	.000	0.001	.711
CEO tenure	−.002	0.001	.168	−.001	0.001	.351	−.001	0.001	.379
CEO RT incentive	.029	0.010	.006	.027	0.009	.003	.023	0.009	.012
CEO duality	.011	0.013	.410	.017	0.012	.157	.023	0.012	.057
CEO narcissism				.119	0.008	.000	.079	0.012	.000
CEO narcissism × CEO duality							.057	0.013	.000
Constant	.786	0.142	.000	.659	0.127	.000	.582	0.127	.000
Observations	1152			1152			1152		
F	3.766			14.948			15.449		
R^2	.077			.256			.271		
Adjusted-R^2				.178			.193		

TABLE 3 Results of fixed-effects model analyses predicting firm risk-taking.

	Model 4			Model 5			Model 6			Model 7		
Variables	***b***	***SE***	***p*-Value**	***b***	***SE***	***p*-Value**	***b***	***SE***	***p*-Value**	***b***	***SE***	***p*-Value**
Industry risk-taking	.162	0.082	.049	.163	0.081	.043	.168	0.081	.037	.167	0.080	.037
Firm age	−.060	0.015	.000	−.057	0.015	.000	−.058	0.015	.000	−.057	0.015	.000
Current ratio	−.011	0.105	.916	.009	0.103	.934	.017	0.104	.873	.022	0.103	.834
Debt to assets	−.708	0.173	.000	−.676	0.171	.000	−.735	0.171	.000	−.703	0.170	.000
Prior risk-taking	.068	0.029	.020	.075	0.029	.009	.077	0.029	.007	.079	0.028	.006
Firm size	.401	0.058	.000	.393	0.057	.000	.405	0.057	.000	.398	0.057	.000
Prior return on equity	−.007	0.008	.439	−.005	0.008	.516	−.005	0.008	.560	−.005	0.008	.580
Num. of articles about firm	.005	0.003	.058	.002	0.003	.370	.002	0.003	.445	.001	0.003	.675
Post-Basel II Guidelines	.278	0.094	.003	.302	0.092	.001	.294	0.092	.001	.306	0.092	.001
Post-Dodd-Frank	.144	0.091	.114	.133	0.089	.135	.127	0.089	.154	.125	0.089	.158
Post-SOX	.432	0.097	.000	.366	0.096	.000	.386	0.096	.000	.354	0.096	.000
Average board age	−.053	0.015	.000	−.048	0.015	.001	−.044	0.015	.002	−.044	0.014	.003
Average board tenure	.063	0.016	.000	.058	0.016	.000	.052	0.016	.001	.052	0.016	.001
Board size	.013	0.021	.549	.011	0.021	.590	.006	0.021	.759	.007	0.021	.721
Board outsider percent	−.069	0.279	.806	−.062	0.275	.822	−.256	0.277	.355	−.191	0.276	.489
Board ownership percentage	−.184	0.165	.264	−.139	0.162	.391	−.156	0.162	.336	−.133	0.161	.409
Board meeting risk-taking discussion	.362	0.350	.301	.307	0.345	.373	.566	0.347	.103	.461	0.346	.183
Post-CEO board	−.192	0.183	.293	−.263	0.180	.145	−.230	0.180	.203	−.268	0.179	.136
CEO gender	−.061	0.101	.547	−.041	0.099	.679	−.079	0.099	.427	−.059	0.099	.550
CEO age	.010	0.006	.083	.010	0.006	.098	.009	0.006	.106	.009	0.006	.110
CEO tenure	−.006	0.008	.427	−.004	0.008	.581	−.005	0.008	.558	−.004	0.008	.631

TABLE 3 (Continued)

	Model 4			Model 5			Model 6			Model 7		
Variables	***b***	***SE***	***p*-Value**	***b***	***SE***	***p*-Value**	***b***	***SE***	***p*-Value**	***b***	***SE***	***p*-Value**
CEO RT incentive	.016	0.057	.777	−.013	0.057	.825	.013	0.057	.813	−.006	0.056	.913
CEO duality	.133	0.074	.072	.122	0.073	.093	.147	0.073	.045	.134	0.073	.064
CEO narcissism							.264	0.046	.000	.179	0.051	.000
Positive risk-taking disc.				1.008	0.170	.000				.717	0.188	.000
Constant	3.774	0.788	.000	2.982	0.787	.000	3.494	0.778	.000	3.021	0.782	.000
Observations	1152			1152			1152			1152		
F	8.855			1.239			1.128			1.432		
R^2	.163			.191			.189			.200		
Adjusted-R^2				.105						.115		

Hypothesis 2, which predicted a positive direct relationship between positive risk-taking discussion and current firm risk-taking. There appears to be a meaningfully positive relationship (1.008, $p < .001$) when CEO narcissism is not specified in the model, lending strong support to Hypothesis 2. This suggests that firms with boards that have a proportion of positive risk-taking discussion 1 SD above the mean will spend $187.65M more on current firm risk-taking than boards with a proportion of positive affect risk-taking discussions 1 SD below the mean. We also present Model 6, which tests the direct relationship between CEO narcissism and current firm risk-taking. While we do not formally hypothesize this relationship, it has been examined in the extant literature (without specifying positive risk-taking discussion). Indeed, consistent with prior findings (see Chatterjee & Hambrick, 2011), Model 6 shows a strongly supported positive coefficient for CEO narcissism (0.264, $p < .001$).

Table 4 reports the results for Hypothesis 3, which predicted a positive indirect relationship between CEO narcissism and current firm risk-taking, mediated by positive risk-taking discussion. The bootstrapping-mediated regression analysis results show that the indirect effects of positive risk-taking discussion are positive and indicate strong support for Hypothesis 3 (0.358, $p < .001$). These results are robust to two widely used tests for mediation: the Sobel test and the Goodman test. The results further indicate that positive risk-taking discussion partially mediated the relationship between CEO narcissism and current firm risk-taking (0.268, $p < .001$). In addition, the total effects of CEO narcissism and positive risk-taking discussion are positive and strongly supported (0.626, $p < .001$; 0.375, $p < .001$, respectively). Finally, the results show that the direct effect of the mediator variable of positive risk-taking discussion on current firm risk-taking is positive, as expected (0.375, $p < .001$), accounting for 57.1% of the total effect. Model 7 in Table 3 additionally shows a simple mediation approach.

TABLE 4 Results of bootstrapping mediation regression analysis for relationships between CEO narcissism, positive affect proportion of board risk-taking discussion, and current firm risk-taking.

	DV = current firm risk-taking					
			95% CI		Robust in	
Independent variable	***B***	**SE**	**Lower**	**Upper**	**Sobel test**	**Goodman test**
Indirect effects mediated by positive affect proportion of board risk-taking discussion						
CEO narcissism	0.358	0.036	0.288	0.427	Yes	Yes
Direct effects						
CEO narcissism	0.268	0.053	0.165	0.372	-	-
Positive affect proportion of board risk-taking discussion	0.375	0.028	0.319	0.430	-	-
Total effects						
CEO narcissism	0.626	0.048	0.531	0.722	-	-
Positive affect proportion of board risk-taking discussion	0.375	0.028	0.319	0.430	-	-

Note: Generalized structural equation modeling fits a single model and estimates both indirect and direct effects (Hayes, 2022; Preacher et al., 2007), in contrast to traditional mediation analysis that involves a series of linear regression models (Baron & Kenny, 1986). A key advantage of this approach is that it allows the residuals to vary (Shaver, 2005). We employed bootstrapping with 500–1000 replications to test the significance of the indirect paths from the independent variables (formal/informal team diversity) to the dependent variable (patent approval speed) through the mediator (patent application scope). Bootstrapping is a nonparametric approach that imposes no assumptions about the distributions of the variables or the sampling distribution of the statistic.

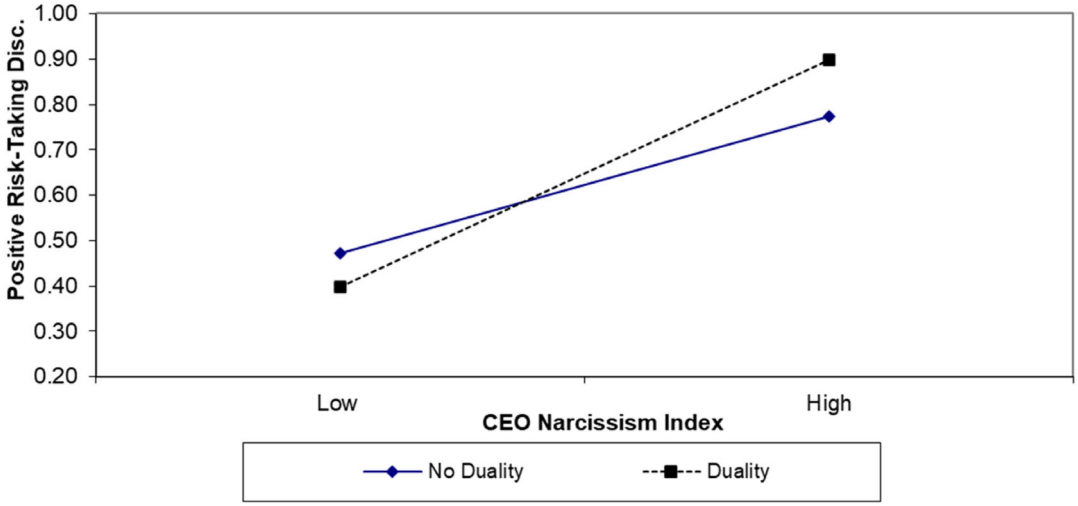

FIGURE 1 Chief executive officer (CEO) narcissism, CEO duality, and the proportion of positive risk-taking discussions during board meetings.

Table 2 also presents the results for Hypothesis 4, which predicted that the positive direct relationship between CEO narcissism and positive risk-taking discussion will be strengthened if CEO duality is present. Model 3 indicates a positive interaction between CEO narcissism and positive risk-taking discussion (0.057, $p < .001$). We find strong support for Hypothesis 4 and plot these results in Figure 1. The plot shows the slopes of the lines depicting the relationship between CEO narcissism and positive risk-taking discussion as moderated by CEO duality versus CEO-chair separation. While the presence or absence of CEO duality does not significantly affect positive risk-taking discussion when CEO narcissism is one standard deviation below our sample mean (low), the presence of CEO duality is associated with greater positive risk-taking discussion at one standard deviation above the CEO narcissism mean (high). Indeed, the board's proportion of positive risk-taking discussion grows more for narcissistic CEOs who also wield the power of the board chair at an increasing rate of 2.5, 7.6, and 12.7% for the mean, +1 SD, and +2 SD CEO narcissism levels.

4.1 | Endogeneity, robustness, and alternative explanations

We considered potential endogeneity concerns by testing our model for omitted variables and reverse causality concerns. An omitted component may impact both CEO narcissism and corporate risk-taking. We thus tested for the potential impact of an omitted variable by calculating the impact threshold for a confounding variable (Busenbark et al., 2022; Frank, 2000; Gamache & McNamara, 2019). This analysis, appropriate with our firm-year fixed effects estimation procedure (Busenbark et al., 2022; Frank, 2000), suggests that, for an omitted variable to invalidate our findings, it must be correlated at $r > .24$ with both CEO narcissism and firm risk-taking ($\alpha = .10$). In our analyses, to ensure as much as possible that we were accounting for potential factors that could influence our hypothesized relationships, we included 24 control variables (some of which were not included in our final analysis, based on the criteria provided by Carlson & Wu, 2012). Then, 3 of these 24 control variables (prior risk-taking, firm size, and

number of articles about the firm) had higher zero-order correlations than the impact threshold with both variables. However, upon further investigation of our control variables' partial correlations with CEO narcissism and firm risk-taking, our highest partial correlation impact was 0.018 (substantively less than the 0.057 threshold necessary to invalidate an inference). This is strong evidence that there is unlikely to be an omitted variable that would invalidate our findings (Busenbark et al., 2022; Kim et al., 2022).

Reverse causality is another form of potential endogeneity. CEOs who are highly narcissistic may be drawn to firms with boards that discuss firm risk-taking in a more positive tone. We employed three methodological steps to investigate potential reverse causality in the relationship between CEO narcissism and board positive discussions about risk-taking. Each step contributes uniquely to establishing a robust temporal sequence, thus reducing our reverse causality concerns. First, a *t* test was conducted to compare a board's positive risk-taking discussions before and after the appointment of a new narcissistic CEO. The results do not show substantive differences in the board's positive risk-taking discussions pre- and post-appointment. This finding is critical as it suggests that a board's positive risk-taking is not a reliable antecedent of appointing a more narcissistic CEO, thus challenging the notion of reverse causality.

Second, we used a fixed effects regression, controlling for firm- and year-specific heterogeneity, to assess whether the board's positive risk-taking discussions predict CEO narcissism levels. Given that narcissism is a relatively stable personality trait, and the measure of narcissism is fixed within CEOs in our model, the focus on changes in CEO narcissism is appropriate. The regression results indicate that previous board discussions do not predict subsequent CEO narcissism. This outcome is crucial as it undermines the possibility that the board's risk-taking discussions are an antecedent of a new CEO's narcissism levels, further reducing the likelihood of reverse causality.

Finally, as Landis and Dunlap (2000) recommend, we conducted an analytical interchange to examine the interactive effect of board positive risk-taking discussions and CEO duality on CEO narcissism. The results of the interactive effect suggest the likelihood of reverse causality is low (see online Appendix H Table H1). In sum, these three tests of reverse causality indicate that the observed relationship is likely unidirectional, flowing from CEO narcissism to the board's positive risk-taking discussions.

To ensure the validity of our results, we performed several robustness tests for our dependent, independent, mediating, and moderating variables. First, to show robustness for our risk-taking measure, we operationalized our dependent variable in five additional ways that have been commonly used within the literature: (1) R&D/sales, (2) CapEx/sales, (3) Acq./sales, (4) R&D + CapEx + Acq./sales, and (5) LongTermDebt/sales. We found that our results remained similar in direction and support regardless of our measurement of risk-taking (see online Appendix C Tables C1 and C2).

Second, because prior work has demonstrated some overlap between narcissism and overconfidence (Aktas et al., 2016; Ham et al., 2018), we examined whether our results held using a measure of CEO overconfidence in conjunction with CEO narcissism. Consistent with Humphery-Jenner et al. (2016), we used CEO stock option holdings to assess overconfidence. CEOs tend to be relatively under-diversified in their personal investments, and therefore, rational CEOs should exercise their options as soon as they are vested. Holding onto exercisable vested options thus signals a degree of overconfidence. Accordingly, we developed a continuous measure of overconfidence based on the average value per vested option relative to the average strike price (for details, see Humphery-Jenner et al., 2016). In testing this measure for robustness, we followed the method that Aktas et al. (2016) outlined by controlling for CEO

overconfidence in our models. In doing so, we found that our hypothesized results for CEO narcissism remained robust when including CEO overconfidence as a control. We additionally substituted CEO overconfidence in place of CEO narcissism, determining that direct effects existed between (a) CEO overconfidence and positive risk-taking discussion (0.034, $p = .001$) and (b) CEO overconfidence and firm risk-taking (0.146, $p = .010$). However, the interaction effect of CEO overconfidence and CEO duality was not supported (see online Appendix F Tables F1 and F2).

Third, we examined the robustness of CEO duality, a form of structural power, within our model. In our theory development, we identified three specific ways by which narcissistic CEOs with duality would be able to manipulate the positive affect of risk-taking discussions during board meetings (e.g., setting the agenda for the meeting, determining the location of the meeting, and instituting specific presentations for the meeting). As such, we used similar proxies in our models to substitute for CEO duality. Specifically, we formed a factor with *agenda meeting formality*—coded as 1 = "dense detail" (most formality); 2 = "moderate detail"; 3 = "sparse detail"; and 4 = "no detail" (least formality)—and the *percentage of off-site board meetings*. When CEO duality was substituted with this measure, its interaction effect with CEO narcissism remained consistent with those from our primary variable (0.061, $p < .001$). We further substituted CEO duality with *the quantity of pre-meeting board briefing materials related to risk-taking*—which was measured as the number of risk-taking board briefing pages divided by the total number of board briefing pages for each fiscal year—since this dictates the degree to which risk-taking will be presented on during the meeting. We found similar results to those indicated above (0.138, $p < .001$) (see online Appendix E Table E1).

Fourth, we explored the impact of additional moderators that proxy for CEO discretion—including CEO-Board relative tenure, CEO-Board relative ownership, board outsider status (i.e., prestige), and prior firm performance—on the relationship between CEO narcissism and board positive risk-taking discussion, and if the moderation of CEO duality remains robust in the presence of alternative moderators (see online Appendix G Tables G1–G5). We began by exploring each interaction in isolation from the other potential interactions. Each interaction was positive and supported when it was the only interaction on models with our control and independent variables. Next, we combined all the alternative moderator interactions into one model. The relative CEO-board ownership support fell away when all alternative interactions were simultaneously included in a model, while other interactions remained positively supported. Finally, we added our hypothesized moderator interaction to a model with all alternative moderator interactions. Relative CEO-Board tenure and ownership were not supported, while Board outsider status (0.025, $p < .001$) and Prior performance (0.006, $p < .038$) interactions with CEO narcissism remained supported in the presence of our CEO narcissism × CEO duality interaction, which remained positive and supported (0.048, $p < .001$). To get an idea of how much of the overall explanatory variance these alternative moderators may reduce from our hypothesized interaction, we compared our Table 2, Model 3 coefficient to this final model's CEO narcissism × CEO duality interaction coefficient and show that the effects are 0.057 and 0.048, respectively. These findings suggest that our hypothesized moderator has an important impact on positive risk-taking discussions on the board.

Fifth, to ensure the robustness of our mediating variable (i.e., *positive tone in board discussions about risk-taking*), we utilized the Loughran and McDonald (2011) affect dictionaries instead of the affect dictionaries within LIWC. In doing so, we found our model's relationships were supported and consistent with LIWC. Additionally, we examine the effect of CEO narcissism on the "total" amount of board meeting discussions allocated to risk-taking. The results of

substituting total board discussion of risk-taking for the positive tone in board discussion about risk-taking suggest these are not valid substitutes (see online Appendix D Table D1). Results suggest that duality and the effect on tone of discussion are important.

Finally, we employed two additional statistical techniques, generalized estimating equations (GEE) and the hybrid method, to test the robustness of our findings (see online Appendix I Tables I1 and I2). The GEE analysis provided similar parameter estimates. We compared the GEE and fixed-effects models using a Hausman test. The result was not supported, suggesting the models' parameter estimates are not meaningfully different. We then utilized the hybrid method (see Certo et al., 2017). Estimates for both between-firm effects and within-firm effects are applied simultaneously. Essentially, deviations between and within firms for all predictor (and control) variables are isolated and then analyzed. The results for the between-firm effects of our IVs were not supported, but nearly all our IV within-firm effects are similar to our firm-year fixed-effects results. The one exception is the interaction result. It was not supported in the hybrid analysis but strongly supported in our firm-year fixed effects analysis. The comparison of coefficients and significance levels reveals very similar results. Interestingly, with the full model, the moderated mediation effect from the Hayes process analysis does support partial mediation (verified via structural equation model), providing further robust support for our findings.

5 | DISCUSSION

We proposed and evaluated an important theoretical and empirical model linking CEO narcissism with corporate risk-taking. Our findings offer evidence that firms led by narcissistic CEOs engage in more risk-taking because narcissistic CEOs are adept at shaping board meeting discussions about risk-taking to exhibit a positive tone. Moreover, we found that narcissistic CEOs gain a greater ability to control the emotional tone of board meeting discussions when they also hold the title of board chair. We offer several contributions to our theoretical and practical understanding of the subject.

First, we advance UET by showing how narcissistic CEOs interact with the board of directors to achieve their goals. To a large degree, scholarly investigation of this topic has been purely theoretical (e.g., Chatterjee & Pollock, 2017). We provide a process model—highlighting the mediating mechanism of positive tone in board meeting discussions about risk-taking—which answers the call to consider additional salient factors impacting the tie between CEO narcissism and risk (see Cragun et al., 2020). Demonstrating that narcissistic CEOs can impact the emotionality of attention during board meetings has major ramifications. For example, we show that as a board exhibits a heightened positive emotional tone while conversing about corporate risk-taking, financial outlays for corporate risk-taking increases. However, board meetings cover topics beyond risk-taking (see Tuggle, Schnatterly, & Johnson, 2010; Tuggle, Sirmon, et al., 2010), including strategic planning for new products and services, corporate social responsibility, or geographic expansion. Narcissistic CEOs may similarly shape discussions around these topics to increase financial outlays as needed when it enhances their status or legacy. In addition to considering whether this same relationship holds for other types of organizational spending, narcissistic CEOs may also attempt to influence the emotional tone of performance, such that poor performance is filtered in such a way that directors fail to grasp its severity (i.e., downplay or diminish the negative outcomes that the firm has experienced).

Second, our study extends the CEO power literature, illustrating the distinctive role of CEO duality in facilitating CEOs' narcissistic tendencies within the boardroom (see Cragun et al., 2020). Although CEOs inherently wield the greatest power within an organization, an individual CEO's power can vary across firms. Naturally, more powerful narcissistic CEOs encounter fewer constraints and are more effective in advancing their agendas (Al-Shammari et al., 2022). Our results reinforce this perspective by demonstrating that board meeting discussions on risk-taking exhibit an even greater positive tone when narcissistic CEOs possess duality. This finding was independently replicated using a robust series of proxies for relative power traditionally used in strategic leadership studies, including CEO tenure and ownership (Haynes & Hillman, 2010) and the relative status of outside board members (e.g., academic, business, military, or political status; see Tuggle et al., 2022). Notably, when examined within the same empirical model, we found that the most relevant interaction effect with a meaningful impact on the positive tone in board discussions about risk-taking was between CEO narcissism and CEO duality. This implies that the *type* of power that a CEO has holds significance for CEOs wishing to influence board meeting discussions. Accordingly, we caution boards to be wary of bestowing narcissistic CEOs with the additional title of board chair, as this move may foster an environment where the adverse behavioral consequences of narcissistic CEOs can become more pronounced.

Third, we contribute to research using the ABV. Ocasio's (1997) seminal article on the ABV (p. 187) claimed that "firm behavior is the result of how firms channel and distribute the attention of their decision-makers." While prior work has demonstrated a positive relationship between the amount of attention managers allocate to a specific topic and the resources devoted to it (e.g., Cho & Hambrick, 2006; Dessein & Santos, 2021; Ren & Guo, 2011), this approach assumes that all attention is equal. We note the existence of two potential concerns with this reasoning: (1) individuals can direct substantial negative attention to something (e.g., expressing doubts, complaining, or protesting), thereby reducing the likelihood of committing resources to it; and (2) individuals may require less positive attention to make a decision, being quickly persuaded of its benefits. Consequently, attention is not a neutral construct; rather, the emotional context of attention significantly influences individual and group decision-making processes (Vuori, 2023). Thus, our findings highlight that it is not only the *amount* of time spent discussing a topic that influences firm behavior but that the *emotional tone* of the discussion also plays a pivotal role.

Practically, we contend that firms led by narcissistic CEOs with duality must implement robust internal mechanisms to enhance the effectiveness of their corporate governance. This is critical because narcissistic CEOs with duality often circumvent inherent weaknesses within existing mechanisms. In other words, the mere enactment of governance reforms (e.g., the Sarbanes-Oxley and Dodd-Frank) is unlikely to mitigate the potentially detrimental impact that stems from the risk appetites of narcissistic CEOs with duality. Time has demonstrated that these reforms have likely fallen short in attaining their desired governance outcomes—including preventing excessive risk-taking—because inadequate internal controls have helped facilitate agentic behavior (Zardkoohi et al., 2018). Thus, despite increased board independence and personal liability for individual directors (Adams & Ferreira, 2009; Westphal & Stern, 2006; Zhu & Chen, 2015a), board oversight remains insufficient and excessive risk-taking persists (Van Scotter & Roglio, 2020).

Recognizing that narcissistic CEOs desire to pursue risk-taking unchecked, an organization's governance practices—such as granting or withholding the board chair role from the CEO—can play a critical part in mitigating the adverse effects of CEO narcissism. For example, research has indicated that firms led by narcissistic CEOs often experience extreme variance in

firm performance (Wales et al., 2013), which likely occurs because of their risk-taking tendencies. By withholding the board chair role from the CEO, a firm can reduce its susceptibility to dramatic shifts in performance over time because the CEO lacks the discretion to make unilateral decisions for the firm. Nevertheless, recognizing that a one-size-fits-all governance approach may not be practical, tailoring governance practices to accommodate diverse individual differences among CEOs could enhance their impact. Specifically, directors may benefit from educational initiatives—a crash course on being a director—which could focus on understanding and managing various CEO personality traits, navigating potential power imbalances, and fostering optimal board-CEO dynamics. Attaining such a knowledge base would enable directors to be effective strategic partners with management (Boivie et al., 2021), thereby fulfilling an important role in their efforts to create shareholder value.

5.1 | Limitations and future research

We additionally consider limitations within our study that may provide opportunities for future research. First, because one component of our CEO narcissism measure utilizes executive compensation data, our sample is solely made up of publicly traded firms from the S&P 1500 (i.e., firms available via the ExecuComp database). While this sample restriction may limit the generalizability of our results, we believe that our examination of the relationship between CEO narcissism and risk-taking expenditures should still be considered a conservative approach. Specifically, prior research has indicated that it is less likely for large, public firms—relative to smaller or newer firms—to have a CEO with a majority ownership stake in the firm (Fiegener et al., 2000). Thus, we expect that boards of large, publicly-traded firms will be able to act more independently when making strategic decisions such as risk-taking.

Second, prior work has used text analysis to measure the percentage of discussion devoted to a particular topic (see Tuggle, Schnatterly, & Johnson, 2010). We further refined these measures by answering calls to examine the emotional component of discussions (see Vuori, 2023). Nevertheless, although we measured the affective tone of board meeting discussions about risk-taking, we could not measure the conversation's quality (i.e., which director's words were critical in creating consensus on the board). We invite future research to create and implement a system that measures not only the amount of time a director speaks but also the quality of their contribution to the discussion. Scholars may consider using small, unlisted, or young firms as potential sources to collect their data.

We also recognize that future research ideas may stem from this study. Specifically, we encourage scholars to examine how the dialogue between the board of directors and the CEO changes during a crisis. We understand that narcissists tend to lash out when they are blamed for adverse situations (Twenge & Campbell, 2003). Therefore, we would expect them to attribute responsibility for crises to the environment or other individuals. Furthermore, recent research in the narcissism literature has suggested that mixed blessings of narcissism may be better understood by assessing both the positive (self-admiration) and negative (rivalry) aspects of narcissism independently (Cragun et al., 2020). Along these lines, scholars should also consider the nonlinear effects of CEO narcissism on organizational outcomes. Specifically, research could address whether there is a threshold of CEO narcissism levels that benefit the firm and identify if there is a "tipping point" at which results become negative. Finally, researchers should further explore the dyadic interplay between narcissistic CEOs and other important members of the firm (e.g., the CFO or COO) to see whether (in)congruence of leader-follower personality leads to diverse outcomes.

DATA AVAILABILITY STATEMENT

Due to confidentiality agreements required for data access, not all data can be shared.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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