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CEO narcissism and innovation ambidexterity: The moderating roles of CEO power and firm reputation

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Abstract

We examine how CEO narcissism affects firm innovation ambidexterity—the relatively balanced development in existing domains through exploitative innovation and in new domains through exploratory innovation. We theorize that firms led by more narcissistic CEOs are less likely to achieve innovation ambidexterity than those led by less narcissistic CEOs. Drawing on the trait activation theory, we further argue that this negative relationship is strongest when the CEO's power is intermediate and when the firm's reputation in the market is intermediate. Our analyses of a large-scale onsite survey collected from 132 Chinese firms, matched with their archival patent information, support our hypotheses. Our study first sheds new light on the existing literature on the influence of firm managers on innovation ambidexterity by considering their different personalities. Second, this study contributes to the strategic leadership research on CEO narcissism by extending its implications to innovation ambidexterity as a new organizational outcome. Third, our study indicates that narcissistic CEOs' priority orders to chase the two conflicting needs—that is, the need to dominate decision-making and the need for acclaim—vary in different scenarios. This finding thus challenges the assumption in prior CEO narcissism research that the behavioral manifestations of narcissistic personalities' different facets are the same regardless of the contextual scenarios.

KEYWORDS

CEO narcissism, CEO power, firm reputation, innovation ambidexterity

I don't want to make an incremental change in some technology in my life. I want to create a whole new technology, and one that is aimed at helping humanity at all levels regardless of geography or ethnicity or age or gender.

—Elizabeth Holmes, Founder and CEO of Theranos.

1 | INTRODUCTION

Firms face contradictory demands to carry out exploratory versus exploitative innovation (March, 1991). Research has found that firms that outperform others are often those that have innovation ambidexterity—the

relatively balanced development in existing domains through exploitative innovation and in new domains through exploratory innovation (He & Wong, 2004; Wei et al., 2014). Prevailing research suggests that the successful reconciliation of the exploitation–exploration tension requires top managers to serve as the integrative lynchpin that embraces paradoxical cognition toward ambidexterity (Lin & McDonough III, 2014; Smith, 2014; Smith & Tushman, 2005). However, prior studies have overlooked how firm CEOs' distinct personalities may affect the way they manage the exploration–exploitation paradox.

Narcissism has long been suggested as a fundamental personality trait in strategic leadership studies, especially given its effect on firm innovation (Kashmiri et al., 2017; Stock et al., 2019). Prior research has shown narcissistic CEOs' tendencies to focus on *either* exploratory (Gerstner et al., 2013) *or* exploitative approaches (Zhu & Chen, 2015a) in their strategic decisions. Yet, it remains an open question as to how narcissism affects CEOs in balancing the trade-offs between exploratory *and* exploitative activities. This is an important missing link because overemphasis on exploitation resulting from narcissistic CEOs' sense of superiority and overconfidence about the firm's past strategies may cause firms to fall into the competency trap (Levitt & March, 1988), while narcissistic CEOs' bold exploratory behaviors to make radical changes, as illustrated by the above epigraph from Theranos CEO Elizabeth Holmes, may cause firms to expend the bulk of their resources chasing "castles in the air." Therefore, specifying the influences of CEO narcissism on innovation ambidexterity sheds important light on current research about how to better manage firm innovation.

In this study, we posit that CEOs with high narcissistic tendencies are less likely to lead their firms to attain innovation ambidexterity because their narcissism may work against the three main necessary conditions needed to attain ambidexterity (O'Reilly & Tushman, 2011): (1) the composition of a behaviorally integrated top management team (TMT) that makes joint decisions to deal with the contradictions between exploitation and exploration (Lubatkin et al., 2006); (2) a decentralized organizational structure that separates exploitation units from exploration units and empowers different managers to oversee their respective strategies (Siggelkow & Levinthal, 2003); and (3) CEOs' paradoxical cognition and behaviors that embrace contradictions (Smith & Tushman, 2005).

Moreover, following Chatterjee and Pollock's (2017) conceptualization of the overarching yet potentially conflicting needs of narcissistic CEOs (i.e., the need to dominate decision-making and the need for acclaim) and Tett and Guterman's (2000) trait activation theory, we identify CEO power and firm reputation as two contingencies that exert quadratic moderating effects on the relationship between CEO narcissism and innovation ambidexterity. Specifically, the negative effect of CEO narcissism on innovation ambidexterity is strongest when the CEO's power is intermediate and when the firm has an intermediate reputation in the market. Based on our analysis of a dataset we collected on-site with paper-pencil surveys and the archival patent data from 132 firms in China, our results strongly support our predictions.

This study makes three important contributions. First, we extend the research on the antecedents of innovation ambidexterity by exploring the effect of CEO narcissism. Lin and McDonough III (2014) have argued that decision-makers' paradoxical cognition and behaviors influence innovation ambidexterity. Yet, how such cognition and behaviors might be formed or hindered remains unaddressed. Our research takes a

Practitioner points

- Firms with narcissistic CEOs are less likely to achieve innovation ambidexterity—that is, the relatively balanced development in existing product domains through exploitative innovation and in new product domains through exploratory innovation. Companies should be cautious about how their CEO's mental model, biased along certain lines by narcissistic needs, may hamper the firms in achieving innovation ambidexterity.
- The negative effect of CEO narcissism on firm innovation ambidexterity is strongest when the power of the CEO in the firm is intermediate. The board of directors should be aware that they can enhance their own role in building an ambidextrous organization through carefully matching the level of power that the CEO may acquire to the CEO's level of narcissistic traits.
- When the reputation of the firm in the market is intermediate, the negative effect of CEO narcissism on firm innovation ambidexterity also reaches the highest level. Firms need to establish a strong culture that emphasizes team spirit to prevent a narcissistic CEO from misattributing that success largely to his/her contributions. In so doing, firms may better protect themselves from CEO narcissism-based decisions that negatively impact innovation ambidexterity.

pioneering step to consider this issue and shed light on the psychological antecedents of the innovation ambidexterity literature.

Second, our study contributes to strategic leadership research by extending the implications of CEO narcissism to a new organizational outcome—that is, innovation ambidexterity. Although prior studies have examined the effects of CEO narcissism on firm innovation, their conclusions were inconsistent. For example, Kashmiri et al. (2017) suggested that narcissistic CEOs are more likely to conduct radical innovation in a firm's product portfolios (i.e., exploration). In contrast, Zhu and Chen (2015a) documented that narcissistic CEOs are more likely to make decisions on the basis of existing rationales (i.e., exploitation). In addition, a recent meta-analysis by Cragun et al. (2020) found mixed evidence for the effect of CEO narcissism on innovation, suggesting that how CEO narcissism influences innovation is context dependent. To disentangle these inconsistent findings in the literature, we take an integrative approach by examining how CEOs' narcissism affects their decision-making on balancing exploratory and exploitative activities.

Third, our findings complement current understandings of the boundary conditions under which CEO narcissism affects firm outcomes. Despite longstanding efforts to understand the role of CEO narcissism in strategic leadership, researchers have implicitly assumed that the distinct behavioral manifestations of narcissistic personalities' different needs are the same in different situations (e.g., Tang et al., 2018; Zhu & Chen, 2015b). Using trait activation theory (Tett & Guterman, 2000), we develop a fine-grained theorization on how narcissistic CEOs prioritize their pursuits for the two overarching yet potentially conflicting needs differently in different scenarios. This study thus responds to the recent call for a more nuanced approach to study CEO narcissism that draws on trait activation theory to understand the triggers of narcissistic behaviors (Cragun et al., 2020).

2 | THEORY AND HYPOTHESES

2.1 | Managing ambidexterity: The role of top managers

The concept of ambidexterity in organization research was first presented by Duncan (1976), who suggested that an ambidextrous firm can be aligned in simultaneously managing current business demand and adapting to environmental changes. March (1991) noted that a firm's ability to manage the trade-offs between exploiting existing assets and exploring new technologies is central to its survival. Findings in follow-up empirical studies have supported this argument and determined that firms may achieve better performance outcomes if they can reconcile the competing demands of exploitation and exploration and maintain relative balance between them (e.g., Cao et al., 2009; He & Wong, 2004).

The simultaneous pursuit of exploration and exploitation inevitably creates internal competition for firm resources, which leaves a challenging paradox for managers to reconcile (Smith, 2014). O'Reilly and Tushman (2011) highlight the important role of the top managers in managing the inherent tensions associated with ambidexterity, indicating that firms' failed efforts at achieving ambidexterity stem from top managers' inabilities to reconfigure and reallocate existing resources between exploration and exploitation.

Three main necessary conditions have been indicated by previous research to underpin top managers' success in attaining innovation ambidexterity. First, TMTs need to be behaviorally integrated (Sidhu et al., 2004; Simsek et al., 2005). This requires the CEO to build a consensus implicitly or explicitly with other TMT members regarding how to deal with the contradictory decision-making processes that underpin the attainment of ambidexterity, including a high-quality exchange of information, a joint decision-making climate, and collaborative leadership behaviors. Hambrick (1994) argued that these mutually reinforcing dynamics, which reflect the TMT's wholeness, are highly influential in promoting open discussion of existing and new market opportunities, creating a more receptive and supportive climate to generate ideas, and facilitating the TMT to uncover ways to pursue new markets while reinforcing existing ones (Lubatkin et al., 2006). Conversely, without close interaction in making exploration and exploitation decisions, TMT members are more likely to focus only on the areas for which they are responsible and thus to recklessly compete for resources to solve the dissonance they may be facing individually. At this extreme, hampered by infrequent and highly distilled communications, the TMT is fragmented (Hambrick et al., 2001), which detracts from the integration of contradictory knowledge and is therefore detrimental to the development of an ambidextrous innovation strategy (Lubatkin et al., 2006).

Second, attaining ambidexterity requires a deliberately designed organizational structure that segregates exploitation units from exploration ones (Smith, 2014) and, more important, a decentralized leadership, wherein CEOs empower different senior managers in various units and allow them to oversee their own strategies for either refining existing products and technologies or exploring new ones (Siggelkow & Levinthal, 2003). In this way, managers with distinct tasks to either exploit or explore suffer fewer burdens from the contradictions

between the two (Levinthal & March, 1993), which allows these managers to discretionally assign appropriate members with distinct expertise to different exploiting and exploring tasks that often require different knowledge and skills (Leonard-Barton, 1992).

Third, attaining innovation ambidexterity demands CEOs' paradoxical cognition and behaviors that embrace contradictions (Smith & Tushman, 2005). This requires CEOs to have the motivation and ability to identify, disentangle, and embrace a range of seemingly contradictory goals within the firm. On one hand, CEOs with paradoxical cognition can recognize the contradictory interests between exploitation and exploration and are more willing to support having differentiated organizational units pursue them. On the other hand, they can synchronize the differentiated pursuits of exploitation and exploration by cooperating with managers across different units to accommodate their contradictory agendas and collaborating with managers across different hierarchical levels to unify those seemingly contradictory goals (Smith & Tushman, 2005). Mom et al. (2009) indicate that communicating with managers in different organizational units within the firm helps the development of CEOs' paradoxical thinking abilities. In addition, intensive communications provide CEOs with opportunities to refine their knowledge base through learning from those who have different expertise (Henderson & Cockburn, 1994), which in turn helps CEOs make the most appropriate resource allocation shifts between the differentiated exploitation and exploration units. In sum, to attain innovation ambidexterity, CEOs need to work toward ensuring the above conditions are met.

2.2 | CEO narcissism

Narcissism is a fundamental personality trait characterized by grandiosity and impulsiveness, an inflated view of one's abilities (i.e., superiority and arrogance), a tendency to use others to advance one's own self-interest (i.e., exploitativeness), and a sense of entitlement (Campbell, 1999; Emmons, 1987). Previous research has revealed profound effects of narcissistic CEOs on the behaviors and outcomes of their firms (e.g., Chatterjee & Hambrick, 2007, 2011; Gerstner et al., 2013). Building on Morf and Rhodewalt's (2001) notion on the "paradox" of narcissism (i.e., narcissists have a grandiose yet vulnerable self-image), a recent theoretical advancement by Chatterjee and Pollock (2017) theorizes that narcissistic CEOs' behaviors are directed by two overarching yet potentially conflicting needs: the need to dominate decision-making and the need for acclaim.

On one hand, narcissistic CEOs tend to dominate decision-making because they view themselves as extraordinarily talented and their competence, knowledge, and experience as superior to others' (Chatterjee & Hambrick, 2007). Therefore, they are highly confident and believe they alone can make the best decisions for the organization (Farwell & Wohlwend-Lloyd, 1998). Such a strong need to dominate decision-making influences the way they interact with others within the firm, such as they appear easily in dominating others, are less motivated to build intimate interpersonal relationships within the TMT, show less gratitude to subordinates, and lack a communal and cooperative spirit in general (Bradlee & Emmons, 1992; Farwell & Wohlwend-Lloyd, 1998). Meanwhile, the desire to dominate decision-making motivates narcissistic CEOs to design a centralized organizational structure that retains decision-making authority at the very top of the hierarchy (Chatterjee & Hambrick, 2007).

On the other hand, narcissists have a strong need for acclaim because their vulnerable self-image motivates them to acquire sustaining "narcissistic supply" (Kernberg, 1975). It follows that they are highly motivated to seek external reinforcement for their inflated self-perceptions (Morf & Rhodewalt, 2001). Therefore, narcissists tend to be addicted to positive feedback to validate their outsized self-image and discount the validity of differing voices, even when the differing opinions are reasonable (Tracy & Robins, 2004). It follows that narcissistic CEOs process information with selective bias: they accept ideas that enhance their own self-image and ignore those that do not. Such an information-filtering process further reinforces their sense of superiority and validates the decisions they have made before. Moreover, because the boundaries between their public and private selves are blurred, narcissistic CEOs are more likely to attribute the success of the firm to their own personal qualities than others are (Chatterjee & Pollock, 2017). Therefore, even when it does not mention narcissistic CEOs personally, feedback that contains positive evaluations about the firm is construed by them as acclaiming their own superior personal qualities.

Building on these premises, in developing the rest of our theory, we first explain why CEOs' narcissism is detrimental to innovation ambidexterity by arguing that the trait works against the three necessary conditions we have noted above. Next, as prior literature has argued, it may not be feasible for narcissistic CEOs to simultaneously pursue the need to dominate and the need for acclaim because the drives potentially conflict with each other (Chatterjee & Pollock, 2017; Morf & Rhodewalt, 2001). Therefore, we posit that the extent to

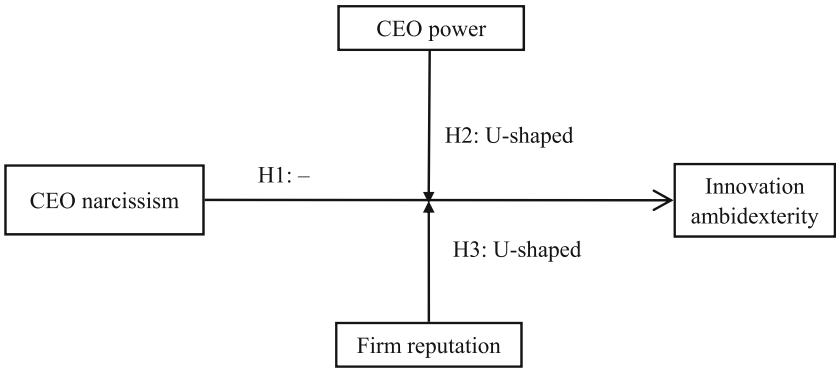

FIGURE 1 Proposed relationships between CEO narcissism, innovation ambidexterity, CEO power, and firm reputation

which narcissistic CEOs need to dominate others and need acclaim varies in different scenarios, which moderates the relationship between CEO narcissism and innovation ambidexterity. Figure 1 depicts the hypothesized relationships of our study.

2.3 | Detrimental effect of CEO narcissism on innovation ambidexterity

We envision that narcissistic CEOs have detrimental effects on the innovation ambidexterity of their firms. First, TMTs with narcissistic CEOs are less likely to reach a consensus to resolve needed exploration–exploitation trade-offs through joint decision-making processes. Narcissistic CEOs' strong need to dominate decision-making, which is rooted in their inflated self-view of superiority and entitlement, prohibits any free and equal exchange of information and ideas within the TMT. Such CEOs prefer to make decisions based on their own interpretations of the firm's status quo and may fail to create an atmosphere for open discussion regarding existing and new market opportunities. As a result, key information related to emerging market opportunities cannot be raised and discussed in TMT meetings. For example, suppose a senior marketing manager sees an opportunity to develop a new product that could bring the firm into a new market. This manager might naturally feel reluctant to raise the information she has collected and propose this new product development idea to the narcissistic CEO because in her experience the CEO feels so strongly about making decisions on his own that he will not listen to her. This notion is consistent with Chatterjee and Pollock's (2017) argument that narcissistic CEOs structure the TMT not to gain feedback but to help them keep control. It is also in line with O'Reilly et al.'s (2021) suggestion that narcissistic leaders prefer and tend to create organizational cultures that are less collaborative.

Second, narcissistic CEOs do not prefer a decentralized organizational structure, as this would make it more difficult for them to control decision-making and to gain acclaim from subordinates. As noted earlier, attaining ambidexterity requires a firm to separate the units dedicated to exploiting from those that are dedicated to exploring and to empower different senior managers to oversee the distinct innovation strategies of their own units (Siggelkow & Levinthal, 2003). Nevertheless, narcissistic CEOs are less likely to structure their organizations in this way. This is because although empowering different senior managers with distinct tasks releases them from the burden of balancing exploitation and exploration, this arrangement makes the CEO responsible for reconciling all the contradictions and competing demands of the two. In this situation, a narcissistic CEO is likely to face more questions from managers of different units, forcing the CEO to explain the reasons for their resource allocation decisions. Although such questions and debates could provide opportunities for CEOs to review their exploitation–exploration related decisions, narcissistic CEOs may view them negatively because they perceive different voices as threats to their acumen and challenges to their self-esteem (Resick et al., 2009). To avoid these potential threats (i.e., threats of inability in making decisive decisions and in gaining acclaim on their "wise" decisions), narcissistic CEOs are likely to directly make decisions on the firms' innovation strategies or find a loyal cadre of lieutenants, from whom they can always acquire applauses, to make decisions on their behalf to facilitate implementation of their directives (Chatterjee & Pollock, 2017). As such, narcissistic CEOs' preferences of making decisive decisions on their own and their inclinations to avoid self-esteem being challenged by others impede them from reconciling the trade-offs between exploitative and exploratory innovation activities, which in turn is harmful for the firm to attain relative balance between them.

Third, narcissistic CEOs are less willing and able to renew their knowledge base and develop paradoxical thinking abilities. As we discuss earlier, narcissistic CEOs tend to over-evaluate the status quo of their firms and make decisions accordingly. Meanwhile, their high need for acclaim also makes them tend to attribute highly evaluated firm performance to their own superior abilities (Chatterjee & Hambrick, 2011). Therefore, in the case where an existing innovation strategy (i.e., either exploitation or exploration) has generated positive outcomes for the firm, narcissistic CEOs' high need for acclaim makes them not only prone to misattribute positive firm performance solely to their own ability but also "hear what they want to hear" from the biased information source they rate favorably (Zhu & Chen, 2015a), which causes them firmly believe that their decisions have been correct. This further reinforces narcissistic CEOs' motivation to pursue the current innovation strategy, which they believe can continue to attract the limelight and gain others' acclaim. For example, Maccoby (1999) argue that the downfall of the revolutionary factory design in Volvo could be attributed to the narcissism of its CEO, Pehr Gyllenhammar, because his grandiose self-sense and the overestimation of his past success make him to keep deaf to the concerns from other top managers. Whereas in the situation when the existing innovation strategy produces a weak or negative outcome that deviates from their expectations, narcissistic CEOs will start to make bold changes and tend to go to the other extreme to restore their fragile self-view because they may feel excessively distressed when the firm receives negative evaluations as they tend to take negative feedback personally, as it cuts off the acclaim they crave (Chatterjee & Hambrick, 2007). Therefore, narcissistic CEOs are more likely to pursue extreme innovation strategies that often fluctuate between the two extremes of the exploration–exploitation continuum than their less narcissistic counterparts. Therefore, we propose the following:

Hypothesis 1. *CEO narcissism negatively affects the innovation ambidexterity of the firm.*

2.4 | Moderating effects of CEO power and firm reputation

Like other personality traits, an individual's narcissism is an intraindividually consistent and interindividually distinct "propensity" (Emmons, 1987) whose behavioral manifestation requires arousal by trait-relevant situational cues (Tett & Guterman, 2000). That is, trait-relevant factors in different situations determine the effect of individuals' disposition on their behaviors (Mischel & Shoda, 1995). Accordingly, we expect that the relationship between CEO narcissism and innovation ambidexterity is contingent upon different situational cues, which affect narcissistic CEOs' priority order in chasing domination on decision-making and/or acclaim from others. To the extent that their desires for these two needs are in a combined/compromising manner, the more/less the narcissistic behaviors will be manifested and, thus, the stronger/weaker the negative relationship between CEO narcissism and innovation ambidexterity will be. Following this logic, we examine the moderating effects of two situational cues highlighted in the literature as potential contextual factors that shape the effects of CEO narcissism: the relative power of the CEO in the TMT, and firm reputation, which impacts the social praise the CEO receives (Cragun et al., 2020).

In developing our first hypothesis, we have proposed that CEO narcissism is detrimental to firms' attainment of innovation ambidexterity because narcissistic CEOs' strong need to dominate others and receive acclaim influences how they make decisions, construct the firm's organizational structure, and deal with exploitation–exploration trade-offs. However, the "paradox" notion of narcissism (Morf & Rhodewalt, 2001) indicates that narcissistic CEOs' need to dominate may conflict with their need for acclaim because "those who feel dominated and are treated callously are unlikely to praise narcissistic CEOs and grant them the acclaim they desire" (Chatterjee & Pollock, 2017, p. 706). Therefore, there may exist a trade-off in chasing domination and acclaim for narcissists such that when they prioritize on chasing one of the two types of needs, they may compromise on chasing the other one. In such cases, narcissistic behaviors are mainly driven by the desire to pursue one type of need (*either* to dominate *or* for acclaim) and there will be less consequential effects compared to the situations where narcissistic behaviors manifest in pursuing *both* the need to dominate *and* the need for acclaim. Therefore, instead of assuming that narcissistic CEOs' tendency to chase the two types of needs is unitary, we argue that the extent to which narcissistic CEOs desire domination versus acclaim varies in different scenarios.

2.4.1 | The moderating effect of CEO power

We propose that the negative relationship between CEO narcissism and innovation ambidexterity is strongest when the CEO's power in the TMT is intermediate, compared with when it is either comparatively low or high. The rationale that underpins this quadratic moderating effect is based on the premise that less-powerful CEOs cannot fully infuse their personal inclinations into firm

decision-making processes (Finkelstein, 1992; Finkelstein et al., 2009). From a CEO–TMT dynamics perspective, power is a zero-sum game, and a CEO with less power in the firm implies the existence of a more powerful TMT (Anderson & Brown, 2010). The existence of equally or even more powerful TMT members poses a grievous threat to narcissistic CEOs' grandiose self-view, which in turn evokes their self-protection desires to "win out" over their social rivals in their minds (Resick et al., 2009). More importantly, in this situation, narcissistic CEOs often try to dominate others in a callous and hostile manner, resulting in that they may hold low expectations to obtain applause from them (Morf & Rhodewalt, 2001). Therefore, in a situation where the narcissistic CEO is less powerful, chasing the need to dominate others becomes his or her first priority and the need for acclaim comes next. That is, because there is a trade-off between pursuing domination and acclaim (Chatterjee & Pollock, 2017), and when a narcissistic CEO's power is low, he or she will primarily focus on dominating others, but compromise on chasing after acclaim.

Conversely, if a narcissistic CEO's relative power is much higher than that of other TMT members, the CEO can easily impose his or her will on firm decisions. In this situation, the narcissistic CEO is in a psychologically safe state and he/she will put all the efforts into gaining acclaim from others while putting the pursuit of domination in a less important place. For instance, they may strategically and hypocritically construct their interpersonal relationships or even use soft influence techniques (such as ingratiation, flattery and so on) to gain social praises from others (Chatterjee & Pollock, 2017). As a result, the behavioral tendencies of CEO narcissism abate. In contrast, when the power of the narcissistic CEO is intermediate, the levels of priority to pursue the need to dominate decision-making and the need for acclaim are relatively equal to the CEO. Therefore, their combined effects further fuel the behavioral expressions of the CEO's narcissistic inclinations.[1]

In summary, when narcissistic CEOs possess a moderate level of power, the combined prioritization effect of chasing both the need to dominate and the need for acclaim makes their narcissistic dispositions and behavior more thoroughly compared with when such CEOs have comparatively little or great power, and consequently has a greater negative effect on firm decision-making. Therefore, we propose that the detrimental effect of CEO narcissism on a firm's likelihood of attaining innovation ambidexterity is strongest when a narcissistic CEO's power is intermediate. Accordingly, we propose the following:

> **Hypothesis 2.** *The negative relationship between CEO narcissism and a firm's innovation ambidexterity is strongest when the CEO's power is intermediate.*

2.4.2 | The moderating effect of firm reputation

We further propose that the negative relationship between CEO narcissism and innovation ambidexterity is strongest when the firm has an intermediate reputation in the market, compared with when the firm's reputation is significantly better or worse. Firm reputation, defined as the public recognition and the market and social approval of a firm (Parker et al., 2019; Zavyalova et al., 2016), reflects the extent of a firm's overall image in the eyes of its main stakeholders. Previous research has suggested that narcissists cannot distinguish their public selves from their private selves, so that success or failure in one of their identity domains spills over into other domains in their lives (Emmons, 1987). Thus, narcissistic CEOs tend to attribute the positive evaluations received by the firm to their own personal qualities and express excessive pride, but construe negative evaluations of the firm as commentary on their own personal defects and suffer considerable distress (Chatterjee & Pollock, 2017).

When the firm's reputation is low, narcissistic CEOs tend to experience the negative external evaluations as a threat to their fragile self-esteem, and their behavioral manifestation on chasing the need for acclaim will correspondingly be set to the highest degree for obtaining the "narcissistic supply" they require (Kernberg, 1975) to minimize the reputational deficits. With their highest motivation being to gain praise, they compromise on chasing the need to dominate others because they may grasp that those who feel dominated will be less likely to praise them (Chatterjee & Pollock, 2017). That is, the strong need for acclaim may lead narcissistic CEOs to hypocritically affiliate themselves with others in and out of organizations (Chatterjee & Hambrick, 2011), even though doing so may make them feel out of control. Therefore, when a narcissistic CEO's firm reputation is low, his or her behavioral motivations to pursue the need for acclaim will raise, while the inclinations to pursue the need to dominate others will be mitigated. In contrast, Morf and Rhodewalt (2001) suggest that narcissists who have been granted great acclaim will turn to pursue dominating others. Therefore, when the firm attains a high reputation, a narcissistic CEO may perceive that

[1]Figure S1 visually demonstrates the underlying logic of the curvilinear moderating effect of CEO power. We thank the reviewers for their constructive suggestions on this point.

such a high reputation can be entirely attributed to his or her superiority, and the acclaim and the limelight should go exclusively to the CEO. In this situation, the excessive sense of pride brought on by the firm's high reputation provides the "narcissistic supply" the CEO desires, and he or she will then devote more effort to gaining domination rather than acclaim.

However, when the firms' reputation is intermediate, the levels of priority to pursue the need to dominate others and the need for acclaim are relatively equal to the narcissistic CEO. Therefore, their combined effects further fuel the behavioral manifestations of the CEO's narcissistic inclinations, to the detriment of meeting the conditions to attain innovation ambidexterity.[2] Thus, we propose that the negative effect of CEO narcissism on innovation ambidexterity is strongest when the reputation of the narcissistic CEO's firm is intermediate. In sum, we posit the following:

> **Hypothesis 3.** *The negative relationship between CEO narcissism and a firm's innovation ambidexterity is strongest when the firm's reputation is intermediate.*

3 | METHODS

3.1 | Sample and data

We conducted our analyses based on a dataset we collected through a large-scale onsite survey in 2015. Our sample firms were randomly drawn from 17 industrial towns in an eastern province of China. To conduct the survey, we first visited the government web pages of all the counties, cities, and towns of the province to obtain local industrial information. We also visited the province's Small and Medium Enterprise Bureau website, which lists 100 key clusters of industrial townships. Using this list and the description of each town on the webpage, we identified 170 typical industrial towns, from which we drew our sample.

Second, we randomly selected 17 industrial towns (10%) as our target data source. To facilitate high response rates (Gupta et al., 2000), we first communicated with the directors of the municipal governments to explain our research plan. They all convened a meeting with the directors of industrial departments from the selected towns in their jurisdictions. We attended these meetings to learn about local industrial characteristics and discuss the survey timeline. After receiving a list of local firms, we randomly selected 10 firms in each town to survey. We prepared different questionnaires for the CEO and CFO in each firm. For each firm, we gathered the respondents in one meeting room onsite to conduct the survey. If there were any absentees, we left our business cards, survey questionnaires, and self-addressed stamped envelopes for them to return their filled survey questionnaires through the mail.

Among the 170 randomly selected firms (10 firms each from 17 towns), 159 firms participated in our survey. In each of these 159 firms, the CEOs and CFOs were given questionnaires. However, the returned questionnaires from 27 firms lacked key information necessary to match the independent variable with the moderators. Therefore, the final sample for hypothesis testing was comprised of 132 firms, including 264 senior managers, with a response rate of 83%. The firms in our final sample had an average age of 11.42 years, average total assets of 267.33 million RMB, average profits of 13.66 million RMB in 2014, average R&D intensity of 35%, and an average TMT size of 3.52. Approximately 83% of the CEOs were male, 64% were middle-aged (36–50 years old), and 59% had bachelor's degrees or above. Following Poppo and Zhou (2014), we conducted a nonresponse bias analysis. The results of a multiple analysis of variance showed no systematic difference between nonrespondent and respondent firms in our final sample in terms of industrial type, firm age, or number of employees (Wilks' $\Lambda = 0.98$; $F = 1.13$; $p > 0.10$). Thus, nonresponse bias was not an issue in our study.

3.2 | Measures

3.2.1 | Dependent variable

Given that patent-based data are widely accepted as indicators of objective innovation output (Boone et al., 2019), we followed prior studies and used a two-step approach to create the measure of *innovation ambidexterity* by using firm patent information filed in 2016, 1 year after the 2015 survey data that we used to measure our independent variable (Guan & Liu, 2016; Lin et al., 2007; Zhou et al., 2017). We obtained the patent information from the China National Intellectual Property Administration (CNIPA). In the first step, adopting well-established procedures (Gilsing et al., 2008; Guan & Liu, 2016), we focused on the identification of a firm's new and old technologies and distinguished whether each patent granted to a firm should be classified as an

[2]Figure S2 visually demonstrates the underlying logic of the curvilinear moderating effect of firm reputation. We thank the reviewers for their constructive suggestions on this point.

exploitative or an exploratory patent based on its technological class (i.e., the four-digit International Patent Classification [IPC] code it was assigned; Gilsing et al., 2008; Guan & Liu, 2016). To do this, we compiled a firm's technology profile by listing all its patents' technological classes in the previous 5 years (i.e., from 2011 to 2015). To distinguish exploitative and exploratory patents, we matched the patent class of a focal patent in 2016 with those already in a firm's technology profile. Following previous research (e.g., Gilsing et al., 2008; Guan & Liu, 2016), we classified a patent as exploitative if its patent class is already present in its technology profile, and as exploratory if its patent class is new to the firm. To measure a firm's *exploitation* and *exploration*, then, we separately calculated the total numbers of explorative and exploratory patents.

In the second step, following prior studies (He & Wong, 2004; Uotila et al., 2009), we used the following formula to measure innovation ambidexterity by capturing the relative balance between exploration and exploitation:

$$\text{Innovation ambidexterity} = 1 - \left|\frac{\text{exploration} - \text{exploitation}}{\text{exploration} + \text{exploitation}}\right|$$

This measure captures the extent to which a firm achieves relative balance between exploration and exploitation of its innovation activities, and is therefore consistent with the conceptualization of our dependent variable in this study.[3] According to prior studies (Uotila et al., 2009; Wei et al., 2014), a value of 1 or −1 for the ratio of the difference between exploration and exploitation to the sum of exploration and exploitation indicates that a focal firm has only exploratory or exploitation patents, respectively, while a value between −1 and 1 of the ratio indicates a mix of exploration and exploitation. To facilitate explanation, we operated innovation ambidexterity by subtracting the absolute value from 1 (Uotila et al., 2009). Thus, the larger the number of this measure, the closer the firm is to attaining innovation ambidexterity, and this measure ranges from 0 to 1. In an additional analysis, we used an alternative measure to capture innovation ambidexterity by calculating the absolute difference between exploration and exploitation—that is, |exploration − exploitation| (Cao et al., 2009; He & Wong, 2004). The results were consistent with those in our main analysis.

[3]We measured innovation ambidexterity based on its balanced dimension rather than the combined dimension (Cao et al., 2009) for the following two reasons: First, we focused on the managers' effect on managing the trade-offs between exploitation and exploration, based on March's (1991) view that these two activities compete for resources and managerial attention. Second, most of our sample firms were small- to medium-sized firms (SMEs) that lacked adequate resources. Cao et al. (2009) indicated that for resource-constrained firms, achieving relatively balanced ambidexterity is more beneficial than the combined dimension of ambidexterity. Therefore, firms in resource-constrained contexts may need to put more effort into attaining balanced ambidexterity and managing the trade-offs between exploration and exploitation demands.

3.2.2 | Independent variable

Following a well-established method used in previous studies (e.g., Carlson et al., 2011; Cooper & Pullig, 2013; Liu et al., 2017), we used the self-report Narcissistic Personality Inventory-16-item scale (NPI-16) adapted from Ames et al. (2006) to measure *CEO narcissism*. This scale was presented in a forced-choice format by asking CEOs to choose between very narcissistic statements (coded as 1; e.g., "I think I am a special person," "I like to be the center of attention") and non-narcissistic alternatives (coded as 7; e.g., "I am no better and no worse than most people," "I prefer to blend in with the crowd"). To facilitate our interpretations, we reversed the measure by subtracting the score from 8, so that a higher value indicates greater CEO narcissism. The scale has been widely used in the context of China (e.g., Zhang et al., 2017), and its reliability coefficient in our study was 0.88.

3.2.3 | Moderators

We measured *CEO power* by integrating three indicators (CEO pay disparity, formal CEO title, and CEO tenure), which have been well established in prior research (Finkelstein et al., 2009; Zhu & Chen, 2015a) and adapted according to our research context. CEO pay disparity was calculated by using the ratio of the CEO's total compensation divided by that of the second-highest-paid executive in the focal firm. The objective data were obtained from firm CFOs. This measure is an indicator of a CEO's structural power in a firm (Finkelstein, 1992) and has been widely used in the literature (e.g., Hambrick & D'Aveni, 1992; Ou et al., 2018). Among our study's CEOs, it ranged from 0.33 to 100, with a mean of 3.64 (SD = 12.86).

The self-reported formal CEO title, which is a context-specific indicator in our study, was measured by using a dummy variable equal to 1 if he/she has the substantive authority to make daily strategic decisions and is formally titled as "CEO" in the firm. It is equal to 0 if he/she only serves in the role of CEO (i.e., he/she has the substantive authority to make decisions) but is titled as "Deputy-CEO," "Vice-President," or another equivalent title instead of "CEO." Both the former and latter have

the right to make substantive daily strategic decisions for the firm, but the power of the latter is constrained by the firm's formally titled "CEO" who has a monitoring role in the firm but is not directly involved in its daily operation. This is in line with the well-established argument that a formal title such as CEO signifies the relative power of an executive versus other managers, no matter what job duties they perform (Haleblian & Finkelstein, 1993; Harrison et al., 1988). The phenomenon of formally titled CEOs who do not involve themselves in daily decisions is not unusual in Chinese firms, as these firms are, to a large extent, small- to medium-sized firms and/or family-owned firms which have ill-defined corporate governance structures (Nee & Opper, 2012). The mean of managers having the formal CEO title was 0.44 (SD = 0.50), with a min of 0 and a max of 1.

Self-reported CEO tenure was measured by the number of years an executive served as the focal company's CEO (Wade et al., 1990). Those respondents who were substantive decision-makers but without a formal CEO title recorded their tenure in their current positions. And for those respondents whose tenures were less than 1 year, we recorded their CEO tenure as 0. The mean of this indicator was 6.92 (SD = 5.83), with a min of 0 and a max of 36. Finally, following Zhu and Chen (2015a), we measured *CEO power* by using the sum of the standard scores of these three indicators.

We gauged the second moderator, *firm reputation*, by the firm's total number of "Famous Brand Product" appellations officially granted it by the Administrations for Market Regulation of China. This objective information was obtained from the CFOs of the firms. Although a firm may supply a series of products to the market, a product can only be accredited as a Famous Brand Product after substantive examinations by the market regulators. Specifically, to be accredited as a "Famous Brand Product," a product must (a) have a high market share and high customer satisfaction among the top tiers in the same industry in China, (b) be from an advanced product quality system, including an industry-leading production environment and technical equipment, and the adoption of advanced production standards (such as ISO9001 or ISO14001, etc.), and (c) have a stable positive social evaluation, such that the product has been continuously approved as qualified in quality audits and has had no scandals in terms of product quality, product safety, or environmental pollution over the past 3 years, among other criteria. Accordingly, the possession of more Famous Brand Products indicates not only that a firm can deliver more high-quality products to the market, but also that the firm has earned more positive evaluations from its key stakeholders, including peers in the same industry, customers, and governmental agencies. Therefore, *total number of Famous Brand Products* captures our conceptualization of the outcomes-based assessment that enables a firm to earn a good reputation and social approval from its environment (Parker et al., 2019; Zavyalova et al., 2016).

3.2.4 | Control variables

We included a comprehensive list of control variables that may affect firm innovation. At the firm level, we controlled for *total firm assets* (in million RMB) and *firm age* (i.e., the number of years since start-up) in 2015; firm profits (in million RMB) in the past year to control for *prior performance*; and *R&D intensity* (i.e., the ratio of R&D expenditures to total sales) and *number of R&D centers* to control for the extent to which the firm engaged in innovation. Following previous studies (Zhou & Wu, 2010), we added two dummy variables to control for firm ownership, *Sino–foreign joint venture* and *foreign-owned company*, using domestic firms as the baseline. Following Gilbert (2005), we controlled for structural differentiation using the *number of branches* of the focal firm. Moreover, we controlled for *TMT size* as the total number of senior managers in the TMT. The objective data of the above controls was obtained from firm CFOs. We also controlled for the numbers of three types of patents in a firm: *invention patent*, *utility model patent*, and *exterior design patent* (Filatotchev et al., 2011). Because patents in China are categorized according to their technological sophistication and innovativeness, different patent types may account for different combinations of novelty in a firm's new and old technologies, and hence may impact the relative balance between exploratory and exploitive innovations (Boone et al., 2019). The information on patent types was gathered from the CNIPA. We asked the CEOs to report their *gender*, *age*, and *education level*. Gender is equal to 1 for a male CEO, and 0 for a female. Age had nine response options in five-year increments, from (1) 25 years old or younger to (9) 60 years old or older. Educational level had six options: (1) middle school or below, (2) technical or high school, (3) junior college, (4) bachelor's degree, (5) master's degree, and (6) doctorate. Finally, at the industry level, we followed previous studies (e.g., Poppo et al., 2016; Zhou et al., 2014) and included two separate dummy variables (*high-tech industry* and *manufacturing industry*) to control for industry-specific effects.

TABLE 1 Descriptive statistics and correlations

	Mean	SD	Min.	Max.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
(1) Innovation ambidexterity	0.12	0.26	0.00	1.00																				
(2) CEO narcissism	3.07	0.89	1.00	5.44	−0.09																			
(3) CEO power	0.00	1.84	−2.26	7.60	−0.15	−0.13																		
(4) Firm reputation	0.49	1.81	0.00	16.00	0.12	0.01	−0.05																	
(5) High-tech industry	0.13	0.34	0.00	1.00	−0.10	0.10	0.07	−0.04																
(6) Manufacturing industry	0.76	0.43	0.00	1.00	0.16	−0.12	−0.12	−0.21	−0.68															
(7) Firm assets	267.33	685.48	0.05	5000.00	0.14	0.01	−0.17	0.00	0.06	0.00														
(8) Firm age	11.42	6.39	1.00	37.00	−0.04	−0.13	0.19	0.12	−0.08	−0.12	0.22													
(9) Prior performance	13.66	43.42	−23.79	419.32	0.03	0.10	−0.06	0.03	0.24	−0.15	0.59	0.16												
(10) R&D intensity	0.35	1.87	0.00	19.99	−0.06	0.04	0.04	−0.04	−0.02	0.06	−0.03	−0.16	−0.06											
(11) Number of R&D centers	0.06	0.26	0.00	2.00	0.02	−0.02	−0.01	−0.01	0.00	0.05	−0.04	0.03	−0.06	−0.02										
(12) Sino–foreign joint venture	0.11	0.31	0.00	1.00	0.01	0.03	−0.12	−0.05	0.09	0.02	0.09	−0.11	0.03	0.00	0.31									
(13) Foreign-owned company	0.23	0.43	0.00	1.00	−0.18	0.07	−0.27	−0.12	0.05	0.06	0.08	0.08	0.18	−0.09	−0.11	−0.19								
(14) Number of branches	1.27	3.98	0.00	35.00	0.08	0.15	−0.06	0.09	−0.05	−0.07	0.07	0.08	0.00	−0.04	0.05	−0.04	−0.06							
(15) Invention patent	1.00	2.66	0.00	21.00	0.32	0.11	−0.11	0.03	0.01	0.09	0.10	0.07	0.03	−0.05	0.15	0.02	−0.13	0.01						
(16) Utility model patent	1.72	3.87	0.00	26.00	0.48	−0.02	−0.25	0.30	−0.12	0.13	0.15	−0.04	0.04	−0.06	0.07	−0.05	−0.05	0.34	0.19					
(17) Exterior design patent	0.14	1.08	0.00	12.00	0.10	0.00	−0.11	−0.02	−0.03	0.06	0.09	−0.08	0.01	−0.02	−0.03	0.03	−0.07	0.49	0.04	0.60				
(18) TMT size	3.52	0.79	1.00	4.00	0.10	0.19	−0.18	0.12	0.18	−0.10	0.02	−0.19	0.05	0.08	0.04	0.12	0.00	0.12	0.05	0.13	0.06			
(19) CEO gender	0.83	0.37	0.00	1.00	0.07	0.16	0.04	−0.16	0.11	−0.06	−0.04	−0.09	0.04	0.05	0.00	−0.04	0.15	−0.10	0.03	−0.21	−0.21	0.14		
(20) CEO age	5.12	1.67	2.00	9.00	0.02	−0.20	0.29	−0.03	0.09	−0.11	0.10	0.22	0.04	0.04	−0.01	0.12	0.10	−0.01	−0.03	−0.05	0.03	−0.04	0.12	
(21) CEO education	3.66	1.25	1.00	6.00	0.04	0.17	−0.29	0.06	0.23	−0.11	0.02	−0.33	0.08	0.17	0.02	0.21	0.12	0.08	0.08	0.06	0.00	0.34	0.20	−0.21

Note: $N = 132$; correlations with magnitude greater than 0.17 are significant at $p < 0.05$.

TABLE 2 Effect of CEO narcissism on innovation ambidexterity

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
High-tech industry	0.012	(0.008)	0.010	(0.009)	0.007	(0.009)	0.003	(0.010)	0.007	(0.009)	0.003	(0.010)
Manufacturing industry	0.039**	(0.014)	0.030**	(0.010)	0.029**	(0.010)	0.027**	(0.010)	0.026*	(0.011)	0.025*	(0.010)
Total firm assets	0.015	(0.015)	0.008	(0.016)	0.007	(0.016)	0.005	(0.018)	0.008	(0.017)	0.006	(0.018)
Firm age	−0.008	(0.009)	−0.007	(0.017)	−0.006	(0.018)	−0.005	(0.019)	−0.008	(0.020)	−0.006	(0.020)
Prior performance	0.001	(0.011)	0.007	(0.010)	0.007	(0.010)	0.010	(0.011)	0.004	(0.010)	0.007	(0.012)
R&D intensity	−0.016***	(0.004)	−0.014*	(0.006)	−0.014*	(0.006)	−0.013†	(0.007)	−0.014†	(0.007)	−0.012†	(0.007)
Number of R&D centers	−0.025	(0.022)	−0.026	(0.024)	−0.025	(0.028)	−0.029	(0.028)	−0.025	(0.028)	−0.029	(0.029)
Sino–foreign joint venture	0.005	(0.012)	0.003	(0.015)	0.003	(0.015)	0.011	(0.016)	0.001	(0.016)	0.009	(0.016)
Foreign-owned company	−0.054***	(0.012)	−0.061***	(0.015)	−0.057***	(0.017)	−0.054**	(0.017)	−0.056**	(0.018)	−0.053**	(0.018)
Number of branches	0.009	(0.011)	0.015	(0.014)	0.013	(0.014)	0.016	(0.014)	0.020	(0.017)	0.021	(0.016)
Invention patent	0.046***	(0.012)	0.048***	(0.012)	0.046***	(0.013)	0.050***	(0.014)	0.046***	(0.013)	0.050***	(0.014)
Utility model patent	0.165***	(0.024)	0.166***	(0.033)	0.166***	(0.037)	0.166***	(0.039)	0.170***	(0.041)	0.169***	(0.042)
Exterior design patent	−0.082***	(0.023)	−0.087**	(0.028)	−0.085**	(0.030)	−0.087**	(0.031)	−0.093**	(0.032)	−0.093**	(0.033)
TMT size	0.002	(0.008)	0.005	(0.007)	0.002	(0.008)	−0.002	(0.008)	0.002	(0.008)	−0.002	(0.008)
CEO gender	0.043***	(0.009)	0.046***	(0.009)	0.042***	(0.011)	0.037**	(0.012)	0.039**	(0.014)	0.035*	(0.014)
CEO age	0.022*	(0.009)	0.022*	(0.011)	0.020	(0.013)	0.024	(0.014)	0.016	(0.013)	0.020	(0.013)
CEO educational level	−0.003	(0.008)	−0.005	(0.008)	−0.000	(0.008)	−0.004	(0.010)	−0.000	(0.009)	−0.004	(0.009)
CEO power			−0.023*	(0.009)	−0.014	(0.016)	−0.009	(0.013)	−0.009	(0.014)	−0.005	(0.012)
Firm reputation			−0.016	(0.014)	0.033	(0.036)	0.041	(0.035)	0.042	(0.032)	0.049	(0.031)
CEO narcissism (H1)			−0.028***	(0.007)	−0.027***	(0.007)	−0.046***	(0.009)	−0.044***	(0.011)	−0.060***	(0.012)
CEO narcissism × CEO power					0.010	(0.007)	−0.017*	(0.008)	0.010	(0.008)	−0.015†	(0.009)
CEO power^2					−0.005	(0.007)	−0.015**	(0.005)	−0.007	(0.007)	−0.016**	(0.006)
CEO narcissism × firm reputation					0.009	(0.014)	0.008	(0.012)	−0.063***	(0.016)	−0.055***	(0.016)
Firm reputation^2					−0.008†	(0.004)	−0.009*	(0.004)	−0.018***	(0.005)	−0.018***	(0.005)
CEO narcissism × CEO power^2 (H2)							0.027***	(0.007)			0.025**	(0.008)
CEO narcissism × firm reputation^2 (H3)									0.027***	(0.008)	0.023**	(0.008)
Constant	0.117***	(0.005)	0.117***	(0.004)	0.131***	(0.010)	0.141***	(0.009)	0.136***	(0.008)	0.145***	(0.009)
Adjusted R^2	0.423		0.440		0.446		0.454		0.450		0.457	
Wald test	—		22.17		192.77		176.93		1610.47		1000.93	
Significance (p)			0.000		0.000		0.000		0.000		0.000	

Note: $N = 132$; standard errors in parentheses, two-tailed test.
†$p < 0.10$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

4 | RESULTS

4.1 | Descriptive statistics and correlations

Table 1 presents the descriptive statistics. Correlations with a magnitude greater than 0.17 in Table 1 were significant at $p = 0.05$ level. The highest variance inflation factor (VIF) was 5.46 (Model 6 in Table 2), below the recommended threshold of 10 (Kleinbaum et al., 1988).

4.2 | Regression results

Table 2 presents the regression results. We used a regression with two-way clustering of standard errors at both the town and ownership levels (Abadie et al., 2017; Cameron et al., 2011; Cameron & Miller, 2015). We did so because the firms in our sample are clustered in towns, which violates the independent assumption of traditional ordinary least squares regression (Rogers, 1993), and Chinese firms (especially their innovation behaviors) are highly resembling within the same ownership while vary systemically across different ownerships (Liu et al., 2022; Zhou et al., 2017). To aid interpretation, we followed previous studies and standardized the explanatory variables in the regressions (Lawrence et al., 2019; Preacher et al., 2006).

Model 1 in Table 2 only includes control variables. Model 2 adds the main explanatory variables. Models 3–5 add the squared terms and the interaction terms. Model 6 is the full model. Following Tang et al. (2018), the increasing adjusted R^2 and significant Wald test results for Models 2–6 jointly suggest that adding the key variables improved model fit concerning Model 1. In both Model 2 and Model 6, *CEO narcissism* is significantly and negatively associated with *innovation ambidexterity* (Model 2: $\beta = -0.028$, $p < 0.001$; Model 6: $\beta = -0.060$, $p < 0.001$). Therefore, H1 is supported.

H2 predicts that the negative relationship between CEO narcissism and innovation ambidexterity is strongest when CEO power is intermediate. Following previous studies (Suvak et al., 2002; Zhang et al., 2010), we tested H2 in Models 4 and 6. Model 3 adds the squared terms of CEO power and firm reputation, as well as the two-way interactions of CEO narcissism and the moderators. Model 4 then includes the interaction of CEO narcissism and the squared term of CEO power to test its net marginal effect, which was positive and significant ($\beta = 0.027$, $p < 0.001$). Results in Model 6 also confirmed this finding ($\beta = 0.025$, $p < 0.01$). These results jointly suggest that CEO power shapes the relationship between CEO narcissism and innovation ambidexterity in a quadratic manner (i.e., U-shaped moderating effect), supporting H2.

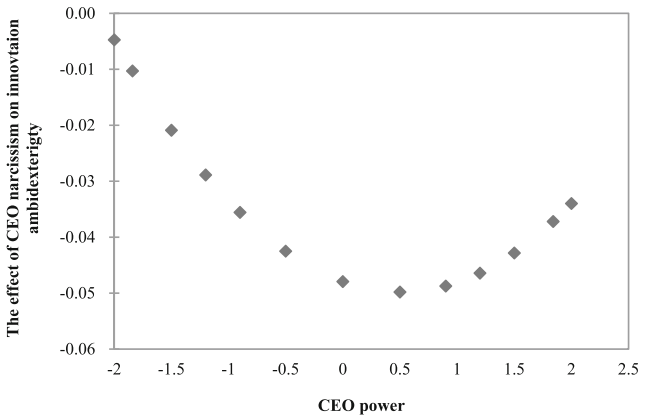

FIGURE 2 Moderating effect of CEO power (H2)

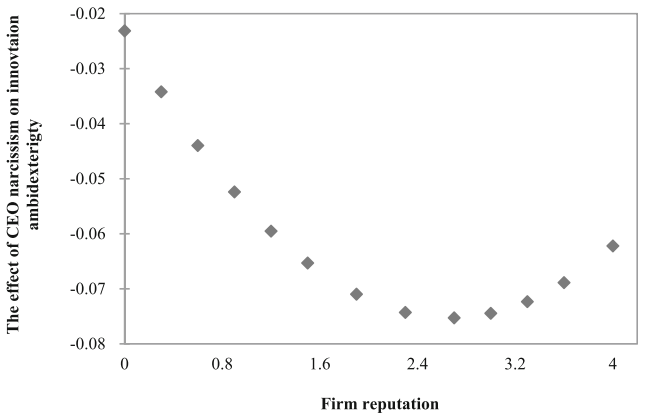

FIGURE 3 Moderating effect of firm reputation (H3)

H3 predicts that the negative effect of CEO narcissism on innovation ambidexterity is strongest when a firm's reputation is intermediate. Model 5 in Table 2 shows that the coefficient of the interactions between CEO narcissism and the squared term of firm reputation is positive and significant ($\beta = 0.027$, $p < 0.001$). Also, this coefficient in the full model is 0.023 and significant at $p = 0.01$ level. It thus supports H3, indicating that the effect of CEO narcissism on innovation ambidexterity varies across different levels of firm reputation quadratically (i.e., in a U-shaped moderating effect).

To visualize the quadratic moderating effects, we followed Suvak et al. (2002) and Zhang et al. (2010) and plotted the results of the two moderating effects in Figures 2 and 3. Figure 2 shows the effect of CEO narcissism on innovation ambidexterity across different levels of CEO power. To create this plot, we examined the regression equations predicting innovation ambidexterity at different levels of CEO power. The vertical axis represents values for the standardized regression coefficients for

CEO narcissism predicting innovation ambidexterity, and the horizontal axis represents the actual values for CEO power. As shown in Figure 2, for CEOs who have a low level of power, the negative effect of CEO narcissism on innovation ambidexterity is weak. For instance, when CEO power is at a value of −2 (which is 1.087 standard deviations below the mean), the standardized coefficient for the regression of CEO narcissism on innovation ambidexterity is −0.005. As CEO power increases, this effect is enhanced and is strongest ($\beta = -0.050$) at the level of about 0.5 (which is 0.272 standard deviations above the mean of CEO power). However, at higher levels of CEO power, for instance, when CEO power is at a value of 2 (which 1.087 standard deviations above the mean), the negative association between CEO narcissism and innovation ambidexterity becomes weak again ($\beta = -0.034$). Thus, this U-shaped graph displays the curvilinear changes for the negative effect of CEO narcissism on innovation ambidexterity as a function of CEO power, corroborating our H2.

The nature of how the effect of CEO narcissism on innovation ambidexterity varies across different levels of firm reputation is illustrated in Figure 3. The vertical axis represents values for the standardized regression coefficients for CEO narcissism predicting innovation ambidexterity, and the horizontal axis represents the actual values for firm reputation. As shown in Figure 3, CEO narcissism has the strongest negative effect on innovation ambidexterity ($\beta = -0.075$) when the firm reputation is at a value about 2.7 (which is 1.221 standard deviations above the mean) compared with when it is either low or high. For instance, when firm reputation is at a level of 0 (which is 0.271 standard deviations below the mean) or 4 (which is 1.939 standard deviations above the mean), the standardized coefficient for the regression of CEO narcissism on innovation ambidexterity is −0.023 and −0.062, respectively. This result indicates that although firm reputation first amplifies the effect of CEO narcissism on innovation ambidexterity, there is nonetheless a diminution effect when it reaches the high end. Thus, H3 is supported.

4.3 | Additional analyses

We performed two additional analyses to further test our predictions. First, we used an alternative measure of innovation ambidexterity used in previous studies (e.g., Cao et al., 2009; He & Wong, 2004). Specifically, we calculated the absolute difference between a firm's exploration (i.e., the number of exploratory patents) and exploitation (i.e., the number of exploitative patents). Ranging from 0 to 30, this absolute difference reflects the relative imbalance between the two innovative activities, and we operationalized innovation ambidexterity by subtracting the difference score from 30 to facilitate interpretation (Cao et al., 2009; Hill & Birkinshaw, 2014). After including all the predictive variables and their interactive terms into the regression, untabulated results show that the coefficient estimate for *CEO narcissism* on *innovation ambidexterity* was −3.956 ($p < 0.001$), and the coefficient estimates for *CEO narcissism* × *CEO power*^{2} and *CEO narcissism* × *firm reputation*^{2} were 1.911 ($p < 0.10$) and 1.188 ($p < 0.01$), respectively. Thus, our H1 and H3 were strongly supported, and our H2 was marginally supported. Overall, this post hoc analysis suggests the results we reported in Table 2 are robust (Jansen et al., 2012).

Second, one may argue that firms may be less likely to hire narcissistic CEOs if they are highly committed to innovation ambidexterity. To account for this potential reverse causality issue, we followed extant literature (e.g., Gligor, 2018; Kreutzer et al., 2015; Lawrence et al., 2019) and used an instrumental variable (IV) method with two-stage regressions. The instrumental variables we selected are three common personality traits of CEOs: *CEO extraversion*, *CEO need for achievement*, and *CEO humility*. On the one hand, CEO extraversion and CEO need for achievement have been confirmed as positively related to narcissism (Ames et al., 2006; Emmons, 1987; Judge et al., 2006), while CEO humility inhibits the development of narcissistic traits because this metavirtue can modify the toxic aspects of narcissism (Owens et al., 2015; Zhang et al., 2017). On the other hand, there is no theorizing or empirical evidence that supports the direct relationship between CEO extraversion and CEO need for achievement on innovation ambidexterity, and research has rejected a direct link between CEO humility and innovation ambidexterity (Ou et al., 2018). Thus, the instrumental variables we selected are relevant and exogenous.

Empirically, all three instruments were significantly correlated with our independent variable (i.e., *CEO narcissism*) in the first-stage analysis: the coefficients of *CEO extraversion*, *CEO need for achievement*, and *CEO humility* on *CEO narcissism* were 0.322 ($p < 0.001$), 0.239 ($p < 0.05$), and −0.189 ($p < 0.01$), respectively. The *F*-value in the first stage was 10.94, exceeding the threshold of 9.08 with three instruments (Kreutzer et al., 2015). Thus, our instrumental variables are strong and valid (Gligor, 2018; Laursen et al., 2012). The overidentification test showed that the Sargan statistic was 0.379 ($p > 0.10$) and the Basmann statistic was 0.314 ($p > 0.10$), supporting the exogeneity of our instrumental variables (Lawrence et al., 2019; Stock & Yogo, 2005). Then, in the second-stage analysis, we used the predicted values from the first stage (i.e., *CEO narcissism instrumented*) in lieu

of the observed values of our independent variable. The corrected model generated consistent results with those in our main analyses, showing that the coefficient of *CEO narcissism instrumented* on *innovation ambidexterity* was −0.082 ($p < 0.05$). In addition, following previous studies (Jandhyala & Phene, 2015; Lawrence et al., 2019; Petrin & Train, 2010), we adopted the two-stage residual inclusion method to confirm our results. Specifically, in the second-stage analysis, we included the residual terms obtained from the first stage as additional control variables. As expected, the untabulated results show that *CEO narcissism* had a negative and significant effect on *innovation ambidexterity* ($\beta = -0.073$, $p < 0.05$). Finally, following Kreutzer et al. (2015), we conducted the Durbin–Wu–Hausman test, and the insignificant result ($F = 1.351$, $p > 0.10$) again suggested that our independent variables were exogenous. These results jointly indicate that reverse causality was not a concern in our study.

5 | DISCUSSION AND CONCLUSION

Drawing on the conceptualization that innovation ambidexterity results from the successful reconciliation of exploitation–exploration of competing demands, we demonstrate the detrimental effect of CEO narcissism on innovation ambidexterity. Furthermore, building on trait activation theory, we envision that the negative effect of CEO narcissism on innovation ambidexterity is contingent on two trait-relevant situational cues: the power of narcissistic CEOs and the firm's reputation. Empirical evidence shows that the negative effect of CEO narcissism on innovation ambidexterity is strongest when the CEO's power and the firm's reputation are intermediate.

5.1 | Theoretical contributions

Our paper makes three important contributions. First, we contribute to research on the antecedents of innovation ambidexterity by introducing the factor of CEO narcissism, which is a fundamental personality trait of many CEOs. Organization theorists have long been interested in explaining why some organizations are good at managing contradictions, while others are not (O'Reilly & Tushman, 2013). While previous literature has highlighted the impacts of the design of organizational architecture (e.g., Benner & Tushman, 2003) and the increasingly important role played by top managers (e.g., Jansen et al., 2012) in how firms make decisions on exploitation versus exploration, it has overlooked the impact of CEO personality traits (in this case, narcissism) on this decision-making. In the present study, we strive to take the first step toward explaining why CEOs with varying degrees of narcissistic tendencies perform differently in managing these trade-offs. Therefore, we are among the first to theorize how the personality trait of narcissism can affect CEOs' effectiveness in building an ambidextrous organization for innovation.

Second, by integrating the macro perspective research on narcissistic CEOs (Chatterjee & Pollock, 2017) and the micro research on trait activation theory (Tett & Burnett, 2003; Tett & Guterman, 2000), we develop a deeper understanding of the biases engendered by CEO narcissism and its contingent impacts on managing innovation ambidexterity. Prior studies indicated that narcissistic CEOs would be more likely to *either* perform exploratory innovation (Kashmiri et al., 2017) *or* conduct exploitative strategies (Zhu & Chen, 2015a). To investigate this contradiction and go beyond, we have explored to what extent firms led by CEOs with different levels of narcissism carry out *both* exploratory *and* exploitative activities. Thus, by introducing innovation ambidexterity into the CEO narcissism literature, we provide a fine-grained analysis to explain how narcissism induces CEOs to heavily favor either exploration or exploitation and constrains them in leading the firm to attain ambidexterity.

Third, we extend current understandings of contingencies in the relationship between CEO narcissism and firm outcomes by using the lens of trait activation theory. Prior studies on CEO narcissism make an implicit assumption that the narcissism personality will manifest in the narcissistic CEOs' behaviors in the same manner regardless of the contexts in which the firms and the CEOs are involved (e.g., Tang et al., 2018). In this paper, we try to shed new light by arguing that while narcissistic CEOs' need to dominate may conflict with their need for acclaim (Chatterjee & Pollock, 2017), their focus on fulfilling these two needs may vary in different scenarios. We thus extend previous studies on CEO narcissism by introducing a trait activation perspective to examine the contingent factors that differentially affect the role of CEO narcissism in decision-making. In so doing, we shift the traditional focus of CEO narcissism research from the agency model to a micro personality theoretical lens, responding to the urgent call for research into why CEOs with similarly narcissistic personalities may experience situations differently and thereby manifest differentiated behaviors (Cragun et al., 2020).

5.2 | Managerial implications

Our findings have important implications for managerial practices. First, our results reveal that CEO narcissism

has a detrimental effect on innovation ambidexterity. This finding thus emphasizes that companies should be cautious about how their CEO's mental model, biased along certain lines by narcissistic needs for domination and acclaim, may hamper the CEO in the decision-making needed to reconcile the trade-offs between exploratory and exploitative activities. Second, our findings show that the CEO's level of power plays a significant role in mitigating or amplifying the effect of CEO narcissism on innovation ambidexterity. If narcissistic CEOs possess little or great power in their companies, one of their competing needs for domination and acclaim becomes relatively weaker, and so their behavior hinders innovation ambidexterity achievement less. Alternatively, having intermediate power fuels the narcissistic behavioral manifestations, which further hinders innovation ambidexterity achievement. In this regard, a board of directors should be aware that they can enhance their own role in building an ambidextrous organization through carefully matching the level of power that the CEO may acquire to the CEO's level of narcissistic traits. Third, the behavioral manifestations of CEOs' narcissistic tendencies will be elevated to a higher level when their firms have achieved intermediate reputations. In such situations, firms need to establish a strong culture that emphasizes team spirit to prevent a narcissistic CEO from misattributing that success largely to his/her contributions. In so doing, firms may better protect themselves from CEO narcissism-based decisions that negatively impact the balance between exploration and exploitation.

5.3 | Limitations and further research

The limitations of the current paper should also be considered. First, we believe that CEO narcissism is a fundamental trait that strongly impacts innovation ambidexterity. Further research could focus on how other personality traits of CEOs affect decision-making on the trade-offs between firm exploration and exploitation. Moreover, given that leaders may possess paradoxical traits (Owens et al., 2015), how CEOs handle multiple personality traits and their joint impact on innovation ambidexterity represents an intriguing direction for further research. Second, although we adopted a multisource design and conducted a series of additional analyses, the cross-sectional nature of our dataset limits the assessment of causality. Because a firm may achieve innovation ambidexterity by alternating its focus on exploration and exploitation over time, further research needs to employ a longitudinal design to investigate the complex dynamics between CEO narcissism, trait activators, and innovation ambidexterity. Third, because of the limitations of our data, we were unable to test the effects of narcissistic CEOs' two competing drives for domination and acclaim on the three conditions necessary for attaining innovation ambidexterity. Nevertheless, Spencer et al. (2005) have argued that when it is difficult to operationalize the underlying process of the causal effect of a psychological construct, utilizing moderation is an effective way to design the study. Also, as Sigall and Mills (1998) have suggested, based on a theorization of the potential mediating processes and specification of the associated conditions under which those processes will or will not be present, researchers can vary those conditions and observe whether they shape the relationship between the independent variable and the dependent variable. Accordingly, we have attempted to disentangle the association between CEO narcissism and innovation ambidexterity by identifying two trait-relevant situational cues (i.e., CEO power and firm reputation) as two moderators. Despite this limitation of our current study, we strongly encourage future studies to develop valid measures to directly capture the mechanisms that underlie the effect of CEO personality traits on firm innovation ambidexterity.

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The authors have read and agreed to the Committee on Publication Ethics (COPE) international standards for authors.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest for this study.

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REFERENCES

Abadie, Alberto, Susan Athey, Guido W. Imbens, and Jeffrey Wooldridge. 2017. "When Should You Adjust Standard Errors for Clustering?" NBER working paper: 24003; https://doi/10.3386/w24003

Ames, Daniel R., Paul Rose, and Cameron P. Anderson. 2006. "The NPI-16 as a Short Measure of Narcissism." *Journal of Research in Personality* 40(4): 440–50.

Anderson, Cameron, and Courtney E. Brown. 2010. "The Functions and Dysfunctions of Hierarchy." *Research in Organizational Behavior* 30: 55–89.

Benner, Mary J., and Michael L. Tushman. 2003. "Exploitation, Exploration, and Process Management: The Productivity Dilemma Revisited." *Academy of Management Review* 28(2): 238–56.

Boone, Christophe, Boris Lokshin, Hannes Guenter, and René Belderbos. 2019. "Top Management Team Nationality Diversity, Corporate Entrepreneurship, and Innovation in Multinational Firms." *Strategic Management Journal* 40(2): 277–302.

Bradlee, Peter M., and Robert A. Emmons. 1992. "Locating Narcissism within the Interpersonal Circumplex and the Five-Factor Model." *Personality and Individual Differences* 13(7): 821–30.

Cameron, A. Colin, and Douglas L. Miller. 2015. "A practitioner's Guide to Cluster-Robust Inference." *Journal of Human Resources* 50(2): 317–72.

Cameron, A. Colin, Jonah B. Gelbach, and Douglas L. Miller. 2011. "Robust Inference with Multi-Way Clustering." *Journal of Business & Economic Statistics* 29(2): 238–49.

Campbell, W. Keith. 1999. "Narcissism and Romantic Attraction." *Journal of Personality and Social Psychology* 77(6): 1254–70.

Cao, Qing, Eric Gedajlovic, and Hongping Zhang. 2009. "Unpacking Organizational Ambidexterity: Dimensions, Contingencies, and Synergistic Effects." *Organization Science* 20(4): 781–96.

Carlson, Erika N., Simine Vazire, and Thomas F. Oltmanns. 2011. "You Probably Think This Paper's About You: Narcissists' Perceptions of Their Personality and Reputation." *Journal of Personality and Social Psychology* 101(1): 185–201.

Chatterjee, Arijit, and Donald C. Hambrick. 2007. "It's All about Me: Narcissistic Chief Executive Officers and Their Effects on Company Strategy and Performance." *Administrative Science Quarterly* 52(3): 351–86.

Chatterjee, Arijit, and Donald C. Hambrick. 2011. "Executive Personality, Capability Cues, and Risk Taking: How Narcissistic CEOs React to Their Successes and Stumbles." *Administrative Science Quarterly* 56(2): 202–37.

Chatterjee, Arijit, and Timothy G. Pollock. 2017. "Master of Puppets: How Narcissistic CEOs Construct Their Professional Worlds." *Academy of Management Review* 42(4): 703–25.

Cooper, Marjorie J., and Chris Pullig. 2013. "I'm Number One! Does Narcissism Impair Ethical Judgment Even for the Highly Religious?" *Journal of Business Ethics* 112(1): 167–76.

Cragun, Ormonde R., Kari J. Olsen, and Patrick M. Wright. 2020. "Making CEO Narcissism Research Great: A Review and Meta-Analysis of CEO Narcissism." *Journal of Management* 46(6): 908–36.

Duncan, RobertB. 1976. "The Ambidextrous Organization: Designing Dual Structures for Innovation." In *The Management of Organization*, edited by R. Killman, L. R. Pondy, and D. Sleven, 167–88. New York: North-Holland.

Emmons, Robert A. 1987. "Narcissism: Theory and Measurement." *Journal of Personality and Social Psychology* 52(1): 11–7.

Farwell, Lisa, and Ruth Wohlwend-Lloyd. 1998. "Narcissistic Processes: Optimistic Expectations, Favorable Self-Evaluations, and Self-Enhancing Attributions." *Journal of Personality* 66(1): 65–83.

Filatotchev, Igor, Xiaohui Liu, Jiangyong Lu, and Mike Wright. 2011. "Knowledge Spillovers through Human Mobility across National Borders: Evidence from Zhongguancun Science Park in China." *Research Policy* 40(3): 453–62.

Finkelstein, Sydney 1992. "Power in Top Management Teams: Dimensions, Measurement, and Validation." *Academy of Management Journal* 35(3): 505–38.

Finkelstein, Sydney, Donald C. Hambrick, and Albert A. Cannella. 2009. *Strategic Leadership: Theory and Research on Executives, Top Management Teams, and Boards*. New York: Oxford University Press.

Gerstner, Wolf-Christian, Andreas König, Albrecht Enders, and Donald C. Hambrick. 2013. "CEO Narcissism, Audience Engagement, and Organizational Adoption of Technological Discontinuities." *Administrative Science Quarterly* 58(2): 257–91.

Gilbert, Clark G. 2005. "Unbundling the Structure of Inertia: Resource Versus Routine Rigidity." *Academy of Management Journal* 48(5): 741–63.

Gilsing, Victor, Bart Nooteboom, Wim Vanhaverbeke, Geert Duysters, and Ad van den Oord. 2008. "Network Embeddedness and the Exploration of Novel Technologies: Technological Distance, Betweenness Centrality and Density." *Research Policy* 37(10): 1717–31.

Gligor, David 2018. "Performance Implications of the Fit between Suppliers' Flexibility and Their Customers' Expected Flexibility: A Dyadic Examination." *Journal of Operations Management* 58–59(4): 73–85.

Guan, Jiancheng, and Na Liu. 2016. "Exploitative and Exploratory Innovations in Knowledge Network and Collaboration Network: A Patent Analysis in the Technological Field of Nano-Energy." *Research Policy* 45(1): 97–112.

Gupta, Nina, Jason D. Shaw, and John E. Delery. 2000. "Correlates of Response Outcomes among Organizational Key Informants." *Organizational Research Methods* 3(4): 323–47.

Haleblian, Jerayr, and Sydney Finkelstein. 1993. "Top Management Team Size, CEO Dominance, and Firm Performance: The Moderating Roles of Environmental Turbulence and Discretion." *Academy of Management Journal* 36(4): 844–63.

Hambrick, Donald C. 1994. "Top Management Groups: A Conceptual Integration and Reconsideration of the 'Team' Label." *Research in Organizational Behavior* 16: 171–214.

Hambrick, Donald C., and Richard A. D'Aveni. 1992. "Top Team Deterioration as Part of the Downward Spiral of Large Corporate Bankruptcies." *Management Science* 38(10): 1445–66.

Hambrick, Donald C., Jiatao Li, Katherine Xin, and Anne S. Tsui. 2001. "Compositional Gaps and Downward Spirals in International Joint Venture Management." *Strategic Management Journal* 22: 1033–53.

Harrison, J. Richard, David L. Torres, and Sal Kukalis. 1988. "The Changing of the Guard: Turnover and Structural Change in the Top Management Positions." *Administrative Science Quarterly* 33: 211–32.

He, Zi-Lin, and Poh-Kam Wong. 2004. "Exploration vs. Exploitation: An Empirical Test of the Ambidexterity Hypothesis." *Organization Science* 15(4): 481–94.

Henderson, Rebecca, and Iain Cockburn. 1994. "Measuring Competence? Exploring Firm Effects in Pharmaceutical Research." *Strategic Management Journal* 15(1): 63–84.

Hill, Susan A., and Julian Birkinshaw. 2014. "Ambidexterity and Survival in Corporate Venture Units." *Journal of Management* 40(7): 1899–931.

Jandhyala, Srividya, and Anupama Phene. 2015. "The Role of Intergovernmental Organizations in Cross-Border Knowledge Transfer and Innovation." *Administrative Science Quarterly* 60(4): 712–43.

Jansen, Justin J. P., Zeki Simsek, and Qing Cao. 2012. "Ambidexterity and Performance in Multiunit Contexts: Cross-Level Moderating Effects of Structural and Resource Attributes." *Strategic Management Journal* 33(11): 1286–303.

Judge, Timothy A., Jeffery A. LePine, and Bruce L. Rich. 2006. "Loving Yourself Abundantly: Relationship of the Narcissistic Personality to Self- and Other Perceptions of Workplace Deviance, Leadership, and Task and Contextual Performance." *Journal of Applied Psychology* 91(4): 762–76.

Kashmiri, Saim, Cameron D. Nicol, and Sandeep Arora. 2017. "Me, Myself, and I: Influence of CEO Narcissism on Firms' Innovation Strategy and the Likelihood of Product-Harm Crises." *Journal of the Academy of Marketing Science* 45(3): 633–56.

Kernberg, Otto. 1975. *Borderline Conditions and Pathological Narcissism*. New York: Aronson.

Kleinbaum, David G., Lawrence L. Kupper, Keith E. Muller, and Azhar Nizam. 1988. *Applied Regression Analysis and Other Multivariate Methods*. Belmont, CA: PWS-Kent.

Kreutzer, Markus, Jorge Walter, and Laura B. Cardinal. 2015. "Organizational Control as Antidote to Politics in the Pursuit of Strategic Initiatives." *Strategic Management Journal* 36(9): 1317–37.

Laursen, Keld, Francesca Masciarelli, and Andrea Prencipe. 2012. "Regions Matter: How Localized Social Capital Affects Innovation and External Knowledge Acquisition." *Organization Science* 23(1): 177–93.

Lawrence, Justin M., Andrew T. Crecelius, Lisa K. Scheer, and Son K. Lam. 2019. "When it Pays to Have a Friend on the Inside: Contingent Effects of Buyer Advocacy on B2B Suppliers." *Journal of the Academy of Marketing Science* 47(1): 837–57.

Leonard-Barton, Dorothy 1992. "Core Capabilities and Core Rigidities: A Paradox in Managing New Product Development." *Strategic Management Journal* 13(S1): 111–25.

Levinthal, Daniel A., and James G. March. 1993. "The Myopia of Learning." *Strategic Management Journal* 14(1): 95–112.

Levitt, Barbara, and James G. March. 1988. "Organizational Learning." *Annual Review of Sociology* 14(1): 319–38.

Lin, Hsing-Er, and Edward F. McDonough, III. 2014. "Cognitive Frames, Learning Mechanisms, and Innovation Ambidexterity." *Journal of Product Innovation Management* 31: 170–88.

Lin, Zhiang, Haibin Yang, and Irem Demirkan. 2007. "The Performance Consequences of Ambidexterity in Strategic Alliance Formations: Empirical Investigation and Computational Theorizing." *Management Science* 53(10): 1645–58.

Liu, Haiyang, Jack T.-J. Chiang, Ryan Fehr, Minya Xu, and Siting Wang. 2017. "How Do Leaders React When Treated Unfairly? Leader Narcissism and Self-Interested Behavior in Response to Unfair Treatment." *Journal of Applied Psychology* 102(11): 1590–9.

Liu, Wnjie., Pursey P. M. A. R. Heugens, Frank Wijen, and Marc van Essen. 2022. "Chinese Management Studies: A Matched-Samples Meta-Analysis and Focused Review of Indigenous Theories." *Journal of Management* 48: 1778–828.

Lubatkin, Michael H., Zeki Simsek, Yan Ling, and John F. Veiga. 2006. "Ambidexterity and Performance in Small-to Medium-Sized Firms: The Pivotal Role of Top Management Team Behavioral Integration." *Journal of Management* 32(5): 646–72.

Maccoby, Michael 1999. "Narcissistic Leaders: The Incredible Pros, the Inevitable Cons." *Harvard Business Review* 82(1): 1–11.

March, James G. 1991. "Exploration and Exploitation in Organizational Learning." *Organization Science* 2(1): 71–87.

Mischel, Walter, and Yuichi Shoda. 1995. "A Cognitive-Affective System Theory of Personality: Reconceptualizing Situations, Dispositions, Dynamics, and Invariance in Personality Structure." *Psychological Review* 102(2): 246–68.

Mom, Tom J. M., Frans A. van den Bosch, and Henk W. Volberda. 2009. "Understanding Variation in Managers' Ambidexterity: Investigating Direct and Interaction Effects of Formal Structural and Personal Coordination Mechanisms." *Organization Science* 20(4): 812–28.

Morf, Carolyn C., and Frederick Rhodewalt. 2001. "Unraveling the Paradoxes of Narcissism: A Dynamic Self-Regulatory Processing Model." *Psychological Inquiry* 12(4): 177–96.

Nee, Victor, and Sonja Opper. 2012. *Capitalism from Below: Markets and Institutional Change in China*. Cambridge, MA, and London, England: Harvard University Press.

O'Reilly, Charles A., and Michael L. Tushman. 2011. "Organizational Ambidexterity in Action: How Managers Explore and Exploit." *California Management Review* 53(4): 5–22.

O'Reilly, Charles A., and Michael L. Tushman. 2013. "Organizational Ambidexterity: Past, Present, and Future." *Academy of Management Perspectives* 27(4): 324–38.

O'Reilly, Charles A., Jennifer A. Chatman, and Bernadette Doerr. 2021. "When "Me" Trumps Wwe": Narcissistic Leaders and the Cultures They Create." *Academy of Management Discoveries* 7(3): 419–50.

Ou, Amy Y., David A. Waldman, and Suzanne J. Peterson. 2018. "Do Humble CEOs Matter? An Examination of CEO Humility and Firm Outcomes." *Journal of Management* 44(3): 1147–73.

Owens, Bradley P., Angela S. Wallace, and David A. Waldman. 2015. "Leader Narcissism and Follower Outcomes: The Counterbalancing Effect of Leader Humility." *Journal of Applied Psychology* 100(4): 1203–13.

Parker, Owen, Ryan Krause, and Cynthia E. Devers. 2019. "How Firm Reputation Shapes Managerial Discretion." *Academy of Management Review* 44(2): 254–78.

Petrin, Amil, and Kenneth Train. 2010. "A Control Function Approach to Endogeneity in Consumer Choice Models." *Journal of Marketing Research* 47(1): 3–13.

Poppo, Laura, and Kevin Z. Zhou. 2014. "Managing Contracts for Fairness in Buyer–Supplier Exchanges." *Strategic Management Journal* 35(10): 1508–27.

Poppo, Laura, Kevin Z. Zhou, and Julie J. Li. 2016. "When Can you Trust "Trust"? Calculative Trust, Relational Trust, and Supplier Performance." *Strategic Management Journal* 37(4): 724–41.

Preacher, Kristopher J., Patrick J. Curran, and Daniel J. Bauer. 2006. "Computational Tools for Probing Interactions in Multiple Linear Regression, Multilevel Modeling, and Latent Curve

Analysis." *Journal of Educational and Behavioral Statistics* 31(4): 437–48.

Resick, Christian J., Daniel S. Whitman, Steven M. Weingarden, and Nathan J. Hiller. 2009. "The Bright-Side and the Dark-Side of CEO Personality: Examining Core Self-Evaluations, Narcissism, Transformational Leadership, and Strategic Influence." *Journal of Applied Psychology* 94(6): 1365–81.

Rogers, William 1993. "Regression Standard Errors in Clustered Samples." *Stata Technical Bulletin* 13: 19–23.

Sidhu, Jatinder S., Henk W. Volberda, and Harry R. Commandeur. 2004. "Exploring Exploration Orientation and its Determinants: Some Empirical Evidence." *Journal of Management Studies* 41(6): 913–32.

Sigall, Harold, and Judson Mills. 1998. "Measures of Independent Variables and Mediators Are Useful in Social Psychology Experiments: But Are They Necessary?" *Personality and Social Psychology Review* 2(3): 218–26.

Siggelkow, Nicolaj, and Daniel A. Levinthal. 2003. "Temporarily Divide to Conquer: Centralized, Decentralized, and Reintegrated Organizational Approaches to Exploration and Adaptation." *Organization Science* 14(6): 650–69.

Simsek, Zeki, John F. Veiga, Michael H. Lubatkin, and Richard N. Dino. 2005. "Modeling the Multilevel Determinants of Top Management Team Behavioral Integration." *Academy of Management Journal* 48(1): 69–84.

Smith, Wendy K. 2014. "Dynamic Decision Making: A Model of Senior Leaders Managing Strategic Paradoxes." *Academy of Management Journal* 57(6): 1592–623.

Smith, Wendy K., and Michael L. Tushman. 2005. "Managing Strategic Contradictions: A Top Management Model for Managing Innovation Streams." *Organization Science* 16(5): 522–36.

Spencer, Steven J., Mark P. Zanna, and Geoffrey T. Fong. 2005. "Establishing a Causal Chain: Why Experiments Are Often More Effective Than Mediational Analyses in Examining Psychological Processes." *Journal of Personality and Social Psychology* 89(6): 845–51.

Stock, James H., and Motohiro Yogo. 2005. "Testing for Weak Instruments in Linear IV Regression." In *Identification and Inference for Econometric Models: Essays in Honor of Thomas Rothenberg*. Cambridge, UK: Cambridge University Press.

Stock, Ruth, Matthias Groß, and Katherine R. Xin. 2019. "Will Self-Love Take a Fall? Effects of Top Executives' Positive Self-Regard on Firm Innovativeness." *Journal of Product Innovation Management* 36(1): 41–65.

Suvak, Michael K., Dawne S. Vogt, Vincent W. Savarese, Lynda A. King, and Daniel W. King. 2002. "Relationship of War-Zone Coping Strategies to Long-Term General Life Adjustment among Vietnam Veterans: Combat Exposure as a Moderator Variable." *Personality and Social Psychology Bulletin* 28(7): 974–85.

Tang, Yi, Daniel Z. Mack, and Guoli Chen. 2018. "The Differential Effects of CEO Narcissism and Hubris on Corporate Social Responsibility." *Strategic Management Journal* 39(5): 1370–87.

Tett, Robert P., and Dawn D. Burnett. 2003. "A Personality Trait-Based Interactionist Model of Job Performance." *Journal of Applied Psychology* 88(3): 500–17.

Tett, Robert P., and Hal A. Guterman. 2000. "Situation Trait Relevance, Trait Expression, and Cross-Situational Consistency: Testing a Principle of Trait Activation." *Journal of Research in Personality* 34(4): 397–423.

Tracy, Jessica L., and Richard W. Robins. 2004. "Putting the Self into Selfconscious Emotions: A Theoretical Model." *Psychological Inquiry* 15(2): 103–25.

Uotila, Juha, Markku Maula, Thomas Keil, and Shaker A. Zahra. 2009. "Exploration, Exploitation, and Financial Performance: Analysis of S&P 500 Corporations." *Strategic Management Journal* 30(2): 221–31.

Wade, James, Charles A. O'Reilly, and Ike Chandratat. 1990. "Golden Parachutes: CEOs and the Exercise of Social Influence." *Administrative Science Quarterly* 35(4): 587–603.

Wei, Zelong, Yaqun Yi, and Hai Guo. 2014. "Organizational Learning Ambidexterity, Strategic Flexibility, and New Product Development." *Journal of Product Innovation Management* 31(4): 832–47.

Zavyalova, Anastasiya, Michael D. Pfarrer, Rhonda K. Reger, and Timothy D. Hubbard. 2016. "Reputation as a Benefit and a Burden? How stakeholders' Organizational Identification Affects the Role of Reputation Following a Negative Event." *Academy of Management Journal* 59(1): 253–76.

Zhang, Yan, Haiyang Li, Yu Li, and Li-An Zhou. 2010. "FDI Spillovers in an Emerging Market: The Role of Foreign firms' Country Origin Diversity and Domestic firms' Absorptive Capacity." *Strategic Management Journal* 31(9): 969–89.

Zhang, Hongyu, Amy Y. Ou, Anne S. Tsui, and Hui Wang. 2017. "CEO Humility, Narcissism and Firm Innovation: A Paradox Perspective on CEO Traits." *The Leadership Quarterly* 28(5): 585–604.

Zhou, Kevin Z., and Fang Wu. 2010. "Technological Capability, Strategic Flexibility, and Product Innovation." *Strategic Management Journal* 31(5): 547–61.

Zhou, Kevin Z., Qiyuan Zhang, Shibin Sheng, En Xie, and Yeqing Bao. 2014. "Are Relational Ties Always Good for Knowledge Acquisition? Buyer–Supplier Exchanges in China." *Journal of Operations Management* 32(3): 88–98.

Zhou, Kevin Z., Gerald Y. Gao, and Hongxin Zhao. 2017. "State Ownership and Firm Innovation in China: An Integrated View of Institutional and Efficiency Logics." *Administrative Science Quarterly* 62(2): 375–404.

Zhu, David H., and Guoli Chen. 2015a. "CEO Narcissism and the Impact of Prior Board Experience on Corporate Strategy." *Administrative Science Quarterly* 60(1): 31–65.

Zhu, David H., and Guoli Chen. 2015b. "Narcissism, Director Selection, and Risk-Taking Spending." *Strategic Management Journal* 36(13): 2075–98.

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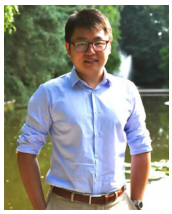

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SUPPORTING INFORMATION

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

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