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ORIGINAL ARTICLE

Regulatory focus climate, organizational structure, and employee ambidexterity: An interactive multilevel model

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Abstract

Prior research suggests that the organizational context supports the emergence of employee ambidexterity; however, the interplay between formal and informal context has been largely unexplored. We analyze this interplay with a multilevel, multisource data set of 2446 individual employees nested in 77 organizations. We find that a promotion climate—unlike a prevention climate—contributes to employee ambidexterity. In addition, formalization positively moderates the effects of both promotion and prevention climate on employee ambidexterity, while centralization weakens the positive effect of promotion climate. Our results advance a contingency perspective that brings together formal and informal contextual drivers of employee ambidexterity and shows that even though an informal climate signals the preferred manner of goal pursuit, a formal structure affects the impact of such signals by delineating opportunity corridors of admissible behaviors.

KEYWORDS
ambidexterity, centralization, formalization, regulatory focus climate

1 | INTRODUCTION

> "*The difference between average and outstanding firms is an 'AND Mentality'. […] This is not just a performance issue but a survival issue, because managing paradox helps foster creativity and high performance.*"
>
> (P. Polman, Chief Executive Officer [CEO] Unilever. quoted in Lewis et al., 2014)

Based on the idea that "ambidexterity is rooted in an individual's ability to explore and exploit" (Raisch et al., 2009, p. 687), scholars have focused on understanding the emergence of ambidexterity among employees (Mom et al., 2009, 2015, 2019). Employee ambidexterity refers to the extent to which employees combine the exploration of new competence areas with the exploitation of existing competencies in their work role (Kauppila & Tempelaar, 2016; Mom et al., 2009), and has been associated with critical job outcomes, such as increased motivation (Parker et al., 2014), enhanced creativity (Miron-Spektor et al., 2011), and higher job performance (Good & Michel, 2013; Mom et al., 2015). Moreover, the pursuit of both individual-level exploration and exploitation has been argued to be a critical micro-foundation of organizational-level ambidexterity (Gibson & Birkinshaw, 2004; Mom et al., 2019; Raisch et al., 2009; Zimmermann et al., 2018), which in turn impacts firm performance (He & Wong, 2004). Especially within small and medium-sized enterprises (SMEs), which usually lack sufficient resources to separate exploration and exploitation among different units (Zimmermann et al., 2020), the paradoxical tension is generally pushed down the hierarchy (Lubatkin et al., 2006; Zimmermann et al., 2018).

Scholars have widely argued that an organizational context is critical for individual ambidexterity to emerge, especially when it supports employees to make their own judgments about when to engage in exploration or exploitation (Gibson & Birkinshaw, 2004). In this respect, scholars have provided substantial evidence about how elements of the formal context, such as organizational structure (e.g., centralization, formalization; Mom et al., 2009) and systems (Patel et al., 2013; Prieto & Pilar Pérez Santana, 2012), as well as the informal elements of an organization's climate (e.g., stretch and discipline, learning culture; Gibson & Birkinshaw, 2004; Nemanich & Vera, 2009), may affect individual ambidexterity. Despite these

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disparate insights about how formal and informal attributes may matter, our understanding about how formal structure and informal climate interact is much more nascent (see Zimmermann et al., 2020). However, foundational studies (McEvily et al., 2014; Mintzberg, 1979) suggest that both formal and informal elements—in concert—may regulate to what extent employees engage in ambidextrous behaviors. While an informal climate may signal expected behaviors, a formal structure modulates these signals through expanding or constraining the opportunity set of required behaviors (McEvily et al., 2014). As such, employee behavior is co-determined by the configuration of climate and structure (Mintzberg, 1979), and studying them in isolation may lead to inconclusive observations. Indeed, in the case of ambidexterity, the nature of these interactions has been subject to some debate. While some scholars (e.g., Gibson & Birkinshaw, 2004; W. K. Smith & Tushman, 2005) have focused on synergies between these elements to achieve ambidexterity, others have documented negative interactions when formal and informal contextual drivers of ambidexterity coexist at high levels (Zimmermann et al., 2020). By developing a more thorough understanding about how the informal climate and formal structure interact to shape individual ambidexterity, we may obtain "a richer and more realistic portrayal of organizations" (McEvily et al., 2014, p. 302).

Our study builds on the foundational framework of McEvily et al. (2014) to address this shortcoming and elucidates the interactive effect of climate and structure on employee ambidexterity. We use regulatory focus theory (Higgins & Pinelli, 2020) and focus on a firm's regulatory climate because prior research has highlighted the importance of regulatory foci for employee ambidexterity (Ahmadi et al., 2017; Tuncdogan & Dogan, 2020). Correspondingly, we suggest that an organization's regulatory climate (cf. Beus et al., 2020) signals to employees the preferred manner of goal pursuit. More specifically, a promotion climate (i.e., the perception that organizational members are sensitive to positive outcomes) may enhance employee ambidexterity as it signals organizational preference for potential-oriented approach strategies and persistent goal pursuit (Brockner & Higgins, 2001; Crowe & Higgins, 1997). By contrast, a prevention climate (i.e., the shared perception that organizational members are sensitive to negative outcomes) may reduce employee ambidexterity as it increases the salience of losses (Idson et al., 2000) and signals preference for vigilant avoidance strategies (Higgins et al., 1994).

Importantly, we forward that these baseline effects are further shaped by the formal structure of an organization (McEvily et al., 2014) and examine the contingency role of centralization (i.e., the concentration of decision-making authority) and formalization (i.e., the degree to what work processes are codified) (Hage & Aiken, 1967; Jansen et al., 2006). We suggest that the contributive role of a promotion climate on employee ambidexterity may be undermined with higher formalization and centralization because such control mechanisms curb the promotion climate-induced proactive engagement into individual ambidexterity (Jansen et al., 2006; Li et al., 2019). Conversely, we suggest that the negative effect of a prevention climate on employee ambidexterity is weaker in a formal context consisting of higher formalization and centralization, as it compensates for a higher focus on potential failure and maladaptive defensive mechanisms (Adler & Borys, 1996; Beersma et al., 2013).

Our paper contributes to the literature on organizational ambidexterity in general, and on the emergence of individual ambidexterity in particular, by shedding light on the interaction between formal structure and informal climate. Prior research has examined the effects of regulatory focus (Ahmadi et al., 2017), formalization (Mom et al., 2009), and centralization (ibid.) in isolation. Our research extends these insights by highlighting that the contextual antecedents of employee ambidexterity do not operate in a vacuum. Formal contextual elements (i.e., formalization, centralization) shape the impact of informal regulatory climate on employee ambidexterity. For example, we find that both promotion climate and prevention climate can be associated with more as well as less employee ambidexterity, depending on the degree of formalization. The formal structure thus "contours the boundaries" (McEvily et al., 2014, p. 316) in which the informal climate takes effect (Bunderson & Boumgarden, 2010; Sine et al., 2006). We test the above propositions in a multilevel, multisource data set of 2446 individual employees nested in 77 German SMEs from different industries. SMEs are a suitable empirical context for examining contextual ambidexterity: they face competitive pressures to integrate exploration and exploitation (Simsek et al., 2009) but lack the resources necessary to structurally separate distinct units respectively focused on each (Lubatkin et al., 2006).

2 | THEORETICAL BACKGROUND AND HYPOTHESES

2.1 | A contextual perspective on employee ambidexterity

Birkinshaw and Gibson (2004) describe individual ambidexterity as the ability of employees to simultaneously pursue alignment and adaptability. In this respect, alignment refers to exploitation and increasing efficiency by refining existing competencies, while adaptability refers to exploration and building novel competencies by experimenting with new opportunities (March, 1991; Mom et al., 2009). Correspondingly, scholars argue that ambidextrous employees may conduct routine and nonroutine activities (Adler et al., 1999), play administrative and entrepreneurial roles (Probst et al., 2011), and combine short- and long-term views (O'Reilly & Tushman, 2013): "Even the most ordinary production worker or call center worker faces some version of the ambidexterity dilemma: How much of my time should I spend exploiting my basic skills for the benefit of the organization, and how much should I try to develop new skills and/or help the organization in creative ways?" (Birkinshaw & Gupta, 2013, p. 294).

Ambidextrous employees have been shown to contribute to organizational ambidexterity. In particular, scholars have argued that ambidexterity is "best achieved" (Gibson & Birkinshaw, 2004, p. 211) through a business context which fosters hosting the exploration-exploitation tension at the individual level (Mom et al., 2019). Prior

research has identified a variety of contextual antecedents which drive employee ambidexterity such as decision-making autonomy for middle managers (Mom et al., 2009), employee empowerment (Yu et al., 2019), and high-involvement human resource (HR) practices (Prieto & Pilar Pérez Santana, 2012). By sending signals to employees regarding how they are supposed to conduct their work (Schneider et al., 2013), contextual attributes may encourage employees to engage in ambidextrous behaviors. For example, Birkinshaw and Gibson (2004, p. 50) note that ambidextrous employees need to go "beyond the narrow confines of one's job", "act spontaneously without seeking permission" and "adapt to new opportunities."

In addition to the informal climate, organizational context also consists of the formal systems, processes, and beliefs that shape individual-level behaviors in an organization (Burgelman, 1983; Denison, 1990; Ghoshal & Bartlett, 1994). Importantly, the organizational context is not merely a matter of the *informal* organizational climate, or focused purely on *formal* structure and processes, but "encompasses these notions; it reflects a combination of the structural context, culture and climate" and is considered "an objective, higher-level attribute" of the organization as a whole (Gibson & Birkinshaw, 2004, p. 213). Following McEvily et al. (2014), we therefore posit that the formal organizational context encompasses the set of rules, procedures and structures for coordinating and controlling activities, and the informal organizational context encompasses the norms, values and beliefs that emerge from patterns of individual behavior and interactions among individuals (ibid.).

2.2 | Regulatory focus climate and employee ambidexterity

Regulatory focus theory enriches understanding of contextual signals by proposing a distinction between promotion focus and prevention focus (Higgins & Pinelli, 2020). Foundational research has started to explore the association between individual-level regulatory foci and individual exploratory and exploitative behaviors. Specifically, Ahmadi et al. (2017) focused on the association between regulatory focus and exploratory behavior, whereas a series of studies conducted by Tuncdogan et al. (2015, 2017) and Tuncdogan and Dogan (2020) focused on regulatory foci and both exploration and exploitation. Taken together, a complex picture emerges. A promotion focus among individuals is associated with exploration, but the evidence for associations between individual promotion focus and exploitation is mixed. Individual-level prevention focus appears either negatively associated with or unrelated to exploration, and there is mixed evidence for a positive association with exploitation. This complex pattern highlights the importance for future research to start exploring contingency variables which may explain inconsistent results (Huang et al., 2021). In addition, there is emerging evidence for cross-level effects of contextual regulatory signals on individual-level exploration (Ahmadi et al., 2017), illustrating the potential for a multilevel perspective on the association between regulatory focus and employee ambidexterity.

While initially conceptualized as an individual-level attribute, regulatory foci have been demonstrated to emerge as group-level (Faddegon et al., 2008; Levine et al., 2000) and organizational-level informal climates (Beus et al., 2020). Consequently, an organizational context may also be understood to provide promotion-focused or prevention-focused cues to employees. A promotion climate refers to the shared perception that the organization and its members primarily value advancement and growth. Correspondingly, prevention climate refers to the shared perception that the organization and its members primarily value safety and security. Enduring modes of goal pursuit in an organization signal to employees the overarching tendency toward promotion or prevention (Faddegon et al., 2008). Over time, employees attend to contextual cues and form shared perceptions of this tendency via social sensemaking (Schneider & Reichers, 1983). As informal mechanisms, they shape social interactions and reduce uncertainty by facilitating coordination and alignment between members (Schneider, 1975). Such social interactions include how goals are communicated, which types of behaviors are rewarded by peers, and what kind of stories are told. In this way, the regulatory focus climate communicates to members the manner of goal pursuit valued in the organization (cf. Schneider et al., 2013).

2.2.1 | Promotion climate

A promotion climate (Higgins, 2002) may signal to consider potential upsides rather than potential downsides (Beus et al., 2020). In this vein, Liu (2011) reported that a higher promotion focus is associated with less aversion among employees to ambiguous or ambivalent options, such as the paradox of exploration and exploitation (Raza-Ullah, 2020). We propose that a promotion climate signals to employees facing such ambivalence to focus on the potential for advancement (Raisch et al., 2018) and to seize the creative potential underlying the tension (e.g., Miron-Spektor et al., 2011). Thus, employees who operate in a promotion climate receive signals that encourage them to attend to the paradox, value the tension, and engage with it—a necessary precondition for the emergence of individual ambidexterity (Lewis, 2000; Miron-Spektor et al., 2018). Furthermore, a promotion climate engenders an organization-wide manner of goal pursuit (Beus et al., 2020) characterized by "eagerness means" and approach strategies (Crowe & Higgins, 1997), in line with a strategy of engaging and working through paradoxes (Lüscher & Lewis, 2008), rather than avoiding them. By embracing the paradox (Capra, 1975), the eagerness instigated by a promotion climate leads employees to search for ambidextrous both/and solutions (W. K. Smith & Lewis, 2011). Together, we predict:

> **Hypothesis H1.** *A promotion climate relates positively to employee ambidexterity.*

2.2.2 | Prevention climate

Because a prevention climate signals to prevent potential losses and negative outcomes (Idson et al., 2000), we suggest that it puts

emphasis on the threatening nature of paradoxical tensions (Lewis, 2000). Such contradictory demands defy the need for rational consistency (Festinger, 1957) and may result in employees' individual failure (Gupta et al., 2006; Miron-Spektor et al., 2018). Thus, by sending signals about risk averseness and defending the status quo, a prevention climate will nudge employees to exclusively focus on one aspect of the tension such as exploitation (W. K. Smith, 2014). Furthermore, a prevention climate engenders goal pursuit through "vigilance means" and avoidance strategies (Higgins et al., 1994). These avoidant reactions (K. K. Smith & Berg, 1987) are particularly maladaptive in the context of the paradoxical exploration–exploitation tension, as they fuel vicious self-reinforcing cycles (Tsoukas & Cunha, 2017) leading to paralysis and decline (Lewis, 2000; Sundaramurthy & Lewis, 2003). Hence:

> **Hypothesis H2.** *A prevention climate relates negatively to employee ambidexterity.*

2.3 | Structural contingencies: Centralization and formalization

We propose that the impact of a regulatory focus climate on employee ambidexterity is contingent on the formal structure in which the climate is embedded (McEvily et al., 2014). A formal structure in terms of formalization and centralization may shape the contextual boundaries of behaviors that an informal climate may encourage to exhibit. Formalization refers to the extent to which work processes are codified in written rules and processes (Hage & Aiken, 1967) and delineates admissible and non-admissible behavior regarding how employees work (Adler & Borys, 1996). Centralization reflects the concentration of decision-making authority within the organization (Hage & Aiken, 1967) and may constrain employees from engaging in certain behaviors by allocating decision-making authority to the upper echelon (Jansen et al., 2006). Taken together, these fundamental elements of organization design define the formal boundaries in which the regulatory climate is enacted (Bunderson & Boumgarden, 2010; Sine et al., 2006).

2.3.1 | Promotion climate: The moderating roles of formalization and centralization

Cyert and March (1963) suggest that increased formalization makes employees less receptive to decision-making stimuli not monitored by formal incentive systems, such as the prevailing regulatory climate. In line with this observation, we argue that the clarification of responsibilities and procedures associated with formalization might neutralize the contributive nature of promotion climate to employee ambidexterity. Specifically, we suggest that a promotion climate is associated with a high degree of positive activation signaling to employees to engage exploration–exploitation tension as an exciting opportunity to advance. The strict behavioral control imposed by formalization may counteract this positive effect (Foss & Kirkegaard, 2020) by signaling lack of trust in employees' potential (Culbert & McDonough, 1986) and threatening their self-esteem (cf. Fisher et al., 1982; Hackman, 1987). Formalization may also undermine the behavioral flexibility necessary to translate the eager approach strategies instigated by a promotion climate into ambidexterity. It forces homogeneity on employees and controls their behavior through administrative checks (March & Simon, 1958). This might limit employees' behavioral scope and, thus, their ability to identify both/and solutions (Andriopoulos & Lewis, 2009), combining exploration and exploitation in often unconventional ways (Li et al., 2018). By limiting the adaptive and flexible manner of goal pursuit fostered by a promotion climate (Birkinshaw & Gibson, 2004; Kiss et al., 2020), formalization may undermine the climate's positive effect on employee ambidexterity (Li et al., 2019). By contrast, we expect that employees in less formalized organizations are more receptive to the regulatory signals of the informal promotion climate. Less strict standards on how to work and more ambiguity on where their responsibilities start and end provide more opportunities to find ways to behave ambidextrously. Hence, we suggest:

> **Hypothesis H3.** *Formalization moderates the relationship between a promotion climate and employee ambidexterity: the positive impact is weaker when formalization is higher.*

Similarly, we argue that centralization is inconsistent with the largely productive behavioral tendencies associated with a promotion climate (cf. Tuncdogan et al., 2017). More precisely, we suggest that centralization may limit the scope of individual behavior by hampering cross-functional information flows and imposing a slower and less flexible decision-making architecture. Taken together, these effects make it harder for employees to translate promotion-oriented signals from the climate into ambidextrous behavior in their everyday work.

First, centralization limits the scope for employee behavior by imposing control over individual employees' allocation of time and resources (Tushman & O'Reilly, 1996). This runs counter to the needs and preferences associated with promotion focus (Komissarouk & Nadler, 2014), as employees require greater autonomy to engage in the manner of goal pursuit fostered by a promotion climate. Consequently, centralization impedes the proactive search for opportunities instigated by a promotion climate, which is necessary to flexibly combine exploration and exploitation (Gibson & Birkinshaw, 2004) in an emergent bottom-up manner (Zimmermann et al., 2015). Second, centralization is associated with time-consuming and indirect cross-functional communication (Jansen et al., 2006), which hampers lateral coordination and exchange—crucial factors for enabling the translation of proactive engagement behavior into contextual ambidexterity (Gibson & Birkinshaw, 2004; Mom et al., 2009; Zimmermann et al., 2015). Ambidextrous individuals need to integrate perspectives from colleagues with diverse backgrounds, negotiate goal conflicts between peers, and facilitate the sharing of resources and knowledge across internal boundaries (Rogan & Mors, 2014). Such activities are inhibited by the deteriorated cross-functional interfaces associated

with high centralization (Jansen et al., 2006). Second, centralization may also limit the ambidextrous potential of particular behaviors prompted by a promotion climate. As employees eagerly pursue individual ambidexterity, unexpected internal and external contingencies will demand quick adjustments. However, the need to communicate with central decision-makers of limited cognitive span and time will reduce the speed and quality of decisions (Cao et al., 2009). In a similar vein, Felin et al. (2015) argue that centralization limits managers' ability to appropriately chase organizational opportunities. We suggest that a more decentralized organization reinforces the regulatory impact of a promotion climate. By proactively engaging employees in decision-making, a decentralized formal structure builds the foundation for translating the eager approach strategies created by a promotion climate into ambidextrous behavior. Together, we therefore predict:

> **Hypothesis H4.** *Centralization moderates the relationship between a promotion climate and employee ambidexterity: the positive impact is weaker when centralization is higher.*

2.3.2 | Prevention climate: The moderating role of formalization and centralization

We argue that the more constrained structural corridor provided by higher formalization and centralization may be beneficial, rather than detrimental, in a prevention-focused organizational climate. Indeed, by explicating expectations, formalization may increase the clarity and sense of control among employees (Adler & Borys, 1996). Correspondingly, formalization may reduce role ambiguity and stress (Michaels et al., 1988), identified in prior research as important manifestations of the psychological threat of the paradoxical exploration–exploitation tension (Tempelaar & Rosenkranz, 2019). We argued above that increased organizational salience of the threatening nature of these ambiguities may be a key mechanism explaining employees' maladaptive defensive behaviors in prevention climates (e.g., Liu, 2011). Accordingly, we propose that by alleviating these ambiguities, formalization may moderate the avoidance behavior tendency associated with a prevention climate. Furthermore, as a form of behavior control rather than outcome control (Auh & Menguc, 2007), formalization gives employees in prevention climates a mechanism to externally attribute failures to the management that defined the processes, thereby shifting the psychological cost (Oliver & Anderson, 1994). The clear and explicit rules thus might buffer the perceived risk of engaging with the exploration–exploitation tension, as failures can be safely externalized provided employees follow formalized routines (Adler & Borys, 1996). Conversely, low formalization increases the perceived ambiguity, making employees in prevention climates more vigilant and avoidant, thereby further reducing their proclivity to behave ambidextrously. Based on this rationale, we predict:

> **Hypothesis H5.** *Formalization moderates the relationship between a prevention climate and employee ambidexterity: the negative impact is weaker when formalization is higher.*

Similarly, we suggest that centralization may alleviate the negative effect of a prevention climate (Crowe & Higgins, 1997). As argued above, instigating avoidance strategies and strict rule adherence to avoid the psychological cost of making a mistake (Florack & Hartmann, 2007) is detrimental to eager approach strategies when facing ambivalent goals. However, these effects are less accentuated when individuals perceive less autonomy and accountability. Aaker and Lee (2001) show that a prevention climate is associated with a preference for less autonomous situations, while Parker et al. (2014) document that prevention focus reduces workplace stress if the workplace provides only limited autonomy. If individual decision-making is more constrained, the perceived cost of making a mistake is substantially reduced. Centralization thus buffers against the prospect of having to internally attribute failures when engaging with exploration–exploitation tensions. In this vein, Beersma et al. (2013) show that when individual accountability is reduced, prevention-focused groups perform much more like promotion-focused groups. Conversely, decentralization increases individual accountability and thus reinforces the vigilant avoidance of perceived dangers instigated by a prevention climate. Consequently, decentralization should further reinforce the negative association between a prevention climate and employee ambidexterity. We thus predict:

> **Hypothesis H6.** *Centralization moderates the relationship between a prevention climate and employee ambidexterity: The negative impact is weaker when centralization is higher.*

3 | METHODS

3.1 | Research setting and sample

Data for this study were collected in German SMEs as part of a larger project with a benchmarking agency. In Germany, SMEs form over 99% of all companies and account for 35% of national turnover (Federal Association of German Industry, 2018). Internationally, SMEs account for the majority of companies in most economies, and so constitute a highly relevant research context (Ardic et al., 2011). This applies especially to contextual ambidexterity, as SMEs often lack sufficient resources to structurally divide exploration and exploitation activities into separate units (Lubatkin et al., 2006). Overall, 94 companies applied for the benchmarking project, of which 77 (82%) ultimately participated and completed all measures used in the present study without missing observations. Thereby, the reduction in sample size can mainly be traced back to non-responses to some survey items in the top-management team (TMT) survey (see below for more information on the survey structure). These firms represent four industry categories (Production and Manufacturing = 31%, Service = 48%, Trade = 9%, Finance and Insurance = 12%) and employ 310 employees on average

(*SD* = 359.48). In return for their participation, we gave companies detailed benchmarking reports comparing aspects of their organizational climate, norms, and design with those of other firms.

We applied a standardized data collection protocol across all participating firms, using three data sources in each organization: employees, HR representatives, and TMT members. First, we collected survey data from employees (mean within-firm response rate = 70%). Within the employee survey, a randomized split-sample design was applied in each organization to limit the number of questions posed to each employee, thus preventing systematic nonresponse due to excessive survey burden. To this end, an algorithm on the survey website randomly directed employees to one of three different sub-survey versions (A, B, and C); in addition, all employees responded to a general survey including demographic and vocational information. The variables used in this study were contained in subsurvey versions B (promotion climate, prevention climate, and employee ambidexterity; *N* = 4214 employees) and C (centralization and formalization; *N* = 4255 employees). Hence, data for the study variables were obtained from a randomly selected third of participating employees. This data collection strategy is commonly referred to as a "planned missingness" three-form design (C. Zhang & Yu, 2022), and has been validated (e.g., Jia et al., 2014; C. Zhang & Yu, 2021) and applied frequently (see, e.g., Böhm et al., 2014; Knight et al., 2018; Twenge et al., 2010) in the existing literature.[1] As respondents were randomly assigned to the different versions, the three-form design is unlikely to affect the findings in any way; in this regard, we found no significant differences in age, gender, and tenure between the three survey versions' respondents.[2] As the second and third data sources, the top HR representative in each firm gave information on several control variables, and a TMT member assessed the innovation strategy, a key control variable in our analyses.

Because employees were allowed to skip questions about their demographic and vocational characteristics (i.e., to avoid anonymity concerns), some of which we used as individual-level control variables, the final sample used in the analyses comprised 2446 individual employees (with valid responses for employee ambidexterity *and* individual-level controls) across the 77 participating firms. Mean age was 40.34 years (*SD* = 11.08), most were male (63%), and mean tenure was 10.17 years (*SD* = 9.24).

4 | MEASURES

Appendix A1 reports all items of the study measures.

4.1 | Promotion and prevention climates

We assessed both regulatory focus climates with six items adapted from the promotion/prevention motivation scale developed by Lockwood et al. (2002). Rather than using an individual referent (cf. Lockwood et al., 2002), we asked employees to respond to statements concerning their perceptions of the promotion/prevention climates in their organizations on a 5-point response scale (1 = "strongly disagree"; 5 = "strongly agree"). We firm-mean aggregated these scores to obtain measures of promotion and prevention climates (for a similar approach, see Beus et al., 2020). Sample items include: "In our company, we typically focus on the success we hope to achieve in the future" (promotion focus); "In our company, we are more oriented toward preventing losses than we are toward achieving gains" (prevention focus). Both three-item measures yielded strong internal consistency ($\alpha = 0.92$ and 0.91 for promotion and prevention climates, respectively).

4.2 | Formalization

To measure formalization, we used three items from the formalization scale of Deshpande and Zaltman (1982), applied and validated in prior ambidexterity research (e.g., Jansen et al., 2006). Employees were instructed to respond to three statements (e.g., "Rules and procedures occupy a central place in our company") on a 7-point Likert-type scale (1 = "strongly disagree"; 7 = "strongly agree"). Individual responses were firm-mean aggregated to obtain company scores. The measure's internal consistency was $\alpha = 0.86$.

4.3 | Centralization

We measured centralization with three items from Hage and Aiken (1967) hierarchy of authority subscale, as this measure was previously found to be both reliable and valid (Dewar et al., 1980; Jansen et al., 2006). Employees were asked to indicate their agreement with three statements on structure and processes in their company on a 7-point scale (1 = "strongly disagree"; 7 = "strongly agree"). A sample item is: "Even small matters have to be referred to someone higher up for a final decision." To obtain company scores, we firm-mean aggregated individual responses. The scale's internal consistency was $\alpha = 0.97$.

4.4 | Employee ambidexterity

To measure employee ambidexterity, we presented three exploration-related activities (systematically seeking new possibilities; offering new ideas and solutions to complicated problems; experimenting with new, creative ways to accomplish work) and three exploitation-related activities (performing routine activities; implementing standardized methodologies and regular work practices; using current knowledge and skills for performing tasks) adapted from Kostopoulos and Bozionelos (2011). Respondents were instructed to indicate how much they had personally engaged in each activity during the past 6 months on a 5-point scale (1 = "not at all"; 5 = "to a great extent"). In line with prior research (Gibson & Birkinshaw, 2004; Mom et al., 2009), we formed the multiplicative interaction of exploratory and exploitative activities to obtain an employee's ambidexterity score.[3] Both

dimensions had acceptable internal consistency ($\alpha = 0.87$ and 0.73 for exploratory and exploitative behavior, respectively).

4.5 | Control variables

At the organizational level, we controlled for the firm's *innovation strategy*, defined as the extent to which projects focused on exploratory and exploitative innovation during the past 3 years (He & Wong, 2004). In so doing, we seek to account for variance in individuals' ambidextrous behavior resulting from strategy, rather than climate or structure (Gibson & Birkinshaw, 2004). To measure innovation strategy, we asked a TMT member of each firm to complete the eight-item measure by He and Wong (2004) evaluating the organization's focus on exploratory (sample item: "Introduce new generation of products"; $\alpha = 0.72$) and exploitative innovation projects (sample item: "Improve existing product quality"; $\alpha = 0.74$). We multiplied both dimensions to obtain the innovation strategy score for each firm (He & Wong, 2004). We also controlled for industry affiliation (indexed as three dummies representing *Service*, *Trade*, and *Finance and Insurance* [with *Production & Manufacturing* as the reference category]) and *firm size* (log-transformed; Reinwald et al., 2019), using information provided by HR representatives. At the individual level, we controlled for employees' key vocational characteristics: *organizational tenure* (indexed as years since hire date), *working hours* (average hours per week), and *leadership role* (0 = "without leadership responsibilities"; 1 = "with leadership responsibilities"). Information on individual controls was obtained from the employees.

4.6 | Aggregation tests

As Table 1 reports, we examined interrater reliabilities (ICC_1 and ICC_2) and interrater agreement statistics (r_{WG} and $AD_{M(J)}$) to support the aggregation of firm-level variables (LeBreton & Senter, 2008). To formally test the aggregation, we used an *F* test from a one-way ANOVA for ICC_1 (Bliese et al., 2018) and simulated sample-specific cutoff criteria for r_{WG} and $AD_{M(J)}$ (Smith-Crowe et al., 2014). Firm membership explained 10% of the variance in promotion climate ($F = 6.81$, $df = 76$, $p < 0.001$), 12% of the variance in prevention climate ($F = 8.31$, $df = 76$, $p < 0.001$), 23% of the variance in formalization ($F = 16.06$, $df = 76$, $p < 0.001$), and 8% of the variance in centralization ($F = 5.36$, $df = 76$, $p < 0.001$). Moreover, interrater agreement statistics consistently met the simulated cutoff values, thus supporting the aggregation of organizational climate and structure variables at the firm level (LeBreton & Senter, 2008).

The interrater reliability statistics for employee ambidexterity ($ICC_1 = 0.10$, $F = 4.66$, $p < 0.001$; $ICC_2 = 0.79$) indicate that this individual-level variable, too, varied significantly between sample firms. This supports the notion that organizational context shapes employees' ambidextrous behavior (Gibson & Birkinshaw, 2004) and underlines the statistical appropriateness of our multilevel conceptual model (Bliese et al., 2018).

4.7 | Analytical strategy

Our model predicts relationships between variables at the firm and individual levels, reflecting a 2 × (2–1) multilevel framework (Preacher et al., 2016). Given this nested arrangement, we applied multilevel structural equation modeling (MSEM) techniques in Mplus v8.2 (Muthén & Muthén, 2017) to accommodate top-down effects of organizational context on employee ambidexterity (Preacher et al., 2016). The MSEM approach decomposes the variance of an individual-level variable (in our study: employee ambidexterity) into latent within- and between-level components (Lüdtke et al., 2008), allowing us to model relationships between these variance components independently at each level (Preacher et al., 2016). In line with Anderson and Gerbing (1988), we ran a multilevel confirmatory factor analysis (MCFA) prior to investigating the structural model. Moreover, we indexed all multi-item measures as manifest scale scores to economize degrees of freedom (Williams & O'Boyle, 2008). We grand-mean centered firm-level variables, and firm-mean centered individual-level variables (Bliese et al., 2018). All hypothesis tests were conducted with and without

TABLE 1 Aggregation tests

	Interrater reliability			Interrater agreement			
				mean r_{WG}		$AD_{M(J)}$	
Variable	ICC_1	*F*-statistic	ICC_2	Observed value	Simulated cutoff value	Observed value	Simulated cutoff value
Promotion Climate	0.10***	6.81	0.85	0.93	>0.32	0.70	<1.07
Prevention Climate	0.12***	8.31	0.88	0.90	>0.31	0.79	<1.08
Formalization	0.23***	16.06	0.94	0.66	>0.34	1.20	<1.43
Centralization	0.08***	5.36	0.81	0.55	>0.37	1.33	<1.51

Note: Significance tests for ICC_1 values are based on *F* tests ($df = 76$) from a one-way ANOVA (LeBreton & Senter, 2008). Following Smith-Crowe et al. (2014), we simulated sample-specific cutoff criteria for r_{WG} and $AD_{M(J)}$, taking into account group size, number of items, number of response options, and degrees of inter-item correlation (i.e., by estimating a specific inter-item correlation matrix). Simulations are based on 10,000 iterations and 95% confidence intervals.

***$p < .001$.

TABLE 2 Descriptive statistics and correlations

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Individual level ($N = 2446$)															
1.	*Organizational Tenure*	–													
2.	*Working Hours*	−0.07	–												
3.	*Leadership Role*	0.08	0.29	–											
4.	*Employee ambidexterity*	−0.12	0.07	0.10	–										
Firm level ($N = 77$)															
5.	*Innovation Strategy*	0.00	0.04	−0.06	0.01	–									
6.	*Firm Size* (log)	0.01	−0.08	−0.12	0.07	−0.08	–								
7.	*Production and Manufacturing Industry*	0.17	0.07	0.06	−0.10	0.12	0.24	–							
8.	*Service Industry*	−0.28	0.09	0.03	0.14	−0.10	−0.29	−0.65	–						
9.	*Trade Industry*	−0.07	−0.11	−0.03	0.02	−0.04	0.03	−0.21	−0.30	–					
10.	*Finance and Insurance Industry*	0.23	−0.11	−0.10	−0.08	0.01	0.09	−0.25	−0.35	−0.12	–				
11.	*Promotion Climate*	−0.21	−0.02	0.04	0.29	0.22	−0.39	−0.23	0.16	0.14	−0.04	–			
12.	*Prevention Climate*	0.32	−0.04	−0.03	−0.24	−0.11	0.39	0.28	−0.33	0.12	0.22	−0.72	–		
13.	*Formalization*	0.22	−0.20	−0.09	0.05	0.02	0.31	0.07	−0.22	0.06	0.19	0.01	0.14	–	
14.	*Centralization*	0.21	−0.11	−0.05	−0.08	−0.05	0.33	0.33	−0.30	−0.10	0.08	−0.32	0.42	0.36	–
Mean		10.17	40.16	0.32	12.45	17.45	5.17	0.31	0.48	0.09	0.12	3.67	2.32	4.02	3.32
Standard deviation		9.24	8.65	0.47	4.46	3.53	1.12	0.47	0.50	0.29	0.32	0.31	0.37	0.82	0.66

Note: For correlations between individual-level and firm-level variables, firm scores were assigned to individuals; significance levels should be interpreted cautiously. Individual-level correlations above 0.03 (or below −0.03) are statistically significant at the 5% level. Firm-level correlations above 0.22 (or below −0.22) are statistically significant at the 5% level.

control variables (Becker et al., 2016), leading to virtually identical findings and conclusions (no-controls models are reported in Online Appendix C: https://osf.io/u8ed6/files/osfstorage?view_only=b9aa9d9c5c8646baaa5b590ac726a37f).

5 | RESULTS

5.1 | Descriptive results and measurement model

Table 2 reports the descriptive statistics and correlations among the variables. Notably, we found a substantive negative correlation between promotion climate and prevention climate ($r = -0.72$), indicating that the two climates do not tend to co-occur in the sample firms (cf. van Dijk et al., 2021). To directly explore the discriminant validity of these theoretically and empirically interrelated variables, we modeled the items of both constructs in nested one- and two-factor confirmatory factor analyses, using a χ^2 difference test to determine difference in model fit (Kline, 2005). The two-factor model (i.e., promotion climate and prevention climate items loading on two separate factors) fitted our data significantly better than the one-factor model ($\Delta\chi^2_{df = 1} = 62.85$; $p < 0.001$), suggesting that promotion and prevention orientation are conceptually unique manifestations of organizational climate (Beus et al., 2020).[4]

In the next step, we conducted the MCFA to investigate the convergent and discriminant validity of all individual- and organizational-level variables simultaneously, including employee ambidexterity as a second-order latent factor at the individual level and organizational climate (promotion, prevention) and structure variables (centralization, formalization) as first-order latent factors at the organizational level. Fit statistics for the MCFA indicated a good overall fit ($\chi^2_{(55)} = 188.80$, $p < 0.001$; $CFI = 0.97$, $TLI = 0.96$, $RMSEA = 0.03$, $SRMR_{within} = 0.05$, $SRMR_{between} = 0.08$).

5.2 | Structural model

Table 3 reports the results for the structural model in two steps. The first step examined the main effects of promotion climate and prevention climate on employee ambidexterity, as formalized in H1 and H2, respectively. Promotion climate yielded a significantly positive effect on employee ambidexterity ($\beta = 0.88$, $SE = 0.10$, $p < 0.001$), supporting H1. However, H2 is rejected as the regression coefficient for prevention climate is nonsignificant ($\beta = 0.02$, $SE = 0.13$, $p = 0.88$).

In step 2, we added formalization, centralization, and the four interaction terms to the regression model of employee ambidexterity. This approach followed the recommendation of Aguinis et al. (2013) to test multiple interaction effects "as part of one combined model so that each estimated effect is adjusted for all the theoretically relevant

TABLE 3 Results of multilevel path analysis

	Employee ambidexterity			
	Step 1		Step 2	
Levels and variables	*β*	*SE*	*β*	*SE*
Individual-level predictors				
Organizational Tenure	−0.06**	0.02	−0.06**	0.02
Working Hours	0.07***	0.02	0.07***	0.02
Leadership Role	0.09**	0.03	0.10**	0.03
Firm-level predictors				
Innovation Strategy	0.04	0.07	0.08	0.09
Firm Size (log)	0.26*	0.11	0.19	0.10
Service Industry (dummy)	0.28**	0.10	0.23*	0.10
Trade Industry (dummy)	0.10	0.08	0.12*	0.06
Finance and Insurance Industry (dummy)	−0.00	0.07	0.01	0.12
Promotion Climate	0.88***	0.10	0.70***	0.11
Prevention Climate	0.02	0.13	−0.05	0.14
Formalization			0.00	0.19
Centralization			0.10	0.12
Promotion Climate × *Formalization*			0.90***	0.15
Prevention Climate × *Formalization*			0.34*	0.15
Promotion Climate × *Centralization*			−0.52**	0.15
Prevention Climate × *Centralization*			−0.24	0.14

Note: $N = 2446$ employees from 77 firms. Firm-level predictor variables were grand-mean centered. Individual-level predictor variables were firm-mean centered. Standardized coefficients are reported.
*$p < .05$.**$p < .01$.***$p < .001$.

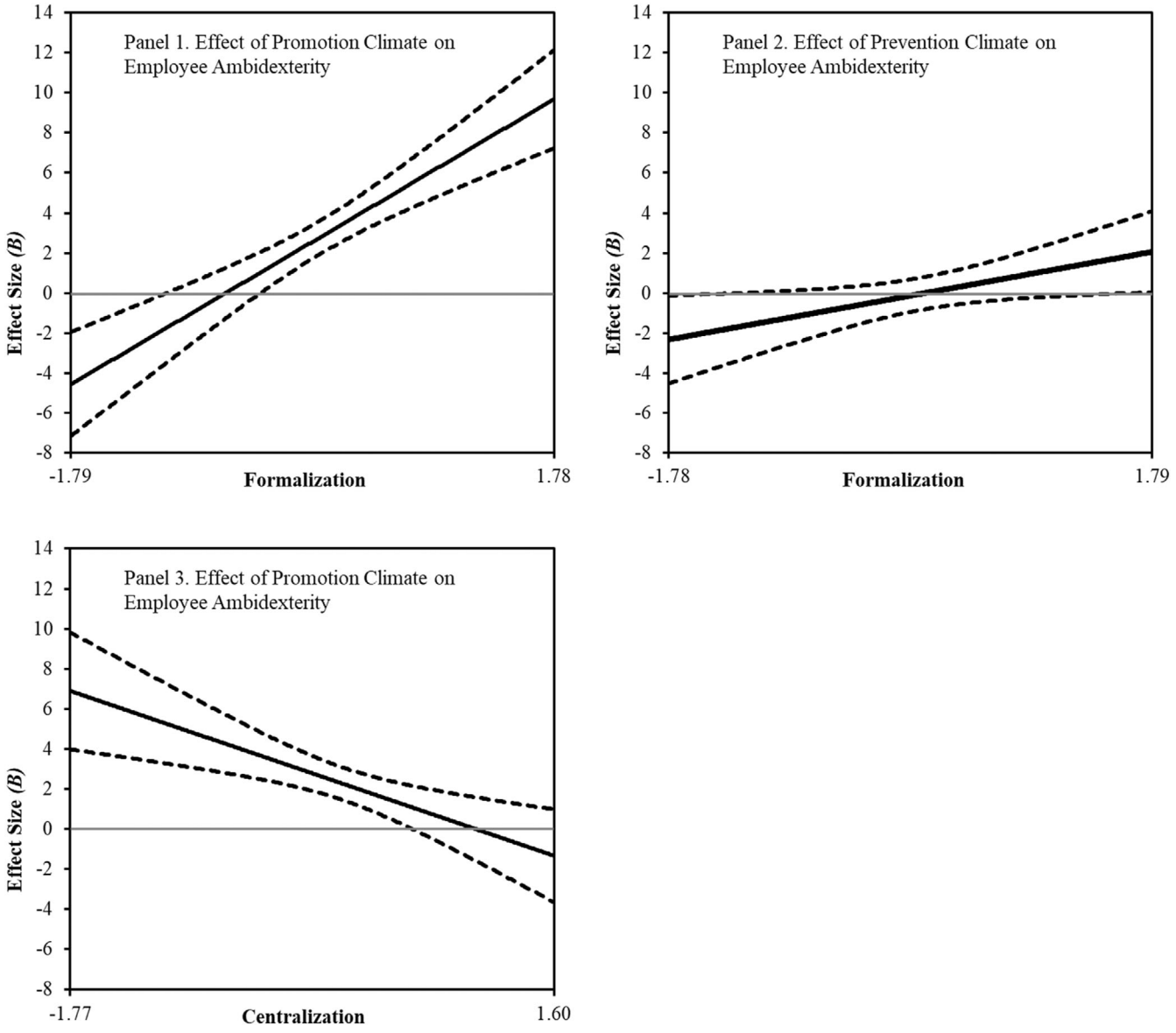


FIGURE 1 Johnson–Neyman plots for the effects of promotion climate and prevention climate on employee ambidexterity at different levels of formalization/centralization. $N = 2446$ employees from 77 firms. The three panels display Johnson–Neyman plots for the interactions between promotion/prevention climates and formalization/centralization. Effect size (*B*) refers to the effect of promotion/prevention climate on employee ambidexterity (solid line). The dotted lines indicate 95% *CIs*. The horizontal axis displays the range of observed values for formalization/centralization. Promotion/prevention climate and formalization were grand-mean centered prior to building the interaction terms. To facilitate interpretation and comparability, plots are based on unstandardized value

components." The relationship between promotion climate and employee ambidexterity was significantly moderated by formalization ($\beta = 0.90$, $SE = 0.15$, $p < 0.001$) and by centralization ($\beta = -0.52$, $SE = 0.15$, $p = 0.001$). Likewise, formalization significantly moderated the relationship between prevention climate and employee ambidexterity ($\beta = 0.34$, $SE = 0.15$, $p = 0.02$). By contrast, we found no significant interaction between prevention climate and centralization ($\beta = -0.24$, $SE = 0.14$, $p = 0.09$), and so reject H6. To conclusively assess H3–H5, we plotted the three significant interactions (Figure 1) using Johnson–Neyman procedures (Gardner et al., 2017).

As displayed in Figure 1 (Panel 1), these Johnson–Neyman analyses based on 95% confidence intervals revealed that the effect of promotion climate on employee ambidexterity was significantly positive for grand-mean centered formalization values ≥−0.38 (65% of sample firms) and significantly negative for grand-mean centered formalization values ≤−1.09 (9% of firms). This finding contradicts H3's prediction that the positive impact of promotion climate on employee ambidexterity is weaker (rather than stronger) when formalization is higher. We therefore reject H3. Concerning H4, Figure 1 (Panel 2) shows that the effect of promotion climate on employee ambidexterity was significantly positive for grand-mean centered centralization values ≤0.61 (corresponding with 84% of sample firms) and increased in size with lower values of centralization. This supports H4. Finally, with regard to H5, Figure 1 (Panel 3) indicates that the effect of

prevention climate on employee ambidexterity was significantly positive for grand-mean centered formalization values ≥1.66 (3% of firms) and significantly negative for grand-mean centered formalization values ≤−1.25 (7% of firms). These findings support—and even go beyond—theoretical predictions in H4.

Taken together, we obtained support for a positive main effect of promotion climate (but not prevention climate) on employee ambidexterity. With regard to the moderating effects of formalization, investigations of exact regions of significance revealed a pattern of "reversing" interaction, such that both promotion climate and prevention climate have a positive effect on employee ambidexterity at higher levels of formalization and a negative effect at lower levels. However, it is important to note that the conditional effect of prevention climate on employee ambidexterity was not statistically significant for 90% of sample firms (for promotion climate: 26%). With regard to the moderating effects of centralization, we found that the relationship between promotion climate and employee ambidexterity was stronger at lower levels of centralization. By contrast, centralization did not significantly moderate the relationship between prevention climate and employee ambidexterity.

5.3 | Robustness checks

We performed an additional set of analyses to examine the robustness of our findings. Specifically, given that promotion/prevention climates and employee ambidexterity were obtained from the same subversion of the employee survey (i.e., version B), we tested for potential common method variance (CMV) issues (Podsakoff et al., 2012). To this end, we followed recommendations by Podsakoff et al. (2003, 2012) and applied the unmeasured latent method factor technique to examine whether CMV bias existed. The rationale behind this approach is to examine whether allowing the measurement items to load on a latent CMV factor, in addition to their theoretical constructs, influences the significance of structural parameters (i.e., correlations between constructs) (for more details, see Podsakoff et al., 2012). We found that the correlations did not change across models without (promotion climate and employee ambidexterity: $r = 0.06$, $p < 0.001$; prevention climate and employee ambidexterity: $r = -0.07$, $p < 0.001$) and with the latent CMV factor (promotion climate and employee ambidexterity: $r = 0.05$, $p < 0.001$; prevention climate and employee ambidexterity: $r = -0.08$, $p < 0.001$),[5] indicating that these bivariate correlations were likely not biased by potential CMV issues.

In addition, we tested for potential CMV bias in a regression-based setup.[6] The logic behind this approach was to compute a unique firm-level score for the promotion/prevention climate measures for each individual employee in our data that *excludes* her/his own rating of the measure. We reran our tests of Hypotheses H1 and H2 using the unique promotion/prevention climate scores for each employee in an individual-level model and found robust support for our main findings: promotion climate related positively to employee ambidexterity ($B = 0.21$, $SE = 0.07$, $p < 0.01$), while prevention climate showed no significant relationship with employee ambidexterity ($B = -0.05$, $SE = 0.03$, $p > 0.05$). Together, we thus conclude that our results were likely not driven by CMV bias.

6 | DISCUSSION

We adopted a contingency perspective to advance theoretical and empirical understanding about how organizational context nurtures employee ambidexterity. While prior literature has highlighted the crucial role of contextual antecedents for employee ambidexterity (e.g., Gibson & Birkinshaw, 2004), the interplay between formal structural context and informal climate context has been underexplored (Zimmermann et al., 2020). Since employees are exposed to formal and informal contextual signals about how to conduct their work simultaneously, we developed a contingency perspective to understand the interplay between these elements. Besides a main effect for promotion climate, we found that the impact of both promotion climate and prevention climate is contingent on the organization's formal structure.

6.1 | Theoretical implication

Using regulatory focus theory and paradox theory, we first argued that the regulatory climate signals the preferred manner of goal pursuit in the organization to employees and, consequentially, nudges employees to engage in ambidextrous behavior. In line with the thrust of our argument, the findings indicate a crucial distinction: only a regulatory climate with a promotion focus was associated with increased employee ambidexterity. This finding contributes to the literature on contextual ambidexterity. Prior literature has identified domain-specific climates such as learning climate (Nemanich & Vera, 2009) or supportive climate for innovation (Jansen et al., 2006) as drivers of ambidexterity. In contrast, regulatory climate does not prioritize some goals such as learning over others. Instead, it signals an overarching manner of goal pursuit and thus influences what kind of goal pursuit rather than which specific goals are valued in the organization. As such, providing insights into the relationship between regulatory climate and employee ambidexterity enriches the literature by identifying "more broadly applicable" (Beus et al., 2020, p. 242) higher order contextual antecedents.

Interestingly, our analyses did not corroborate our hypothesized negative relationship between prevention climate and employee ambidexterity. A possible explanation for the insignificant finding may be associated with potential variance at the individual level that our model did not account for. Indeed, prior research has identified various antecedents that affect the successful regulation of exploration–exploitation tension at the individual level, such as self-efficacy (Kauppila & Tempelaar, 2016) or the paradox mindset (Miron-Spektor et al., 2018). While our study focused on understanding the contextual embeddedness of employee ambidexterity, such individual differences may dampen the predicted negative effect of prevention climate. In this respect, scholars have highlighted that prevention

focus is not merely the opposite of promotion focus but a unique hypothetical construct (Förster et al., 2003). Future research may further investigate potential contingencies shaping the effect of a prevention-focused regulatory climate.

Our findings also provide important nuances to our understanding about contextual antecedents of employee ambidexterity by exposing the interplay between formal structural organizational context and informal climate context. By taking climate–structure interactions into account, we might recontextualize empirical tensions in prior literature on contextual antecedents of ambidexterity. For example, centralization has both been found to increase (Y. Chang et al., 2011; Y.-Y. Chang & Hughes, 2012) and decrease ambidexterity (Jansen et al., 2005; Mihalache et al., 2014; Mom et al., 2009). Similarly, research so far has failed to establish a direct relationship between formalization and ambidexterity, though scholars have alternatively argued for a positive (Jansen et al., 2005) or a negative relation (Mom et al., 2009). In line with this argument, we found that both promotion climate and prevention climate may display significant positive as well as negative effects on employee ambidexterity, depending on the degree of formalization. Understanding formal and informal antecedents in isolation may thus lead to incomplete understanding and potentially misleading theory development. We suggest that formal and informal context are inextricably intertwined configurations and co-determine employee ambidexterity through signals of desired and required behaviors. More specifically, we found that the supportive effect of a promotion climate on employee ambidexterity is contingent on the formal structure within an organization. As predicted, centralization suppresses this positive effect. While early ambidexterity research highlighted the benefits of centralized decision-making (e.g., W. K. Smith & Tushman, 2005), our results contribute to an emerging discussion which questions this proposition and argues that centralization might suppress the benefits of nurturing contextual antecedents (see also Jansen et al., 2016).

Contrary to our prediction, however, the positive effect of promotion climate was enhanced in organizations with higher (rather than lower) formalization. Hence, the view of formalization as a rigid control mechanism incompatible with contextual ambidexterity (see also Gibson & Birkinshaw, 2004) might be too limited (cf. Adler & Borys, 1996; Juillerat, 2010). We seek to offer some post hoc explanations for this unexpected finding: Indeed, research has shown that, even in more formalized contexts, individual employees make autonomous decisions about which routines to enact, whether to adapt them, and how to enact them in specific performance episodes (Feldman & Pentland, 2003). In addition, highly adaptive, localized, and creative processes such as design thinking may also be formalized (Nemeth et al., 2006). Formalized routines may also contain meta-routines for their own change (Adler et al., 1999), and so may be suitable for the adaptive requirements of contextual ambidexterity. Formalization may thus "enable" (Adler & Borys, 1996) rather than stifle translating promotion climate into employee ambidexterity. This might take the form of codifying organizational knowledge and thus providing a shared reference to enable boundary-spanning collaboration (Dyer & Nobeoka, 2000) instigated by promotion climate. Our results suggest that formalization deserves further research attention. Contextual ambidexterity is not necessarily built on "less formality, rather than more" (Gibson & Birkinshaw, 2004, p. 221) and hence; formalization may actually enable the translation of promotion-focused contextual signals into ambidextrous behavior.

The requirement for a more nuanced perspective on formal–informal interactions is further underscored by the interaction patterns between prevention climate and formal structure. While we did not find the predicted interaction between prevention climate and centralization, our theoretical mechanism was predicated on centralization compensating the negative impact of prevention climate. As this negative effect was not in evidence, it is unsurprising that no significant interaction with a potentially compensating factor was found. Interestingly, we found marginal support for an interaction between prevention climate and formalization. Although caution should be exercised when interpreting these results, we tentatively suggest that prevention climate has a positive effect on employee ambidexterity at very high levels of formalization and a negative effect at very low levels. If confirmed in future research, this reinforces the more complex role of formalization. In organizations with a prevention climate, a highly formalized structure might energize and motivate employees because it fits with the informal climate: by reducing ambiguities (cf. Michaels et al., 1988), formalization helps employees feel safe in their ability to avoid mistakes and failures by sticking to processes. Formalization also does not limit local flexibility to the same degree as centralization, thus providing a viable pathway to ambidexterity even in prevention climates.

Collectively, our results advance the view of contextual ambidexterity as a fundamentally multilevel theory. Interest in how organizational-level antecedents produce organizational ambidexterity through influencing employee behavior (Gibson & Birkinshaw, 2004; Raisch & Zimmermann, 2017) is implicitly multilevel, yet research clarifying the underlying cross-level relations is very nascent (Mom et al., 2019). Understanding these multilevel associations offers important theoretical insights beyond the ones provided by single-level research. For example, prior research has analyzed the association between regulatory focus and explorative as well as exploitative behavior at the individual level (e.g., Tuncdogan & Dogan, 2020). This literature has produced a complex picture: In particular, individual-level research has generally argued for a positive association between promotion focus and ambidexterity (e.g., Tuncdogan et al., 2015)—but sometimes also found negative associations (Huang et al., 2021). Similarly, individual prevention focus has alternatively been considered positive (Tuncdogan & Dogan, 2020) or negative (Kammerlander et al., 2015) for ambidexterity. A potential explanation lies in the fact that employees do not operate in a vacuum—and in order to behave ambidextrously, they are required to informally coordinate with their peers (Mom et al., 2009) who might or might not share their regulatory focus. For example, ambidextrous individuals need to integrate perspectives from colleagues with diverse backgrounds, negotiate any goal conflicts between peers, and facilitate the sharing of resources and knowledge across internal boundaries (Rogan & Mors, 2014). In contrast to individual regulatory focus, regulatory climate captures a

shared perception of promotion-oriented goal pursuit as being valued. This sharedness arguably affects informal coordination between employees above and beyond the effects of regulatory focus on individual goal pursuit. The multilevel perspective thus describes the complex association between regulatory focus and ambidexterity from a unique vantage point. Importantly, caution should be exercised when comparing the theoretical association between regulatory focus and ambidexterity across the individual and the organizational levels (Ployhart & Moliterno, 2011). Organizational regulatory climate is a unique construct which is not reductive to individual regulatory foci of an organization's employees (see, e.g., Faddegon et al., 2008; Higgins & Pinelli, 2020). Furthermore, theoretical associations which hold at one level do not necessarily translate to another level (e.g., He & Wong, 2004; Mom et al., 2015). Our results should accordingly be treated as a potential inspiration rather than a resolution for the aforementioned tensions in the individual stream. We hold that the study of the association between organizational context and individual ambidexterity should be informed by the literature on individual antecedents of ambidexterity, but not reduced to it.

6.2 | Practical implications

Our results have important implications for managerial practice. SMEs, which form a large majority of businesses, rely on individuals to deal with the paradoxical tension between exploiting their core capabilities and exploring innovative new business opportunities. Our study highlights that employees' ability to engage with this tension is embedded in the broader organizational context. As Ghoshal and Bartlett (1994, p. 92) put it: Context is created through "tangible and concrete management actions." Executives might take inspiration from the positive main effect of promotion climate. For example, they might highlight the potential for advancement (rather than avoiding decline) in how they frame and communicate strategic goals to the broader organization. Their personal role modeling can also play a role: Executives may selectively highlight, reward, and celebrate employees' promotion-oriented behavior. The relative focus on advancement versus avoidance of mistakes can be succinctly communicated in adages such as Mark Zuckerberg's "move fast and break things" motto for Facebook/Meta. Furthermore, executives might take part in promotion-signaling events such as the "screw-up nights" popular in the start-up community, where mistakes and learnings in the pursuit of advancement are shared in a positive atmosphere.

HR managers may take inspiration from the importance of formalization for translating the effect of promotion climate into employee ambidexterity. Especially rules and procedures which help employees to translate promotion-oriented signals into their own behavior might be helpful. For example, training employees in sales to weave in design thinking questions and explore customer needs for new products in the first couple of minutes of a client meeting scheduled to sell a legacy offering provides actionable processes for combining explorative and exploitative behaviors in practice. Furthermore, enabling formalization incorporates procedures for questioning and challenging prior routines: For example, Hilti, a tool manufacturer from Liechtenstein, conducts annual "pit stops" in which all ongoing initiatives are stopped and the assumptions behind them challenged. Leaders in organizations might take inspiration from the importance of avoiding too much centralization in order to translate promotion climate into employee ambidexterity. For example, leaders may assign ownership for sub-goals and providing their employees with as much decision-making authority as feasible instead of micromanaging them. Leading through "commanders intent" is a practical example, which has been adapted from the use from special forces to leaders facing high degrees of uncertainty. This means leading through communicating high-level goals as well as explaining why these goals have to be achieved—and then trusting followers to adapt the way they strive to achieve this goal flexibly based on this understanding.

6.3 | Limitations and future research

Despite important strengths (e.g., multisource, multilevel data from 2446 employees across 77 organizations), our study has limitations. Regarding the empirical design, we collected data at a single point in time and employed a survey design to assess all variables. While the causal order of variables in our model is informed by theory, caution is needed when interpreting our results in a causal manner. Relatedly, some of our measures (i.e., promotion/prevention climates, employee ambidexterity) were rated by the same group of employees, potentially causing CMV issues (Podsakoff et al., 2012). Although additional robustness checks (see above) partially alleviated such concerns, we hope that future research replicates our investigation with stronger empirical designs (e.g., experimental or longitudinal designs). Finally, our empirical research had a strong regional focus. While this is not unique (e.g., He & Wong, 2004; Jansen et al., 2016), there is evidence of cross-cultural differences in approaches to paradoxes (Leung et al., 2018).

Future research could build on our study by explicitly measuring process variables. For example, explicitly accounting for individual-level regulatory focus could uncover to what degree regulatory climate needs to become internalized so that regulatory climate impacts employee ambidexterity. Further process variables of interest could relate to whether organizational perceptions of paradoxes, such as the paradox mindset (Miron-Spektor et al., 2018), mediate the relationships captured in our structural model. Furthermore, employee perceptions of the risk–reward profiles of engaging in exploration versus exploitation activities are not only dependent on signals from the regulatory climate but also on their individual regulatory focus (e.g., Tuncdogan & Dogan, 2019). Future research could begin to untangle an interesting tension with regard to the cross-level interaction: On the one hand, research has built on regulatory fit theory (Higgins, 2000) and argued that for a positive reinforcement between convergent individual level regulatory focus and contextual regulatory signals (Ahmadi et al., 2017). On the other hand, research has also begun to investigate the benefits of regulatory non-fit: Contextual promotion-oriented signals can lead to an orientation reaction for

prevention-oriented individuals (Fridman et al., 2018), and vice versa. Through this orientation reaction, creativity and persistence may be increased (Levine et al., 2016). By creatively and persistently combining promotion- and prevention-oriented goal pursuit, employees might display the necessary behavioral complexity (Carmeli & Halevi, 2009) to achieve ambidexterity (Tuncdogan et al., 2015). Future multilevel research could begin to untangle this fascinating tension.

In addition, future research may explore how formal and informal organizational context interact with lower-level drivers of employee ambidexterity. In particular, we would be interested in research exploring how leadership (e.g., Kauppila & Tempelaar, 2016) might moderate the impact of organizational context (Zimmermann et al., 2020). Can transformational (Nemanich & Vera, 2009) or paradoxical leadership (Y. Zhang et al., 2015) compensate for a pervasive prevention climate in the organization? Would personal drivers of ambidexterity such as self-efficacy (Kauppila & Tempelaar, 2016) follow a substitute for leadership logic (Kerr & Jermier, 1978) and insulate employees from the importance of organizational context? Or would a suitable organizational context provide the motivation and opportunity (Jiang et al., 2012) for these employees to translate their inherent abilities into ambidextrous behaviors? Overall, we call for more thorough theorizing around the interplay of different drivers of ambidexterity in order to understand when and why they complement, subvert, reinforce or substitute each other (McEvily et al., 2014). Recent methodological advances around configurational approaches seem particularly well-suited to model such complex interplays (Fiss, 2011).

7 | CONCLUSION

The literature on contextual ambidexterity (Gibson & Birkinshaw, 2004) has developed a viable alternative to the structural view (Tushman & O'Reilly, 1996) of how companies may align exploration and exploitation. By situating the integration of exploration–exploitation tension at the individual level, this approach pushes the paradoxical challenge onto employees. Our study adopted an interactive perspective to develop novel and important insights into how the interplay of formal and informal contextual elements drives employee ambidexterity. We hope our findings inspire future research to further unpack these mechanisms, and help organizations and individuals to deal with the ambidexterity paradox.

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CONFLICT OF INTEREST

The author declares that there is no conflict of interest.

DATA AVAILABILITY STATEMENT

In line with the legal agreements with the participating companies, research data are not shared.

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ENDNOTES

[1] Multiple simulation studies have supported the accuracy of planned missingness designs in terms of descriptive (i.e., population means and standard deviations) and predictive results (i.e., regression coefficients and standard errors), especially for large sample sizes (see, e.g., Jia et al., 2014; C. Zhang & Yu, 2021). Specifically, as noted by Zhang and Yu (2021, p. 15), there is "more flexibility with how much PM [planned missingness] to implement when sample size is larger (e.g., 1000)." In their respective simulations, these authors demonstrate that, for a sample size of 1000, approximately 80% planned missingness still yields accurate regression coefficients and standard errors. In the present study, the planned missingness level for each survey version was 67% (i.e., two thirds of the sample population) and the (average) observed missingness levels for survey versions B and C (containing the study variables) were 78 and 79%, respectively. Given that the present study draws on a substantially larger individual-level sample population (N = 23,885 employees), we do not expect that the planned missingness design substantively biased our estimates and conclusions. For a detailed overview of (a) the study's three-form design (including a flowchart) and (b) response rates per company and survey version, see Online Appendix B: https://osf.io/u8ed6/files/osfstorage?view_only=b9aa9d9c5c8646baaa5b590ac726a37f.

[2] To examine if random assignment to survey versions worked as intended, we specified regression models with participants' age, gender, and tenure as dependent variables and the survey versions as dummy predictor variables. We used ordinary least squares models for age ($F = 1.38$, $p = 0.25$) and tenure ($F = 2.22$, $p = 0.11$), and a logit model for gender ($\chi_2^2 = 0.02$, $p = 0.99$). Nonsignificant overall fit for all three models indicates that survey version does not significantly predict participants' core demographics. We thus conclude that random assignment worked as expected.

[3] In robustness checks, we used additive (rather than multiplicative) scores for individual ambidexterity in our structural models. The substantive findings and interpretations remained unchanged across these analyses, lending robust support to our results (for details, see Online Appendix C: https://osf.io/u8ed6/files/osfstorage?view_only=b9aa9d9c5c8646baaa5b590ac726a37f).

[4] Given the correlation between promotion climate and prevention climate, we also examined collinearity statistics for both constructs. Scores for tolerance (= 0.48) and VIF (= 2.10) alleviated concerns of multicollinearity in our data and estimations.

[5] Given the multilevel nature of our data and in line with our procedures for the correlation table (Table 2), we assigned firm scores of promotion/prevention climates to employees to perform the latent CMV factor test.

[6] We thank the editor for this helpful recommendation.

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APPENDIX A

TABLE A1 Measurement items

Variable	Items	Response scale	Source
Promotion Climate	*In our company…* we typically focus on the success we hope to achieve in the future. we frequently imagine how we will achieve our hopes and aspirations. we see ourselves as members of an organization who are primarily striving to fulfill their hopes, wishes, and aspirations.	1 = strongly disagree 5 = strongly agree	Lockwood et al. (2002)
Prevention Climate	*In our company…* we are more oriented toward preventing losses than we are toward achieving gains. we are anxious that we will fall short of our responsibilities and obligations. we often imagine ourselves experiencing bad things that might happen to us as members of this organization.	1 = strongly disagree 5 = strongly agree	Lockwood et al. (2002)
Formalization	Whatever situation arises, written procedures are available for dealing with it. Rules and procedures occupy a central place in our company. There are written job descriptions for positions at all levels of our company.	1 = strongly disagree 7 = strongly agree[1]	Deshpande and Zaltman (1982)
Centralization	Even small matters have to be referred to someone higher up for a final decision. Employees have to ask their supervisors before they do almost anything. Any decisions made by employees here require the approval from their supervisor.	1 = strongly disagree 7 = strongly agree	Hage and Aiken (1967)
Employee Ambidexterity	Systematically searching for new possibilities.[a] Offering new ideas and solutions to complicated problems.[a] Experimenting with new and creative ways for accomplishing work.[a] Performing routine activities.[b] Implementing standardized methodologies and regular work practices.[b] Using current knowledge and skills for performing tasks.[b]	1 = not at all 5 = to a great extent	Kostopoulos and Bozionelos (2011)

Note: Employee ambidexterity dimensions.
[a]Exploration-related activities.
[b]Exploitation-related activities.