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Same pond, different frogs: How collective change readiness level and diversity associates with team performance

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Summary

Despite the critical importance of teams in organizational change processes, we still know little about how collective change readiness (CR) in teams associates to team outcomes. In this study, we take a multilevel approach to CR and investigate how collective CR associates with team performance. Specifically, we examine (a) how ambivalence between emotional and collective cognitive CR associates with collective intentional CR and (b) how both the level and diversity of collective intentional CR associate to team performance. We test our team-level hypotheses using 59 teams and 366 individual team members. The results show that the levels of collective emotional and cognitive CR interact in their association with intentional CR. Collective intentional CR is the highest when both collective emotional and cognitive CR are high and the lowest under a condition of high collective cognitive CR and low collective emotional CR. Moreover, diversity in collective intentional CR negatively associates to leader-rated team performance. Implications for theory and suggestions for practice are discussed.

KEYWORDS
ambivalence, change readiness, diversity, organizational change, team performance

1 | INTRODUCTION

Employees' change readiness (CR) is arguably among the most studied change attitudes (Rafferty et al., 2013). CR pertains to employees' "beliefs, attitudes, and intentions regarding the extent to which changes are needed and the organization's capacity to successfully undertake those changes" (Armenakis et al., 1993, p. 681). Even though the notion that CR is a multilevel phenomenon is not new (i.e., three levels of CR are distinguished—macrolevel, mesolevel, and microlevel CR, referring, respectively, to organizational, group, and individual readiness to change; Vakola, 2013; Rafferty et al., 2013), only few studies so far have incorporated CR at the collective level in their design. This is problematic, as organizational change implementation cannot be successful without organizational groups such as teams and their members accepting the changes and supporting them through adopting new work routines, processes, and mental models that guide their behaviors (Whelan-Berry et al., 2003).

With this study, we aim to disentangle the multidimensional nature of collective CR and investigate how the cognitive and emotional components of CR will interact in their association with the collective willingness to significantly contribute to change projects, that is, the intentional component of CR, and how intentional CR associates with team performance. Studying the formation or interrelationships between the different types and levels of CR, as well as the consequences of CR on team performance, is crucial for our understanding of how individual and team-level change attitudes interact and associate with the individual and the collective-level functioning of teams (Schwarz & Bouckenooghe, 2018). Building on the CR

literature (e.g., Armenakis et al., 1993; Piderit, 2000), we distinguish between emotional, cognitive, and intentional CR and argue that, through social interaction processes, teams develop congruent or collective levels of these dimensions of CR. We also propose, however, that teams may experience collective ambivalence (Ashforth et al., 2014) in their CR, implying that teams may have simultaneously positive and negative cognitions and/or emotions about change (e.g., cognitively, the team thinks that change projects usually do much good, but emotionally, the team has a bad feeling about the change projects).

Even though groups may develop some degree of congruence in forming their change attitudes, individuals may also hold broader and somewhat different attitudes toward the change (Armenakis et al., 1993; Bouckenooghe et al., 2019). For example, individual team members are likely to have different dispositions toward change (Oreg, 2003), have different change histories (Bordia et al., 2011), and develop different narratives that impact their sensemaking of change processes (Buchanan & Dawson, 2007). Therefore, we also assess how diversity in the team (i.e., the pattern of dispersion within a team; Harrison & Klein, 2007) with regard to CR associates with team outcomes. Despite earlier calls for "deeper understanding of the meaning(s) of within-unit differences" (Harrison & Klein, 2007, p. 1201), change readiness literature has rarely investigated the incongruent standing of the individuals within the team with respect to change attitudes (a notable exception is the study of Rafferty & Jimmieson, 2010). We therefore propose that diversities in emotional and cognitive CR among team members are likely to relate to diversity in intentional CR, which will account for some of the variation in team performance. Figure 1 shows the conceptual model of the study.

By adopting a multilevel approach and by distinguishing between congruence and incongruence of CR in teams, this study offers several important theoretical contributions to the change literature. Our first theoretical contribution follows from the fact that we integrate team- and individual-level CR by proposing that CR can emerge as a climate while also being highly individualistic. In the past, CR research focused primarily on CR as an individual-level component, thereby overlooking its socially constructed nature (Bouckenooghe et al., 2019). Despite scholarly acknowledgment of the multilevel nature of various change-related processes (Caldwell et al., 2009, 2004; Whelan-Berry et al., 2003), the theoretical underpinnings that needed to help explain the effects of change readiness as a collective and multilevel phenomenon have been lagging behind (Rafferty et al., 2013). To this end, the current study integrates the multilevel perspective on CR as proposed by Rafferty et al. (2013) with individual-level CR literature (e.g., Piderit, 2000) and research on proactive behavior (e.g., Parker et al., 2010) to unravel how collective CR associates with critical team outcomes.

Second, CR scholars (e.g., Armenakis et al., 1993) have acknowledged that although CR can converge in teams, there may be incongruences remaining in the CR between team members that need to be considered. Adopting a diversity perspective is particularly valuable, because it allows an investigation of various possibilities that may be key for the formation of collective attitudes (high agreement or diversity) among team members and that account for "individuals holding different or similar attitudes still come together yet not always through a process of aggregation" (Schwarz & Bouckenooghe, 2018). Looking at how diversity in CR within teams associates with team performance sheds further light on how different levels of CR in teams associates with team outcomes.

Finally, we analyze collective CR as correlates of team performance. Besides the limited number of multilevel studies on CR, another notable limitation of research is that CR empirical studies have focused on the most proximal antecedents (e.g., change beliefs, emotions about change, context, and the change process; Rafferty & Minbashian, 2019) and outcomes (e.g., change-supportive behaviors, change-oriented performance, and affective commitment; Rafferty & Minbashian, 2019; Sparr et al., 2022) of CR, while there is almost no empirical evidence to suggest that CR—as a multilevel construct—may associate with important organizational outcomes such as team performance. Given that teams play a pivotal role in organizational change processes as well as organizational performance (Mathieu et al., 2008), studying how collective CR in teams relates to team performance will contribute to understanding effective organizational change.

2 | THEORETICAL FRAMEWORK

2.1 | Change readiness as an attitudinal construct in a change context

Over the past two decades, several scholars (e.g., Cunningham et al., 2002; Eby et al., 2000) have developed definitions about change

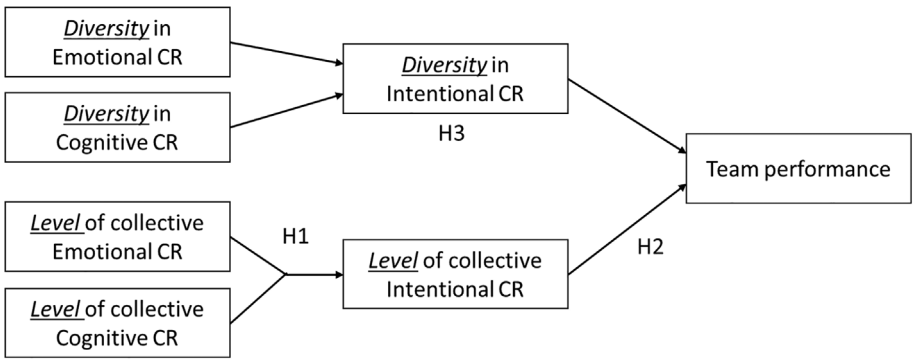

FIGURE 1 Conceptual model.

readiness as an individual level construct, and these definitions seem mostly derived from the study of Armenakis et al. (1993). Whereas CR is an attitudinal concept and as such shares similarities with other attitudes (e.g., affective, cognitive, and behavioral components; Breckler, 1984), both theoretical and empirical evidence support the notion that CR is a change specific attitude and a unique concept that deserves research attention.

From a theoretical perspective, several arguments point toward the unique nature of CR as an attitude. First, in a broad sense, the existing body of research on CR attests to the fact that CR is a unique construct, that has been well-defined and that has a unique place in the nomological network of related constructs. For instance, the theoretical contributions of Rafferty and Minbashian (2019) and Rafferty et al. (2013) place CR as an outcome of contextual and personal characteristics, change beliefs, and positive emotions about change and as a precursor of change-supportive behaviors. Empirical studies (e.g., Katsaros et al., 2014; Yousef, 1999) have shown that job attitudes (e.g., job satisfaction and organizational commitment) portray only low to moderate correlations with change attitudes, indicating the distinctiveness of these constructs. Second, even though job attitudes typically emerge in a response to distinct and recent contextual factors (e.g., satisfaction with financial and nonfinancial rewards and perceived justice; Johns, 2001, 2006), CR may have a longer and more complex history of being formed and may depend on a wider range of factors. The fact that organizations and teams today are in a constant state of flux (Wee & Taylor, 2018), undergoing multiple and overlapping changes, suggests that change experiences (including the potentially incremental ones) are continuously ongoing and shaping the individual's change attitudes. Hence, change attitudes, even though to some extent malleable by the most recent (change) context, are highly dependent on the accumulated experiences of different change processes an employee has encountered in the past. This suggests that CR should be studied through a broader lens, beyond the boundaries of one specific change context.

2.2 | Change readiness as a multidimensional construct

Research on CR generally argues that CR comprises affective, cognitive, and intentional elements (e.g., Bouckenooghe et al., 2009; Piderit, 2000). The affective component refers to the extent to which individuals are emotionally inclined to accept, embrace, and adopt the change (Holt et al., 2007) or put more simply to the individual's emotional involvement to change (Bouckenooghe et al., 2009). The cognitive component pertains to thoughts employees have about the outcomes of change (Piderit, 2000). For example, employees may think that most changes will have a negative effect on customers. Lastly, the intentional component focuses on the behavioral intentions to engage in change or how committed individuals are to the change (Bouckenooghe et al., 2009). While these three facets of CR have often been seen as elements of an overarching CR construct, some researchers have suggested that intentions refer to motivational factors influencing a behavior, implying that "it is not appropriate to include intentions as a component of change readiness" (Rafferty et al., 2013; p. 114). Yet, the association between emotional and cognitive CR as determinants of intentional CR has received limited empirical attention.

The possibility of the components of an attitude to interact has been theorized by the Causal Attitude Network (CAN) model (Dalege et al., 2016, 2019). This model was put forward to overcome some of the key limitations of the two existing dominant attitudinal models—the tripartite (Breckler, 1984) and the connectionist models (Conrey & Smith, 2007). In viewing attitudes as dynamic systems, the CAN model applies an interactionist lens suggesting that the evaluations that are gradually formed and shape our attitudes may interact with one another. In this study, in keeping with the rationale suggested by CAN model, namely, that attitudes are "dynamic systems of interacting affective, cognitive, and behavioral reactions" (Carter et al., 2020, p. 960), we explore the interaction between the cognitive and emotional components of CR. In line with the CAN model, the change literature (including more recent studies such as Rafferty & Minbashian, 2019) also asserts a view of emotional and cognitive CR as potential predictors of the more behavioral component of CR. In addition, prior theoretical contributions have suggested that these associations may have a rather complex relationship with change attitudes such as intentional CR (e.g., Piderit, 2000). More specifically, research on CR (e.g., Rafferty & Minbashian, 2019) suggests that organizational change can elicit agreement between emotions and cognitions about change (e.g., Rafferty & Minbashian, 2019), which leads to readiness for change and to behavioral engagement in the change implementation. However, such an agreement between emotions and cognitions is not always a given and sometimes organizational events, such as an organizational change, can be sources of more ambivalent reactions (Piderit, 2000; Rothman & Melwani, 2017). Ambivalence occurs when the simultaneously emerging cognitions and emotions toward an object or event are not aligned but rather conflicting. In such cases, there are simultaneous oppositional cognitions ("I think about X") and/or emotions ("I feel about X") toward an object (Ashforth et al., 2014). As such, the emotions and cognitions about the change event may be aligned or misaligned (i.e., ambivalent), resulting in a range of experiences, including aligned positive emotions and cognitions (e.g., *feeling good* about the changes and having *positive experience* with change) or aligned negative emotions and cognitions (e.g., *feeling bad* about the changes and having *bad experiences* with change), as well as misalignment (e.g., *feeling pessimistic* about the changes, despite having some *positive experiences*) between emotions and cognitions (Rothman et al., 2017). As ambivalent emotions and cognitions are found to elicit uncertainty, ambivalence is frequently reported as an antecedent to paralysis and inaction (Rothman et al., 2017), which suggests that change recipients with conflicting emotions and cognitions about change show less intentional CR.

Altogether, change readiness pertains to an alignment between positive beliefs and emotions about the change that leads to intentions toward upcoming organizational changes (i.e., that employees exhibit a proactive and positive attitude, based on their confidence of

the potential success of the change and willingness to support the change initiative; Vakola, 2013). Positively aligned cognitions and emotions are likely to result in intentions to support the change, because the individuals perceive the situation as having the potential to be beneficial for them (Vakola, 2013). In contrast, a situation of ambivalence between emotions and cognitions would habitually trigger inaction in change processes (Rothman et al., 2017).

2.3 | Change readiness as a collective attitude

Following Kozlowski and Klein's (2000) multilevel approach to organizational research, CR theorists have suggested that lower level individual-based CR as a psychological state can evolve into higher level CR (Rafferty et al., 2013; Vakola, 2013). In line with these scholars' propositions, CR can be viewed as an emergent phenomenon because "it originates in the cognition, affect, behaviors, or other characteristics of individuals, is amplified by their interactions, and manifests as a higher-level, collective phenomenon" (Kozlowski & Klein, 2000). Because organizational environments are marked by common stimuli such as policies, practices, and procedures that are conducive to convergence and sharing, they can shape common perceptions among employees (Schwarz & Bouckenooghe, 2018). In terms of climate theory, the emergence of a shared collective climate would take place when (1) individuals share a homogeneous contextual organizational features, events, and processes; (2) individuals develop individual interpretations of the characteristics, of their environment (i.e., shaping psychological climate); (3) the ongoing processes of attraction, selection, and attrition narrow down the variation of perceptions in psychological climate; and when (4) individual interpretations that may differ become fewer because the collective interpretation converges (Kozlowski & Klein, 2000).

This also holds with regard to organizational change as an organizational phenomenon. Individuals within a group which is exposed to change form shared views, perceptions, and evaluations of change processes. When facing organizational change, employees' capacity to implement a change "emerges from how they share" perceptions about the content and meaning of conducting changes (Schwarz & Bouckenooghe, 2018, p. 168). Collective attitudes to change have been operationalized as "the sum of individual-level change attitudes or the outcome of within-group consensus in attitude between individuals of the collective" (Schwarz & Bouckenooghe, 2018, p. 168). Similarly, Rafferty et al. (2013) argued that a work group's change readiness will emerge from the cognitions and affects of individuals and will be transformed into a collective phenomenon due to social interaction processes that come to play. In other words, when individuals in work units work closely together, strong ties and collective attitudes such as cognitive, emotional, and intentional CR can arise, especially when faced with challenging circumstances such as during organizational changes (Bouckenooghe et al., 2019).

Following the rationale of climate theory and the emergence of a shared collective climates (Kozlowski & Klein, 2000), cognitive, emotional, and intentional CR can all be conceived of as a collective-level phenomena. Regarding cognitive CR, research suggested that team members can develop shared perceptions about important aspects of organizational change processes (e.g., Caldwell et al., 2004; Whelan-Berry et al., 2003). An organization-wide anticipation of change leads to rumors and speculations among employees and their direct colleagues (team members) about the direction and impact of the anticipated change initiatives, and over time, a point of convergence or agreement is achieved from this sensemaking process (George & Jones, 2001). Second, collective emotional CR may emerge in reaction to organizational change activities (Sanchez-Burks & Huy, 2009). Theoretical foundation for this phenomenon can be found in emotional comparison theory (Bartel & Saavedra, 2000) and the concept of emotional contagion (Barsade, 2002). Whereas shared cognitive beliefs are formed via discussions, shared emotional responses develop mostly from nonverbal cues during interpersonal interactions (Barsade, 2002). Specifically in arousing situations (such as an impending organizational change), employees are likely to pick up emotional cues from direct colleagues (Bartel & Saavedra, 2000) and use these cues to label their own feelings. Finally, collective intentional CR is formed when team members interact about their commitment toward the upcoming change activities. Individuals derive their willingness to embark on change activities from the intentions voiced by direct colleagues who are in a similar situation (team members). Via conscious and unconscious processes, the need to conform to group norms synchronizes the intentions of individuals and leads to a convergence toward a collective intentional attitude toward organizational change (Coghlan, 1994). In sum, collective CR is formed as team members collectively exchange information about each other's cognitions, affects, and intentions toward change (Vakola, 2013).

2.4 | Diversity in change readiness

While sometimes collective cognitions and beliefs (i.e., climate level phenomena) may arise and drive groups' responses, it is not always a given that an agreement will emerge at a collective level. When a "majority effect" or alignment cannot be reached, a collective attitude may not emerge as a result of synchronicity in the individual attitudes (Olson & Zanna, 1993). Arguably, the lack of within-group consensus (e.g., about CR) can also influence the functioning of the collective and is best studied through dispersion composition models (Chan, 1998). While teams can achieve agreement (allowing a climate phenomenon to emerge) or disagreement (high dispersion of cognitions and beliefs), many variations in the level of agreement can fall between the full consensus and the lack thereof. Chan (1998) argued that it is crucial to tap into the "degree of within-group consensus of climate perceptions and index the construct using within-group variance or some dispersion measure of individual climate responses" (p. 240). Investigating the degree of within-group variance is key because

> the failure to consider the modality of within-group distributions is probably the primary source of the

> mistaken assumption that at the group level, low agreement of individual responses is the same as high disagreement.
>
> (Chan, 1998, p. 240)

In their seminal work on change readiness, Armenakis et al. (1993) argue for diverging attitudinal responses to organizational change between individuals in groups, proposing that individuals will respond differently to the same message. Research shows that differences in personality and disposition have a strong impact on change responses such as resistance to and readiness for change (Gonzalez et al., 2022; Oreg, 2003). For instance, change recipients may differ in the extent to which they tolerate risk, have a positive self-concept (Gonzalez et al., 2022), are cognitively rigid, or need novelty (Oreg, 2003). Furthermore, research shows that different change histories (Bordia et al., 2011) and different narratives about the change can impact individual sensemaking of change processes (Buchanan & Dawson, 2007). Within teams, these individuals' differences can lead to different interpretations of the same change message and thus to different levels of CR.

The idea of within-group agreement and dispersion indicates the importance of accumulating more empirical evidence scrutinizing the distinct effects of CR as a collective phenomenon when it is presumably derived from a consensus (about the change) or as a form of coexisting divergent attitudes toward the change. Therefore, we advocate that studying the diversity in CR attitudes of the individual team members within the team will have complementary value. To this end, we will first focus on the level of collective CR (i.e., the aggregation of congruent attitudes toward the change) and how it relates to performance. Subsequently, we will explore how diversity in collective CR (i.e., the collective as holding incongruent views) associates with performance.

3 | HYPOTHESES

3.1 | How collective cognitive and emotional CR associate with intentional CR

Building on the multilevel model of CR (Rafferty et al., 2013) and general models on CR (Armenakis et al., 1993), intentions to actively contribute to change are dependent on emotional and cognitive CR. Drawing on Ajzen's (1991) Theory of Planned Behavior, research on CR generally argues that emotional and cognitive CR are drivers of intentional CR; cognitions and emotions are elements of attitudes toward change that determine the behavioral intention toward change (e.g., Piderit, 2000). However, CR theory also proposes that these dimensions of change readiness do not necessarily combine in linear ways when influencing behavioral intentions toward change (Bouckenooghe et al., 2015; Piderit, 2000). Bouckenooghe et al. (2015) argue that different configurations of commitment to change may be the result of combinations of affective and cognitive dimensions of commitment to change. Moreover, Piderit (2000) argues that the combination of cognitive and affective dimensions of change readiness allows for ambivalence in the overall attitude toward change. These configurations of misaligned (i.e., combination of positive and negative) cognitions and emotions are likely to elicit specific behavioral responses in individuals, such as for instance, greater or poorer commitment to and intentions to support the change (Bouckenooghe et al., 2015; Rothman et al., 2017).

Several researchers have suggested that such conflicts in emotions and cognitions also exist in collectives such as teams (e.g., Ashforth et al., 2014; Peters et al., 2011). When groups experience simultaneous cognitions and emotions toward an object and these cognitions and emotions conflict, this indicates collective ambivalence (Ashforth et al., 2014). Change can be an important trigger for collective ambivalence (Ashforth et al., 2014), as a team can, for example, develop shared negative experiences about past changes but also share positive feelings about current or future changes in the organization.

A large body of research has studied the implications of individual-level ambivalence between emotions and cognitions (for reviews, see van Harreveld et al., 2015; Rothman et al., 2017). In general, experiencing ambivalence is found to be unpleasant and discomforting, mainly due to the underlying conflict that arises between simultaneously positive and negative emotions and cognitions. Having to choose between conflicting emotions and cognitions causes feelings of uncertainty and delayed choices; moreover, overthinking these conflicting emotions and cognitions can further amplify the ambivalence (van Harreveld et al., 2015). Larson and Tompkins (2005) found that managers often experience ambivalence in change projects, including feelings of pride about past performance versus beliefs about the necessity of change. This ambivalence was also communicated to followers, creating suspicion and resistance against the change initiatives (Larson & Tompkins, 2005). In teams, conflicting cognitions and emotions may also cause members to feel uncomfortable and insecure about decisions and negotiations that are part of change processes (Peters et al., 2011). Ambivalent shared emotions and cognitions could lead to conflicts and feelings of hesitance about supporting the change or delaying the choice to contribute to the change. We therefore expect that when teams are characterized by ambivalence between the levels of collective emotional CR and cognitive CR, intentional CR will be lower compared with when both the levels of collective emotional CR and cognitive CR are high.

> **Hypothesis 1.** The levels of collective emotional and cognitive CR interact in their association with intentional CR; when the levels of collective cognitive and emotional CR are both high, teams show the highest intentional CR.

3.2 | Level of collective intentional change readiness and team performance

In this study, we argue that the level of collective intentional CR will be positively associated with team performance (Rafferty et al., 2013). Rafferty and Jimmieson (2010) show that when members of teams

collectively experience that they can participate in changes that affect their job, this positively associates with the quality of their working conditions, which are considered an important input for team performance (e.g., Chen & Kanfer, 2006). Moreover, in their study on Cynicism Towards Change (CTC) climate, DeCelles et al. (2013) found that CTC climate in groups positively associates to insubordinate behavior by the group. This indicates that negative attitudes toward change that manifested at the group level have implications for the functioning of the group (i.e., at the group level).

DeCelles et al. (2013) suggest that a CTC climate mobilizes team members to work against their superiors and the change process. Team research shows that positive collective attitudes, including behavioral intentions, also have a strong motivational effect on team members and are essential in promoting individual and team performance (Mathieu et al., 2008). For example, the willingness of a team to undertake activities needed to accommodate an organization-wide change can result in generating a collective "hands-on" mood within the team. A willingness to invest energy into change processes represents a motivation to be proactive (Parker & Turner, 2002), which manifests as a team-level motivation for proactiveness when the team is characterized by a high level of willingness to actively contribute to change processes. Such proactive motivations are critical antecedents to team proactivity (Cai et al., 2019), which in turn is considered as a core indicator of team performance (Griffin et al., 2007). A collective willingness to actively contribute to change is therefore likely to lead to higher team performance through collectively engaging in proactive behaviors.

A collectively shared positive attitude toward contributing to change can also associate to team performance through cohesion and attraction to the group. Because of their cohesiveness, like-minded team members who share similar positive attitudes toward the change (i.e., high collective intentional CR) are also likely to be more aligned about their intentions to support it and ultimately about their commitment to team goals. A greater alignment about team goals and team goals' commitment would imply a higher chance that the goals can be successfully attained, resulting in better team performance (Aubé et al., 2014; Mehta et al., 2009).

Building on the above reasoning and in line with the multilevel framework on CR of Rafferty et al. (2013), which suggests that intentional CR at work group level can increase collective performance, we expect that if team members collectively share a high level of willingness to support the change (i.e., high collective intentional CR), they are likely to demonstrate high collective performance ratings. We hypothesize the following:

> **Hypothesis 2.** The level of collective intentional CR positively associates with leader-rated team performance.

3.3 | Diversity in collective CR and team performance

The arguments regarding Hypothesis 1 are based on the potential conflict between team-level cognitions and emotions about change. In teams, conflicts can also arise between emotions and cognitions of individual team members; for example, some team members can experience positive emotions about change, while others have negative emotions (cf. heterogeneous emotional ambivalence; Peters et al., 2011). Peters et al. (2011) argue that the discomfort resulting from feeling incongruent emotions will instigate less information sharing and less unity in the team. When the congruence between team members with regard to, for instance, CR is poor (i.e., teammates have different degrees of CR even though the level of collective CR may be high), due to the high diversity in CR among team members, the functioning of the team as a collective is likely to be jeopardized. The higher the attitudinal diversity (e.g., regarding CR), the more likely it is that team members will perceive less attraction and congruence with the others, resulting in a reduced joint contribution toward building the team's social capital and resulting in reduced possibilities to benefit from intraindividual mechanisms (Junker et al., 2021).

The literature on deep-level diversity, which includes diversity in teams in terms of personality, values, attitudes, and beliefs (Harrison & Klein, 2007), shows that more deep-level diversity in the team can be detrimental for team performance. A recent meta-analysis of the literature shows that deep-level diversity is negatively related to positive emergent states and positive team processes and leads to more team conflict, resulting in lower team performance (Triana et al., 2021). For example, Pieterse et al. (2011) found that diversity in learning and performance orientation (which engenders task strategies that maximize demonstrating high ability and strategies that maximize the demonstration of high ability, respectively) both associates negatively to task performance. Also, Li et al. (2018) show that emotional diversity (the degree to which team members show similar emotions) negatively impacts information sharing in teams, which in turn impacts team task performance.

Given these findings, we argue that teams characterized by higher levels of diversities in collective emotional and cognitive CR share less information and feel less coherence within the team, which associates with more diversity in intentional CR. Members who show positive emotions and cognitions will be more inclined to contribute to change initiatives compared with members showing more negative emotions and cognitions. Diversity in collective intentional CR will then associate negatively to team performance. Research on diversity related to proactiveness argues that members who are more proactive are likely to become frustrated with more passive members when dealing with change (Zhang et al., 2021) and that proactive members are likely to perceive that they contribute more to the team compared with passive team members, which decreases the chance that change will be implemented (Williams et al., 2010). We therefore propose that

> **Hypothesis 3.** Diversities, that is, dispersion among team members, in collective cognitive CR and collective emotional CR associate positively to diversity in collective intentional CR (3a), and diversity in collective intentional CR negatively associates to leader-rated team performance (3b).

4 | METHOD

4.1 | Sample and procedure

We collected data in 59 teams operating in 11 Dutch organizations. The organizations were approached through contacts of the research team. Organizations include a municipality, a bank, a technical maintenance organization, and several educational institutions. The number of teams participating in each organization ranged from 1 to 23. Only teams characterized by the researchers as work teams were, after approval of the HR department, invited to participate in the study. For this purpose, the definition of work teams of Kozlowski and Bell (2003, p. 334) was used, who characterize teams as

> collectives who exist to perform organizationally relevant tasks, share one or more common goals, interact socially, exhibit task interdependencies, maintain and manage boundaries, and are embedded in an organizational context that sets boundaries, constrains the team, and influences exchanges with other units in the broader entity.

Questionnaires were distributed and collected during team meetings. After respondents completed the questionnaires, the researchers collected the questionnaires and put them in envelopes. Absent respondents later sent the questionnaire to the researchers. The anonymity of the respondents was always emphasized by each researcher prior to completion, stating that there would be no feedback at the team level and that there is no interest in the individual or the team scores but solely in the survey results across multiple teams.

A total of 457 team members were approached, and 366 filled in the questionnaire. This means that the average number of team members was 7.75 ($SD = 4.81$) with a range of 3 to 22 members. The within-team response rates ranged from 50% to 100% with an average of 84.71%, with an average number of respondents per team of 6.20 ($SD = 3.62$) and a range of 3 to 19 respondents. The average age of the respondents was 42.01, and the respondents were evenly distributed with respect to gender as 176 (48.10%) were female and 185 were male (50.50%). Five respondents did not disclose their gender. The majority of the sample followed higher education (71.6%), and most of the respondents had a permanent contract with the organization (72.50%). On average, team members were employed with the organization for about 7.04 years, and they were part of their team for 2.56 years.

4.2 | Measures

4.2.1 | Cognitive, emotional, and intentional change readiness

The three CR variables were measured using the scales developed by Bouckenooghe et al. (2009). Consistent with our theorizing of change readiness as an attitude that is to a large extent accumulated through the individual's change history, we measured change readiness attitudes by tapping into change readiness as employees' accumulated change experiences and beliefs. We asked respondents to answer the items with the most recent organizational change processes in mind. Some examples of these change processes are implementation of Enterprise Resource Planning systems, reorganizations involving reshuffling of responsibilities, and changes in leadership. We slightly changed the items to reflect the most recent change processes they experienced. For emotional CR, an example item was "I have a good feeling about the change projects." For cognitive CR, we asked "Most change projects that are supposed to solve problems around here will not do much good," and for intentional CR, we included the item "I am willing to make a significant contribution to the change projects." Note that in several of the items, the wording included "the majority of changes …" or "most changes …," indicating that even though the current change context may co-shape employees change attitudes, its role is also limited, because of the broader and more dynamic way change attitudes are formed. The answer categories ranged from *totally disagree* (1) to *totally agree* (5). The items used for cognitive CR were recoded to change the negative wording into a comparable score to the other CR dimensions. All three variables showed sufficient reliability; for emotional CR, the alpha was .84, for cognitive CR, the alpha was .77, and for intentional CR, the alpha was .94.

We tested the distinctiveness of the three variables of CR by conducting a Confirmatory Factor Analysis in Mplus 8.6 (Muthén & Muthén, 1998-2017). As expected, the three-factor model in which the three variables load on separate factors showed a superior fit ($\chi2 = 37.13$, $df = 24$, $p = .042$; CFI = 0.99, TLI = 0.99, RMSEA = 0.038, SRMR = 0.025) compared with a single factor model ($\chi2 = 671.06$, $df = 27$, $p = .000$; CFI = 0.68, TLI = 0.58, RMSEA = 0.25, SRMR = 0.16) and a two-factor model in which emotional and intentional CR loaded on the same latent factor with cognitive CR loading on the other factor ($\chi2 = 421.57$, $df = 26$, $p = .000$; CFI = 0.80, TLI = 0.73, RMSEA = 0.19, SRMR = 0.13). Additionally, we tested a model in which cognitive and emotional CR loaded on one single latent factor and intentional CR loaded on a separate factor, but this model also showed a poor fit with the data ($\chi2 = 179.50$, $df = 26$, $p = .000$; CFI = 0.92, TLI = 0.89, RMSEA = 0.12, SRMR = 0.06). These results confirm the use of three separate variables of CR.

Following recommendations of Harrison and Klein (2007), we used the standard deviation (*SD*) as an indicator of diversity in collective CR. Harrison and Klein argue that for operationalizations of diversity as separation (referring to diversity in terms of attitudes, feelings, etc.), researchers should use the *SD* because of the symmetric nature of the construct. For each team, we therefore calculated the *SD* of all three CR variables, which range from 0 to 1.17 for cognitive CR, 0 to 1.25 for emotional CR, and 0 to 1.50 for intentional CR.

4.2.2 | Team performance

Team performance was rated by immediate team leaders using the scale developed by Rousseau and Aubé (2010). Team performance

was assessed on the basis of five indicators of team performance: (a) achievement of performance goals, (b) productivity (quantity of work), (c) quality of work accomplished, (d) respect for deadlines, and (e) respect for costs. Team leaders were asked to assess the current performance of the team using a 5-point scale ranging from *low* (1) to *high* (5).[1] The measure showed sufficient reliability ($\alpha = .81$).

Team size was used as a control variable, as in larger teams, it is more difficult to share information and develop shared states such as collective change readiness (e.g., Rafferty & Jimmieson, 2010).

4.3 | Analyses

We used OLS-regression analyses to test our team-level hypotheses. In line with team-level research (DeChurch & Mesmer-Magnus, 2010), we enter the mean and diversity measures of our CR variables at the same time to control for diversity and mean levels, respectively. We ran three sets of regressions: one with the level of collective intentional CR as the dependent variable (DV), one with diversity of collective intentional CR as the DV, and one with leader-rated team performance as the DV. In the first regression, we first we entered our control variables team size and the *SD* of collective intentional CR. In step 2, to test Hypothesis 1, we entered the mean and *SD* of emotional and cognitive CR, as well as the interaction term composed of the centered means of collective emotional and cognitive CR. In the second regression, we first we entered our control variables team size and the mean of collective intentional CR. In step 2, we entered the mean and *SD* of emotional and cognitive CR to test Hypothesis 3a. In the third regression, we added team size and the means and *SD*s of all the three CR variables to test Hypotheses 2 and 3b.

4.4 | Results

4.4.1 | Descriptives

Table 1 provides an overview of the intraclass correlations (ICC), interrater agreement ($Rwg_{(j)}$), means, *SD*s, and first-order correlations of all variables used in Study 1. The ICC represents the extent to which the ratings of the team member is affected by team membership (Lebreton & Senter, 2008), indicating the proportion of variance in the ratings of CR that is due to team membership. To assess the level of agreement between team members, we calculated the $Rwg_{(j)}$, which represents the comparison of the observed variance of the team members' ratings of CR to the expected variance when team members respond randomly (Lebreton & Senter, 2008). To argue for aggregation of the individual ratings of CR to the team level, we used a threshold of 0.80. For cognitive CR, the ICC is .17, indicating that a relevant part of the variation in cognitive CR is due to team membership. The median $Rwg_{(j)}$ for cognitive CR is 0.88, which signals a strong agreement among team members (Lebreton & Senter, 2008). For emotional CR, the ICC is .06, which still signals meaningful variance explained by team membership. The median $Rwg_{(j)}$ for emotional CR is 0.87, which indicates strong agreement. Finally, the ICC of intentional CR is .05, suggesting meaningful variance due to team membership, and the median $Rwg_{(j)}$ is 0.91 which indicates strong agreement among team members.

4.4.2 | Hypothesis tests

Table 2 presents the results of the regressions used to test Hypotheses 1 to 3. We excluded team size because this variable did not impact the results. Hypothesis 1 predicted that the levels of collective emotional and cognitive CR interact in their association with intentional CR. The results show that the interaction between the levels of collective emotional and cognitive CR is significant ($B = .51$, SE = 0.22, $p < .05$, 95% CI [0.05, 0.96]). Figure 2 plots the interaction with one *SD* below and one *SD* above the mean. Inspection of the slopes shows that the association between the levels of collective emotional CR and collective intentional *SD* is significant when the level of collective cognitive CR is high ($B = .72$, SE = 0.16, $p < .001$, 95% CI [0.39, 1.05]) but not at low levels of collective cognitive CR ($B = .31$, SE = 0.16, $p = .06$, 95% CI [−0.01, 0.64]). Moreover, the level of collective intentional CR is the highest when the levels of collective emotional and cognitive CR are high, which supports Hypothesis 1.

Hypothesis 2 proposed that the level of collective intentional CR positively associates with leader-rated team performance. Table 2 shows that the level of collective intentional CR ($B = .06$, SE = 0.27, $p = .81$, 95% CI [−0.47, 0.61]) is not significantly related to team performance, which does not support Hypothesis 2.

Hypothesis 3 focuses on diversity in collective CR and proposes that diversities in collective cognitive CR and collective emotional CR associate positively to diversity in collective intentional CR (Hypothesis 3a) and that diversity in collective intentional CR negatively associates to leader-rated team performance (Hypothesis 3b). We do not find a relationship between diversity in collective emotional CR ($B = .18$, SE = 0.11, $p = .10$, 95% CI [−0.04, 0.41]) nor diversity in collective cognitive CR ($B = .14$, SE = 0.13, $p = .29$, 95% CI [−0.12, 0.41]) with diversity in collective intentional CR.[2] Therefore, Hypothesis 3a is not supported. Finally, the results do show a significant and negative relation between diversity in collective intentional CR and team performance ($B = -.83$, SE = 0.28, $p < .01$, 95% CI [−1.39, −0.27]), suggesting that more diversity in

[1] To assess the validity of the team performance measure, we used evaluations of team performance as reported by the members of the team. We used a slightly adapted version of the scale by Rousseau and Aubé (2010), which shows sufficient reliability ($\alpha = .86$). The ICC (.31) and median $Rwg_{(j)}$ (0.93) values signal sufficient agreement among team members to warrant aggregation to the team level. The correlation between the team-level self-rated evaluation of team performance (mean = 3.79, *SD* = 0.29) and leader-rated team performance (mean = 3.84, *SD* = .48), the Pearson correlation, is .523 ($p < .001$). This correlation can be considered a large effect size, particularly in the context of group research (Lovakov & Agadullina, 2021).

[2] In line with Hypothesis 1, we also tested if diversities in emotional CR and cognitive CR interact in their association with diversity in intentional CR. Therefore, we added an interaction term of the centered diversity in emotional CR and cognitive CR to the regression model for diversity in intentional CR. The results show that the interaction is not significant ($B = .59$, SE = 0.45, $p = .19$).

TABLE 1 Descriptive statistics of the main variables of study 1.

	ICC	$Rwg_{(j)}$ median	Mean	*SD*	1	2	3	4	5	6	7	8
1. Team size	—	—	7.75	4.81	—	−.07	.02	.05	.07	.09	.20	−.02
2. Cognitive CR	.17	0.88	3.76	0.39	—	—	.74**	.46**	−.39**	−.14	.18	.10
3. Emotional CR	.06	0.87	3.67	0.34	—	.52**	—	.65**	−.27**	−.32**	−.04	.02
4. Intentional CR	.05	0.92	4.18	0.30	—	.29**	.51**	—	−.13	−.27*	−.20	.10
5. Cognitive CR diversity	—	—	0.52	0.24	—	—	—	—	—	.21	.05	.20
6. Emotional CR diversity	—	—	0.56	0.28	—	—	—	—	—	—	.29*	.00
7. Intentional CR diversity	—	—	0.50	0.24	—	—	—	—	—	—	—	−.27*
8. Team performance	—	—	3.84	0.48	—	—	—	—	—	—	—	—

Note: Correlations below the diagonal represent individual-level correlations, and correlations above the diagonal represent group-level correlations.
Abbreviation: CR, change readiness.
*p < .05, and **p < .01.

TABLE 2 Regressions for hypothesis tests.

	Intentional CR level		Intentional CR diversity		Team performance		
Intercept	4.44 (0.12)**	4.15 (0.11)**	0.91 (0.42)*	0.34 (0.49)	4.12 (0.14)**	3.89 (0.20)**	2.70 (1.00)**
Intentional CR diversity	−0.16 (0.16)	−0.12 (0.14)			−0.56 (0.26)*	−0.62 (0.27)*	−0.83 (0.28)**
Cognitive CR diversity	−0.10 (0.16)	0.11 (0.13)		0.14 (0.13)		0.44 (0.26)***	0.71 (0.27)*
Emotional CR diversity	−0.23 (0.14)	−0.04 (0.11)		0.18 (0.11)		0.05 (0.23)	0.05 (0.23)
Intentional CR level			−0.22 (0.13)***	−0.18 (0.13)	0.08 (0.21)		0.06 (0.27)
Cognitive CR level		0.06 (0.12)	0.29 (0.11)*	0.26 (0.12)*			0.62 (0.25)*
Emotional CR level		0.51 (0.13)**	−0.16 (0.15)	−0.07 (0.15)			−0.40 (0.31)
Cognitive CR level × emotional CR level		0.51 (0.22)*					
R^2 adjusted	.05	.51	.11	.19	.05	.08	.23
F	1.98	9.03**	3.43*	2.50*	2.34***	2.67*	2.60*

Abbreviation: CR, change readiness.
*p < .05, **p < .01, and ***p < .10.

collective intentional CR negatively associates to leader-rated team performance, supporting Hypothesis 3b.[3]

5 | DISCUSSION

In this paper, we examined (a) the interplay between collective emotional and cognitive CR in its relation to collective intentional CR and (b) the association between the level of and diversity in collective CR and team performance. We distinguished between three dimensions of change readiness: cognitive, emotional, and intentional change readiness. Drawing on CR theory (e.g., Armenakis et al., 1993; Piderit, 2000) and multilevel frameworks of CR (e.g., Rafferty et al., 2013; Schwarz & Bouckenooghe, 2018) as our main theoretical lenses, we found that when the levels of collective emotional and cognitive CR are both high, collective intentional CR is higher compared with when there is ambivalence between the two dimensions of collective CR. The level of collective intentional CR, in turn, does not associate with leader-rated team performance. Diversity in intentional CR does associate with team performance; more diversity in intentional CR in the team is negatively related to leader-rated team performance.

5.1 | Theoretical implications

Change readiness in teams remains a relatively new and unexplored field within the study of organizational change. Although the

[3]To test the extent to which the CR variables explain unique variance in leader-rated team performance, we ran additional regressions with three team-level variables that are found to be important predictors to team performance: team identification (Van Der Vegt et al., 2003), team goal commitment (Aubé & Rousseau, 2005), and prosocial motivation (Hu & Liden, 2015). All three variables showed sufficient reliability and met the criteria for aggregation to the team level. The results of the analyses show that the CR variables explain significant additional variance in leader-rated performance and that the results with respect to Hypotheses 2 and 3 are robust.

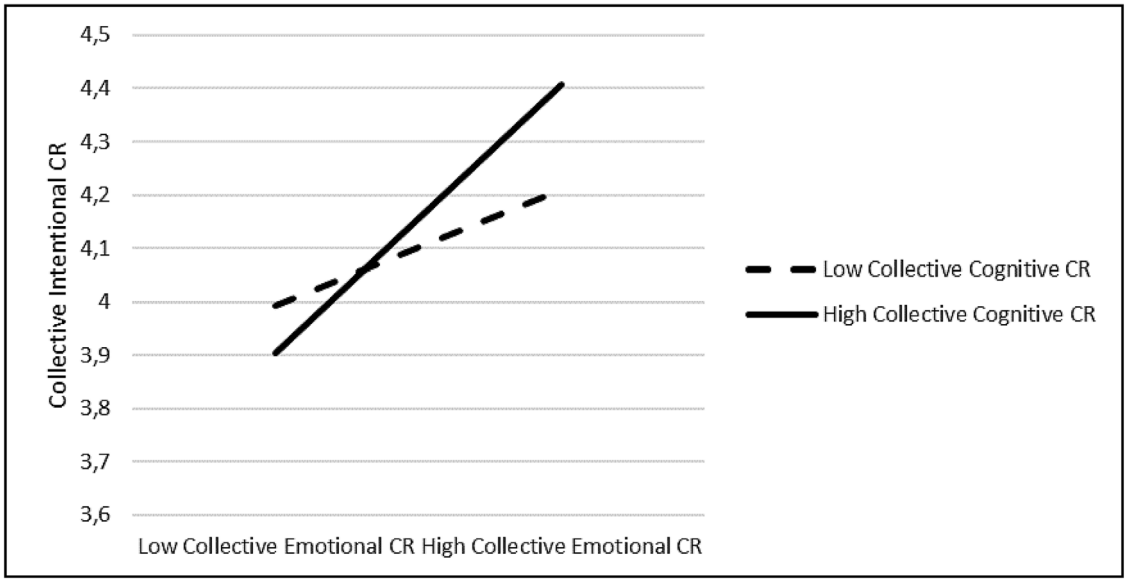

FIGURE 2 Interaction between collective emotional CR and collective cognitive CR.

importance of teams and work groups in organizational change processes is clear (e.g., Rafferty et al., 2013; Whelan-Berry et al., 2003), little theoretical and empirical research attempted to unpack how CR in teams associates with team and individual outcomes. In this paper, we argue that although CR can become shared to some extent, individual dispositions, history, and perceptions shape individual CR, which therefore may differ from team average CR (Oreg et al., 2011; Rafferty et al., 2013; Vakola, 2013). Moreover, drawing on postmodern views on organizational change, we argue that individual change recipients may be able to construct their own independent perceptions of change processes and procedures (e.g., Buchanan & Dawson, 2007). This does not imply that the level of collective CR does not play an important role and does not deserve research attention. In fact, we build on Bouckenooghe et al. (2019) to argue that team-level outcomes are associated with levels of collective CR as well as diversity in CR.

Our study corroborated some of the theoretical propositions that were already put forward by CR scholars (e.g., Piderit, 2000; Rafferty et al., 2013). Yet, we also provided more insights and a novel angle, as our results supported some of our hypotheses but also revealed some less evident findings. First, our expectations that the level of collective intentional CR is the highest when both the levels of collective emotional and cognitive CR are high were confirmed. Yet, even some loss in collective-level (of either) emotional or cognitive CR associated with a distinct drop in the level of collective intentional CR, a result that demonstrates the erosive working of attitudinal ambivalence at collective level. This suggests that ambivalence, as posed by change theory (Piderit, 2000), in change attitudes also exist at the team level. As such, our finding that the ambivalence in emotional and cognitive collective change attitudes can hinder collective intentional CR extends the multilevel model of CR, which until now only argued for direct effects of collective emotional and cognitive CR on change outcomes (e.g., Rafferty et al., 2013; Schwarz & Bouckenooghe, 2018). By showing that collective emotional and cognitive CR are intertwined, we challenge earlier linear assumptions that these two types of CR have each only a unique and independent working on employee and organizational outcomes. However, more research is necessary to further unravel this collective ambivalence. For example, Stevens (2013) suggests that emotions and cognitions evolve dynamically over time, which could suggest that ambivalence can also vary over time.

Despite our theoretical reasoning and expectations, we found no evidence that the level of collective intentional CR in teams can associate with leader-rated team performance. This indicates that the direct association between CR and team performance as proposed by, for example, Rafferty et al. (2013) is more complex. First, contextual and group factors may condition the relationship between collective intentional CR and team performance. Rafferty et al. (2013) identified antecedents at work group level (e.g., internal context enablers and group characteristics) that could predict the CR of the team. It is though possible that some of these antecedents can, in fact, also interact with the intentions of the team to support the change, thereby co-shaping team performance. For instance, the team may be willing to support the change, but if communication and leadership processes are not adequately attuned to the needs of the team and to the specific nature of change, this may perturb their motivation and performance. How organizations involve employees and teams is set to depend greatly on the characteristics of the change process (Stouten et al., 2018). Hence, the unique nature of the change and the characteristics of the change process could be key to the way the collective intentional CR will affect the team's performance. Finally, team performance appears to be more related to the extent to which team members develop similar CR intentions. Less diversity in intentional CR is positively related to leader-rated team performance, which

suggests that not the level of intentional CR, but the extent to which intentional CR is similar, regardless of level, positively associates with team performance. The similarity itself may already be enough to motivate the team to perform.

Having team members with varying intentional CR seems to reduce the joint, in some cases small, contributions to the change projects, whereby decreasing team performance. As such, this finding has important theoretical implications for collective-level CR theory. First, it emphasizes the need to consider CR in teams as a climate level construct in conjunction with the dispersion approach. Research and theory on individual change attitudes (e.g., Armenakis et al., 1993; Oreg et al., 2011) stress that sensemaking of organizational change is highly individual. To understand team-level CR, research and theory also need to incorporate the potentially different dispositions, histories, and interests that impact how change recipients interpret organizational change and coexist in teams. In many teams, individual differences can only be consolidated to some extent, which means that on the team level, there may be limits to the consensus that can be developed in teams. More research is needed to more thoroughly understand when and how these individual interpretations align and how this alignment together with the remaining misalignment emergence of CR in teams can interact in predicting team outcomes.

The diversity in CR also raises the question about the impact of individual differences in CR on individual outcomes. As presented in our theoretical section, in teams, individual members may form different attitudes and intentions to contribute to the change process compared with the rest of the team. As these individual members are nested within teams, they are likely to be aware of the intentions and dispositions of the others and, in some way, try to factor in this knowledge in their own attitudes and behaviors. More research is, however, needed to unravel how and when this incongruence associates to different individual-level outcomes. For example, the structure of the team could co-shape the impact of individual CR on team-level outcomes, whereby more influential team members could have a disproportionately larger impact compared with less impactful members.

5.2 | Suggestions for practice

Our findings also raise several suggestions for teams and team leaders about how to manage change readiness within teams. The association between collective emotional and cognitive CR suggests that how individual team members and teams are informed about the goals and process of the change project can associate positively to intentional CR. Aligning positive emotional responses to change and beliefs about the change associates positively with the willingness of teams to contribute and put energy in change projects. Emotions are difficult to alter and they require acknowledgment and respect in order to engage employees with the organizational change process (Smollan & Sayers, 2009). Investing in dialogs with employees may help to align their emotions about the change process with the rest of the team, which will require a climate of psychological safety to share thoughts about the change process. The main goal of these discussions should focus on signaling the main problems but also the main motives for positive emotions about the change in order to create a better understanding in the team about the emotions attached to the change process. This dialog also helps to create an understanding about why some team members will commit to the change, while others are less intended to invest energy in the change process. For practical advice on communicating about the process and intentions of organizational change, see a study by Lewis et al. (2006).

Moreover, our research suggests that diversity between individual team members' intentional CR negatively associates with team performance. Facilitating the exchange of personal goals and interests will help to align intentions (Jabri, 2015), although it could be necessary to assign team members with divergent interests to other tasks within the change process or tasks not related to the change process. Instead of aiming for similarity in how the outcomes of the change are perceived, it may be beneficial to make use of diverse intentions to contribute to CR, by facilitating dialog between team members about how the change process can lead to positive outcomes. Recognizing different standings on change can help to improve decision making in the team, which can facilitate better team performance in the longer term (Nemeth & Goncalo, 2011).

5.3 | Limitations and recommendations for future research

This paper has several strengths that increase the validity and reliability of the conclusions. We use multiple organizations, validated scales to measure our variables, and use different raters to avoid issues with common method bias (Podsakoff et al., 2003). The study also has several limitations. First, we use a cross-sectional research design, which limits the extent to which we can draw causal conclusions. Future research could focus on determinants and processes underlying the emergence of collective CR to further unpack when and how collective CR develops and influences team outcomes. Rafferty et al. (2013) and Bouckenooghe et al. (2019), among others, suggest mechanisms including task interdependence and social networks that accommodate the social interactions underlying similarity in collective CR in groups and teams. Moreover, future research could include conditions under which collective CR impacts team outcomes. For instance, job insecurity experiences, which can also give a rise to insecurity climate, often accompany organizational changes. Such experiences at both individual and collective levels can affect employees' readiness to change and can also interact with CR, thereby negatively impacting team performance (Nikolova et al., 2022).

Also, one could raise a concern that performance ratings may be tainted by supervisor's assessment of the team's change attitudes. In the current paper to assess performance, we used data obtained from two sources—team members own and supervisory ratings. The relatively high agreement between the two ratings provides an argument

for the validity of the leader-rated performance as being reasonably objective and independent from the leader's assessment of the team's change attitudes. Yet, future studies could provide more robust evidence about the link between collective CR and performance by incorporating more objective measures of performance (e.g., achieved measurable targets) alleviating altogether concerns about assessment contamination due to attitudinal measurements.

Finally, using multiple sources might be valuable in gaining clearer understanding about the change event that take place and how change occurs in teams. Exploring the effects that the type of change and the way change emerges and evolves in teams has on individual and team outcomes could be a logical next step for future research to take. Although the fact that this study is conducted in multiple organizations can be considered a strength, research on one specific organizational context could isolate the effect of specific organizational change events in explaining why and how teams and individuals develop CR. Furthermore, future research avenues might extend the current study by incorporating measures about the change implementation characteristics as well as the change memory and the individuals' resilience and change-related efficacy as potential confounders of CR and its outcomes.

6 | CONCLUSION

In this study, we contribute to the literature on collective change readiness by examining the level of collective CR but also the diversity in collective CR and how these level and diversity associate to team performance. On the basis of our results, we show that there is still more variance explained in CR by the individual compared with the team and that emotional and cognitive collective CR interact in their association with collective intentional CR. Moreover, diversity in collective CR is a critical aspect of CR that is likely to associate with team outcomes in a negative way, which urges for more research on how diversity in collective CR can be managed. In conclusion, collective CR is a complex, multidimensional construct with important implications for team outcomes.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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