Team Membership Change and Team Effectiveness: The Role of Informational Attributes

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Abstract
This study examined the impact of informational attributes of team membership change on affective emergent states and team effectiveness, and how members’ emotional intelligence (EI) shapes this impact. Results from two laboratory studies showed that change predictability and rationality affected team potency and identification. These emergent states had unique effects on team effectiveness over and above the effects of team process. Results also showed that members’ EI moderated the effects of change predictability and rationality. These findings emphasize the importance of membership change attributes, affective emergent states, and team composition in determining team effectiveness after a membership change.

Keywords
team membership change, team performance, team potency, team identification, emotional intelligence

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One of the most striking changes in organizations today is the agile boundaries of work groups and teams. Unlike traditional teams with a defined set of employees, today’s work teams exhibit great fluidity, and workers now move across the boundaries more freely and frequently than ever before (Tannenbaum et al., 2012). Accordingly, there has been a growing scholarly interest in understanding the effects of team membership change (i.e., one or more team members leave a team and others join from outside of the team). Prior studies, for instance, have investigated the effects of membership change on team task processes (e.g., Edmondson et al., 2001; Stuart & Moore, 2017), member coordination and interaction (e.g., Hirst, 2009; Summers et al., 2012), cognitive states (e.g., Argote et al., 2018; Choi & Thompson, 2005; Gorman et al., 2012; Levine et al., 2003), and team performance (see Li & van Knippenberg, 2021 for a review).

Although these studies have served to advance our understanding of team membership change, there remains much to be learned. First, prior studies have shown mixed results of the effects of membership change: findings from these studies suggest that membership change may have both positive and negative implications. For example, membership change has been found to have a negative impact on team effectiveness because it can disrupt important team processes such as transactive memory systems (Lewis et al., 2007) and task coordination (Summers et al., 2012). Other studies, however, have suggested that membership change may make teams work better by initiating and encouraging desirable team processes, such as new idea generation (Choi & Thompson, 2005; Levine et al., 2003). These mixed findings suggest that more research is needed on the specific aspects of membership change that may account for differential outcomes. Second, prior research has focused on how membership change impacts task-related, behavioral team processes such as team planning and coordination (Lewis et al., 2007; Summers et al., 2012), while paying relatively little attention to the potential implications for affective emergent states. Team emergent states, defined as shared attitudes, feelings, and motivations that team members jointly experience at a given point in time (Marks et al., 2001), have been identified as important factors that influence team functioning and make a unique contribution beyond the effects of task-relevant processes (e.g., LePine & Van Dyne, 1998). Given that change recipients’ affective reactions determine how well they adapt to a change (Oreg et al., 2011), the behavior-focused view of team membership change may not present a complete picture of how teams manage their flexible and agile boundaries.

The current study aims to examine several important aspects of team membership change that may influence teams’ affective emergent states and ultimately team effectiveness. In doing so, this research makes several
important contributions to the team membership change and team dynamics literatures. First, drawing on uncertainty reduction theory (Berger & Calabrese, 1975), which has been used mainly in the organizational change and communication literatures, we suggest two informational attributes of membership change (i.e., predictability and rationality of change) as key determinants of team effectiveness after membership change. Our aim is to not only shed new light on how different aspects of membership change impact team effectiveness, but also to demonstrate the potential utility of applying organizational change theories to the study of team membership change.

Second, we advance knowledge about team membership change by examining unexplored pathways of its effects on team effectiveness. Following a membership change, we suggest that the affective emergent states (i.e., team potency and identification) that are developed will serve as important intervening mechanisms of how the two change attributes influence team performance and satisfaction. To address potential endogeneity concerns, we measure the team affective emergent states and outcomes both before and after the change in team membership, thus allowing us control for the pre-change levels of these variables in our models. Moreover, to capture the unique contribution of the affective states, we controlled for the effect of flux in coordination, which has been found to be an important task-related team process in the context of team membership change (e.g., Summers et al., 2012).

Finally, we highlight the importance of team members’ emotional intelligence (EI) as a compositional factor that moderates the effects of the two change attributes on the team affective emergent states and outcomes. Prior studies suggest that team members’ EI can be an important team characteristic, especially in uncertain environments (e.g., Huy, 1999; Vakola et al., 2004). Therefore, we propose that team members’ EI provides a buffer against a disruptive membership change and decreases the importance of the two uncertainty-reducing change features.

**Theory and Hypotheses**

**Affective Reactions to Change**

Various events that occur in organizations cause immediate affective consequences for employees, which in turn influence their workplace attitudes and behaviors (Weiss & Cropanzano, 1996). Team membership change can be viewed as an affective event that provokes diverse affective reactions from team members. Following a membership change event, team members may
experience considerable uncertainty in their tasks and relationships within their team. This is particularly pronounced in teams that work in close collaboration, as team membership change can alter the teams’ role structures, workflows, and coordination patterns (Summers et al., 2012), thereby increasing uncertainty surrounding the teams’ tasks and work processes. Even if the membership change does not significantly affect task coordination, it can still create an uncertain interpersonal environment. Team members may become less familiar with one another (Goodman & Leyden, 1991), which can lead to uncertainty about how others will behave (Moreland & Levine, 2002). This can result in changes to interaction patterns and communication systems within the team (Gorman et al., 2012; Li & van Knippenberg, 2021). The disruption in these key elements of team functioning can lead to psychological uncertainty, which may prompt affective reactions such as anxiety, stress or strain, perceived lack of control, and affective resistance against change (e.g., Oreg, 2006; Raghunathan & Pham, 1999; Schweiger & Denisi, 1991).

Uncertainty reduction theory (Berger & Calabrese, 1975) posits that when people are faced with the unfamiliarity and uncertainty surrounding a new context, they are motivated to reduce it by seeking relevant information. According to uncertainty reduction theory, people try to obtain predictive information (i.e., predictability) that allows them to anticipate what will happen next (Berger, 1987; Berger & Calabrese, 1975). The theory also suggests that when they are not able to reduce uncertainty by predicting, people seek explanations that help them to understand why certain things have occurred (i.e., rationality). Further, the perceived uncertainty influences how people think, feel, focus, and react (Berger & Calabrese, 1975). The sensemaking literature also supports this idea, suggesting that individuals and groups seek explanations when they encounter uncertain, ambiguous, and surprising events (Maitlis, 2005; Weick, 1995). They strive to clarify and evaluate what is happening, how the events will affect them, and what actions they should take (Weick et al., 2005). This interpretation, furthermore, significantly influences their responses and reactions toward events and circumstances (Balogun et al., 2015; Huy et al., 2014).

Building on uncertainty reduction theory and the sensemaking literature, we propose two informational attributes of membership change as key determinants of team members’ affective reactions. Specifically, we suggest that information about when and how the membership change will occur (predictability of change) and why the change is necessary (rationality of change) are two important informational features of team membership change. Based on information they have about a membership change event, team members evaluate the change and its implications for their team, which provokes their affective reactions. In the current study, therefore, we examine the roles of
the two uncertainty-reducing factors as important change characteristics shaping team members’ affective reactions after they experience a team membership change event.

**Team Emergent States as Affective Reactions of Membership Change**

In this study, we focus on team potency and identification as important emergent states for team functioning after a membership change. Team potency is defined as team members’ shared beliefs about their collective capabilities and effectiveness across tasks and contexts (Gully et al., 2002). Team identification reflects team members’ sense of unity with other members and their perception of belongingness to the team (Ashforth & Mael, 1989). Although team identification was originally defined as an individual-level construct, subsequent studies have demonstrated that collective team identification can serve as an important team-level emergent state (e.g., Bezrukova et al., 2009; Van Der Vegt & Bunderson, 2005). Prior research suggests that team emergent states can be classified into two types depending on the extent to which they reflect either how the members think about their tasks and their ability to perform the tasks, or how the members feel about their team and its members (Courtright et al., 2015). By examining team potency and team identification, therefore, we are able to capture both of these dimensions.

Prior research has also shown that these two emergent states play an important role in team functioning and that they are positively associated with a variety of team outcomes. A meta-analytic study by Gully et al. (2002), for instance, showed that team efficacy and potency are significantly related to team performance and that the effects are stronger at the team-level than at the individual-level. Similarly, research has shown that team identification relates to workplace behaviors, team satisfaction, and team performance (e.g., Van Der Vegt & Bunderson, 2005). Although both team potency and team identification have been thoroughly studied, to our knowledge they have not been examined in the context of team membership change. Theory suggests, however, that they may be particularly relevant for team functioning in the face of membership change. The organizational change literature, for instance, has shown that affective states, such as change efficacy and trust in colleagues, are important for overcoming the obstacles from change and for implementing the change successfully (Oreg et al., 2011). In a similar vein, affective emergent states, especially team potency and identification, may serve to enrich our understanding of how team membership change impacts team functioning.
**Predictability and Team Emergent States.** The effects of membership change should vary depending on the predictability of the change (Arrow & McGrath, 1995). The accurate prediction of a membership change allows team members to prepare for the change, enabling them to anticipate potential problems, take proper precautions, and establish adequate coping strategies for the change. Therefore, a predictable membership change is more likely to be routinized, which can prevent disruptions to the teams’ patterns (Arrow & McGrath, 1995).

Relatedly, changes that are more predictable should also reduce team members’ actual and perceived loss of valuable resources following the member change. Each team member has their own abilities, skills, and resources that are important building blocks of team capabilities. In this regard, membership change can be perceived as a loss of the valuable assets that are necessary for performing team tasks. When the change is predictable, however, team members can prevent disruption by transferring individual assets and resources to the teams’ shared resources. When team members can anticipate the future change and believe that they are prepared for it, therefore, the loss is likely to be less salient. Moreover, when team members are able to anticipate the future change, they can imagine what will occur, what they need to provide for the expected change, and what they will additionally do after the change. The provision of team tasks and processes contributes toward team members’ rapid and effective adaptations to changed team tasks, goals, and processes. The understanding of dynamic work processes, in turn, facilitates the development of confidence in the team’s capabilities (Hu & Liden, 2011).

We also argue that change predictability can influence team identification after a membership change. When the change is predictable, members can develop expectations and strategies for dynamic interaction patterns after the change. They can clarify team goals and tasks as well as address important interpersonal issues, such as supporting new members’ adaptation and fostering effective collaboration with them. In addition, change predictability is likely to lessen the psychological strain that may arise from the uncertainty and uncontrollability of the event (Schweiger & Denisi, 1991). When team members suffer from stress and emotional exhaustion from an unpredictable member change, however, they become more self-focused or self-interested and less team-focused or altruistic (J. E. Driskell et al., 1999), which may reduce social behaviors and increase relational problems within the team (Croppanzano et al., 2003). The result may be a deterioration of relationships among team members and a reduction in team identification. In this sense, predictability of change may help to buffer against these effects and thus positively impact team identification.
**Hypothesis 1:** Predictability of change is positively associated with (a) team potency and (b) team identification following a team membership change.

**Rationality and Team Emergent States.** According to uncertainty reduction theory (Berger & Calabrese, 1975), predictive certainty is “the first sense of uncertainty reduction” (p. 101) that individuals attempt to achieve when they experience a particular event. On the other hand, because it is more difficult and time-consuming to reduce explanatory uncertainty (Berger et al., 1976), people often address it as a secondary consideration (Berger, 1987). The sensemaking literature also suggests that people seek to make sense of their situations when they encounter novel and surprising events (Maitlis, 2005; Weick, 1995; Weick et al., 2005), and their affective reactions are intertwined with their evaluations of the events (Balogun et al., 2015; Huy et al., 2014). Consistent with this theoretical proposition, we argue that when a membership change is unpredictable, the provision of a clear rationale for the change may serve to enhance team potency and team identification in the wake of the change. When provided with a clear rationale for the change, team members can focus on their core taskwork and should experience less distraction, as dealing with environmental uncertainty consumes a considerable amount of time and effort. McAllister (1995), for instance, found that employees in an uncertain situation exhibit behaviors irrelevant to their core tasks, such as monitoring the environment and defending their behaviors. When team members are distracted and experience work inefficiencies, they expect lowered performance and feel less confident in the capability of the team (Gist & Mitchell, 1992). Moreover, with a firm rationale about the change event, individuals are more likely to accept the change (Wanberg & Banas, 2000) and try to take advantage of the situation. Therefore, rationality of change can contribute to a collective sense of potency by preventing the unnecessary diversion of cognitive and affective resources.

Similarly, we expect that rationality of membership change helps to develop collective identification within a team after the change. Team members who appreciate why the change is necessary and beneficial to their team can handle interpersonal issues better than those who are more uncertain. High levels of uncertainty from the lack of understanding about means-end relationships increase anxiety and stress (Gudykunst, 1993), which can undermine relationship quality among team members. The causal uncertainty also can increase team members’ cognitive loads and emotional burdens (T. Driskell et al., 2015), causing them to experience difficulties in focusing on interpersonal issues and ultimately solving them. Moreover, understanding the rationale behind the need for change makes the team members more
accepting of the newly constructed team and its new members. With a clear understanding of why they need each other, the new team members can be integrated more easily and build a stronger collective identity.

*Hypothesis 2*: Rationality of change is positively associated with (a) team potency and (b) team identification following an unpredictable team membership change.

**The Moderating Effect of Emotional Intelligence**

This study examines team members’ EI as an important compositional characteristic that moderates the effects of the two change attributes. Specifically, we posit that low (high) levels of EI serves to accentuate (attenuate) the detrimental effects of highly uncertain membership change and increases (decreases) the importance of change predictability and rationality. EI refers to the ability to understand and regulate one’s own emotions, perceive and monitor others’ emotions, and use the emotional information to promote desirable reasoning and behaviors (Salovey & Mayer, 1990). Prior studies have demonstrated that average levels of team members’ EI are team-level resources that increase team effectiveness (e.g., Jordan, Ashkanasy, Härtel, & Hooper, 2002; Jordan & Troth, 2004).

Moreover, EI has been suggested to be particularly important in uncertain situations (George, 2000) because the more ambiguous and obscure the situation is, the more influence emotions or affective states have on people’s cognition, judgment, attention focus, decisions, and behaviors (Fiedler, 1991). Huy (1999), for instance, proposed that emotional capabilities significantly influence the way employees respond to, are committed to, and learn from organizational changes that are likely to evoke strong emotional reactions. Similarly, Jordan, Ashkanasy, and Hartel (2002) proposed that employees’ emotional intelligence shaped their coping strategies when faced with job insecurity and the resulting stress and anxiety. Teams’ emotional capabilities, accordingly, are likely to have the potential to influence the relationship between the uncertainty-reducing change features and team members’ affective reactions because uncertain changes often require high levels of emotional awareness and regulation.

Team members with low EI are more vulnerable to situational uncertainty, which makes the positive effects of predictability and rationality more prominent. They are less capable of evaluating why they feel certain emotions and the consequences of their emotional expressions (Salovey & Mayer, 1990). Moreover, they are less equipped to control, manage, and redirect their emotions as well as others’ emotions (Law et al., 2004; Salovey & Mayer, 1990).
Accordingly, their affective experiences are highly contingent upon and shaped by their circumstances and situations. Unexpected and uncertain membership change can cause team members to deal with unprepared difficulties such as increased workload, reallocation of roles and responsibilities, and communication problems, which leads them to experience psychological strain and negative emotions. When faced with the challenges that arise from high situational uncertainty, team members with low EI are more likely to struggle with these negative emotions and may develop a negative view of their team and its capability. Moreover, emotions influence the way teams address interpersonal problems: positive emotions encourage open discussion, cooperation, and integration, whereas negative emotions cause avoidant behaviors, confrontation, and rejection, which may hinder complete resolution of relationship problems (Desivilya & Yagil, 2005; Friedman et al., 2004). Thus, team members with low EI, who struggle to regulate their emotions during periods of high uncertainty, may have difficulty in managing their interpersonal relationships and experience a deterioration in their sense of unity and belongingness. Accordingly, when team members have low EI, the uncertainty-reducing change features (i.e., predictability and rationality) should play a particularly critical role in influencing team affective states after a membership change.

Emotionally intelligent members, on the other hand, are likely to be less reliant on change predictability and rationality to develop desirable team states. Given their ability to accurately evaluate and effectively manage emotions (Salovey & Mayer, 1990), team members with high EI are less susceptible to psychological strain, even when the change is largely unexpected and uncertain. Rather than struggling with negative emotions which lead to error-focused cautious reasoning (Isen et al., 1987), team members with high EI understand the limitations of negative emotions and can adjust their emotions to be positive, regardless of the extent to which the change is disruptive. Positive affect facilitates integrative and creative thinking (Isen et al., 1987), thereby helping the team to overcome the challenges of uncertain membership change. They can also express their emotions in a polite manner and refined language and respond appropriately to other team members’ feelings, which prevents interpersonal problems from deepening. Therefore, teams with members high in EI are better positioned to maintain a positive outlook toward their team and be less susceptible to relational problems that can accompany situational uncertainty, which should attenuate the effects of change predictability and rationality.

*Hypothesis 3*: Emotional intelligence moderates the relationship between (a) change predictability and (b) change rationality and team potency.
following a membership change. Specifically, the positive relationship is stronger when emotional intelligence is low than when emotional intelligence is high.

**Hypothesis 4**: Emotional intelligence moderates the relationship between (a) change predictability and (b) change rationality and team identification following a membership change. Specifically, the positive relationship is stronger when emotional intelligence is low than when emotional intelligence is high.

**Emergent States and Team Outcomes**

Whereas prior research has emphasized the importance of task-related processes in determining the outcomes of team membership change (e.g., Ahmed et al., 2019; Arrow & Mcgrath, 1993; DeRue et al., 2008; Gorman et al., 2010; Stuart, 2017; Summers et al., 2012), in the current study we posit that affective emergent states should also play an important role. While team processes and task coordination mainly explain behavioral aspects of team functioning, team emergent states capture motivational and attitudinal dimensions of team dynamics (Marks et al., 2001). Perceptions of capabilities determine the extent to which people expend their time and resources to overcome obstacles and aversive experiences (Bandura, 1997). Team members with a high level of team potency, therefore, are prone to put forth more effort and persist in the face of difficulties originating from disruptive change. The collective perception of team capabilities also motivates goal striving despite environmental uncertainty. Team identification is also an important source of team members’ motivation to overcome obstacles stemming from membership change and to persist through challenges. When team members perceive a sense of unity and team identification, they actively engage in a broad range of teamwork and exhibit prosocial behaviors (Beal et al., 2003). The extra-role behaviors are particularly important in uncertain and changing environments where it is difficult to make thorough plans and unexpected work is required.

Accordingly, we argue that emergent states focused on the motivational and attitudinal aspects of team functioning make a unique contribution to predicting team performance following a membership change, over and above behavioral or task-focused processes. To test this hypothesis, we investigate the incremental effects of the two emergent states beyond the disruptive effects of change on team coordination. Flux in coordination, which refers to unstable variation in team processes and patterns of interdependent actions (Marks et al., 2001), has been shown to be an important task-related mediator between membership change and team performance (e.g., Summers et al., 2012). In
summary, we propose that team potency and identification positively predict team outcomes (i.e., team performance and satisfaction) following member change, after controlling for the effect of flux in coordination.

**Hypothesis 5**: Team potency is positively associated with (a) team performance and (b) team satisfaction following a membership change, after controlling for flux in coordination.

**Hypothesis 6**: Team identification is positively associated with (a) team performance and (b) team satisfaction following a membership change, after controlling for flux in coordination.

Thus far, we have put forth arguments for the effects of the two uncertainty-reducing attributes—predictability and rationality—on team potency and team identification following a membership change, and have posited that these effects will be stronger when team members have low, as opposed to high, EI. Further, we have hypothesized relationships between the affective emergent states and team performance and satisfaction following a membership change. Integrating this logic suggests that team potency and team identification should mediate the effects of the change attributes on team performance and satisfaction following a membership change, and these mediated relationships should be stronger when team members are low in EI than when they are high in EI.

**Hypothesis 7**: Emotional intelligence moderates the strength of the mediated relationships between predictability of change and the team outcomes (performance, satisfaction) via team potency, such that the mediated relationships are stronger when emotional intelligence is low than when emotional intelligence is high.

**Hypothesis 8**: Emotional intelligence moderates the strength of the mediated relationships between rationality of change and the team outcomes (performance, satisfaction) via team potency, such that the mediated relationships are stronger when emotional intelligence is low than when emotional intelligence is high.

**Hypothesis 9**: Emotional intelligence moderates the strength of the mediated relationships between predictability of change and the team outcomes (performance, satisfaction) via team identification, such that the mediated relationships are stronger when emotional intelligence is low than when emotional intelligence is high.

**Hypothesis 10**: Emotional intelligence moderates the strength of the mediated relationships between rationality of change and the team outcomes (performance, satisfaction) via team identification, such that the mediated
relationships are stronger when emotional intelligence is low than when emotional intelligence is high.

**Overview of Studies**

The conceptual model we develop is presented in Figure 1. We tested our hypothesized model in two experimental studies, which were conducted sequentially. In Study 1, we examined the effects of the primary uncertainty-reducing factor, change predictability, on the affective emergent states and team outcomes following membership change. In Study 2, we tested the impact of the secondary factor, change rationality, which plays an essential role in shaping affective responses to an unexpected event. This sequential design is aligned with the conceptualization of the two uncertainty-reducing attributes (Berger & Calabrese, 1975). Specifically, we first tested how team effectiveness is influenced by whether team members have prior information that reduces their predictive uncertainty. Then, in the second study, we examined whether providing a clear rationale for the membership change can serve to bolster team effectiveness, even when teams are not provided with predictive information. In the second study, therefore, all teams experienced an unpredictable member change to examine the effects of change rationality under the most challenging conditions.
Study I

Method

Participants. Research participants were undergraduate students at a large university located in the northeastern United States. All individuals were randomly assigned to three-member teams, which were randomly assigned to one of two experimental conditions (Predictability of change: low vs. high). Participants earned extra course credit or a monetary reward for their participation. There were no significant differences in the team emergent states and team outcomes between students who earned extra credit and those who received a monetary reward. In addition, participants received an additional monetary reward if the performance of their team fell in the top 10%. Among the 36 teams that participated in the study and were assigned to experimental conditions, one team was lost because a member of the team did not complete the study and two teams were eliminated due to members’ unreliable responses. Thus, the final sample consisted of 99 participants who were assigned to 33 teams. Attrition did not differ across experimental conditions, nor were there any demographic differences between participants who were excluded from the final sample and those who finished the experiment. The average age of the final sample was 20.07 years old, and 64.58% of the participants were female.

Task. The experimental task was a computerized marketing simulation called SouperHot, which has been utilized in prior research (Hall & Cox, 1994; Summers et al., 2012). The simulation is designed to illustrate basic marketing concepts and to provide participants with an opportunity to practice their decision-making and team skills. The simulation requires teams to introduce and launch a new consumer product. To perform the task, teams need to make a series of marketing decisions, the results of which are simulated via computer models. At the beginning of the simulation, teams are provided with relevant background information, including the unit cost of production, fixed cost per period, and their initial capital. They are then required to make three decisions collectively, including determining the unit product price, promotion expenses, and the amount of production. After each decision-making round, teams can review the outcomes of their decisions before proceeding to the next round. Specifically, after submitting their decisions to a computer assigned to the team, the computer generates relevant results such as market share, total unit sales, inventory, fixed assets, sales income, and profit. To make effective decisions, team members need to analyze the information provided, discuss implications, define objectives, and make plans together. The
simulation lasts for eight rounds, and the team aims to maximize their cumulative profit (i.e., the total profit earned) at the end of the eighth round.

**Procedures.** We arranged each experimental session such that multiple teams simultaneously performed the task in separate rooms. Each team was placed in a room with multiple computers; one of which served as the team task computer and three of which were used for the team member surveys. After participants responded to online survey questions about individual characteristics (e.g., demographic characteristics, EI), they were introduced to the SouperHot simulation through participant manuals and an introductory video. Following the introduction, each team performed Phase 1, which lasted about 45 min. During Phase 1, teams repeated eight trials of decision-making on price, promotion, and production. Whenever they made decisions and entered them into their computer, the SouperHot simulator presented results, which participants could analyze before making their next round of decisions. When they finished Phase 1, the experimenter announced the member change and participants filled out a survey about their affective emergent states and team satisfaction in Phase 1. They were then given a 10-min break. After the break, all teams experienced the member change: a member of each team was replaced with someone from one of the other teams. Following the member change, teams proceeded to Phase 2, which repeated the same procedure used in Phase 1 and lasted about 40 min. When all teams finished, participants responded to another survey about their emergent states and team satisfaction in Phase 2.

**Manipulation.** We manipulated change predictability by providing information about a member change in the introduction of the study. In the predictable change condition, participants were provided with a document with the overall procedures of the study and an introductory video which informed them that a member in their team would be replaced with a member in another team, when the member change would occur (i.e., between Phase 1 and 2), and who would leave their team. Teams in the unpredictable change condition did not receive any notice about the impending member change. They were provided with the introductory document and video, excluding the information about the member change.

**Measures**

**Team Emergent States.** Team potency was measured by using seven items from Riggs and Knight (1994). A sample item is “The team I work with has above average ability.” Following Van Der Vegt et al. (2003), we assessed team identification using a four-item measure of team identification that they
adapted from N. J. Allen and Meyer’s (1990) affective commitment scale. A sample item is “I strongly identify with the other members of my work team.” Item responses of team emergent states were on a 5-point scale (1 = strongly disagree, 5 = strongly agree). The internal consistency was satisfactory for both team potency (α = .89) and team identification (α = .73).

We aggregated the individual ratings of team potency and identification to the group level by calculating each team’s average score of potency and identification. The analysis of the intraclass correlation (Kenny & la Voie, 1985) and within-group agreement (James et al., 1993) supported the aggregation. The ICC(1) index indicated reliability in members’ ratings of team potency (ICC(1) = 0.30, F = 2.11, p < .01) and team identification (ICC(1) = 0.35, F = 2.39, p < .01). ICC(2) values for team potency and identification were 0.56 and 0.61, respectively. Although the ICC(2) value for team potency falls slightly below the recommended level of 0.60, this is likely because the indices are suppressed by the small team size (Bliese et al., 2002). The within-group agreement index ($r_{wg}$) was .90 for team potency and .85 for team identification, which exceed the benchmark .70 level (James et al., 1993).

**Team Outcomes.** Team performance was measured objectively through the computer-based simulation using the cumulative profit that each team earned during Phase 2, after it experienced the membership change. In each experimental phase, each team ran the computerized simulation for eight rounds. The total profit earned over the eight rounds of the simulation at Phase 2 was used to calculate the cumulative profit. We measured team satisfaction by adapting Gladstein’s (1984) three items. A sample item is “I am satisfied with my team members.” Item responses were on a 5-point scale (1 = strongly disagree, 5 = strongly agree). The coefficient alpha reliability of this scale was .93. There was also a high level of within group agreement of team satisfaction ($r_{wg} = .80$). However, team satisfaction did not vary significantly across teams ($F = 1.49, p = .08$) and the ICC(1) and ICC(2) values were 0.16 and 0.36, respectively. Ultimately, we calculated team-level satisfaction scores because (1) the aggregation was justified by theory (e.g., Hackman, 1987) and supported by high within-group reliability (Chen & Bliese, 2002), (2) the ICC(1) value was higher than the median level (i.e., .0.12) commonly observed in organizational research (James, 1982) and it was marginally significant ($p = .08$), and (3) low ICC(2) values are common for small-sized teams (Bliese, 1998; Bliese et al., 2002). Bliese (1998) also suggested that the relationships between team-level variables are likely to be underestimated when the ICC values are low, which make the tests of these relationships more conservative. Therefore, acknowledging the limitations, we aggregated individual scores of team satisfaction to the team-level.
**Emotional Intelligence.** We adopted Law et al.’s (2004) EI scale to measure team emotional intelligence. The scale contains 16 items (4 items per dimension) designed to assess self-emotions appraisal (e.g., “I have good understanding of my own emotions”), others-emotions appraisal (e.g., “I am sensitive to the feelings and emotions of others”), use of emotion (e.g., “I am a self-motivating person”), and regulation of emotion (e.g., “I am quite capable of controlling my own emotions”). Consistent with prior research (e.g., Côté & Miners, 2006), we combined the four dimensions to measure overall EI. The individual ratings of EI were aggregated to the team level by calculating each team’s average EI. Team members responded on a 7-point scale (1 = strongly disagree, 7 = strongly agree). The coefficient alpha reliability of this scale was .90.

**Control Variables.** For the model with the emergent states serving as dependent variables, we controlled for the number of female members and the team’s prior emergent states (i.e., during Phase 1). We controlled for the number of female team members because prior studies have found significant gender differences in patterns of emotional expression and regulation (e.g., Simpson & Stroh, 2004), which can influence the emergent states of a team. Moreover, we controlled for the emergent states at Phase 1, which were formed before the membership change. Although affective states are relatively transient, it takes time for preexisting states to change. To partial out the effects of prior emergent states that carried over into Phase 2, we controlled for the previous emergent states. For the models examining team outcomes as the dependent variable, we controlled for flux in coordination in addition to the number of female members and the team outcomes during Phase 1. We measured flux in coordination using Summers et al.’s (2012) four items. A sample item is “The change caused disruptions in the way the team carried out its tasks.” The coefficient alpha reliability was .91.

**Results and Discussion**

We checked the effectiveness of the predictability manipulation using a three-item measure, which participants completed after the member change. A sample item is “The change was not surprising.” The inter-item reliability for the predictability measure was satisfactory (α = .91). We conducted an analysis of variance (ANOVA) and results showed a significant main effect for the predictability condition, $F(1,31)=45.47$, $p < .01$. Participants in the predictability condition ($M=3.82$, $SD=0.50$) were more likely to perceive that the change was predictable than participants in the unpredictability condition ($M=2.44$, $SD=0.68$).
Descriptive statistics and intercorrelations among all team-level variables are shown in Table 1. We used hierarchical regression analyses to test the hypotheses about the main effects of change predictability and the interaction effects of change predictability and team members’ EI on team emergent states. Because all hypotheses are theory-driven and directional, we employed one-tailed tests of significance (Jones, 1954). Table 2 shows the results of the hierarchical regression analyses. As shown in Model 2, predictability of change was positively and significantly related to team potency ($\beta = .39, p < .05$), which supports Hypothesis 1a. On the other hand, as indicated in Model 5, predictability of change was not significantly associated with team identification ($\beta = .01, p > .05$). Thus, Hypothesis 1b was not supported. Hypotheses 3a and 4a predicted the interaction effects of change predictability and team members’ EI on the team emergent states. The results of Model 3 and Model 6 reveal that the interaction effects are significant, but contrary to our predictions, change predictability is more positively associated with team potency and identification when team members’ EI is high (see Figure 2 for interaction plots). We delve into this unexpected finding in more detail in the general discussion section.

Hypotheses 5 and 6 postulated that the affective emergent states would predict team performance and satisfaction over and above flux in coordination. The results in Model 8 and Model 10 (see Table 2) show that team potency was significantly and positively related to team performance, whereas team identification was significantly and positively related to team satisfaction, providing support for Hypotheses 5a and 6b, and not 5b or 6a. Hypotheses 7 and 9 proposed moderated mediation models, in which the indirect effect of change predictability on team outcomes via team emergent states is more positive when team members’ EI is low than high. Using bootstrapping analyses for mediation models1 (Preacher et al., 2007), we found that the relationship between change predictability and team performance was mediated by team potency (indirect effect estimate = 0.22; 95% CI [0.02, 0.53]), but not by team identification. Thus, further investigation of Hypothesis 9 (i.e., moderated mediation of team identification) is not warranted. Results also showed that the indirect effect of change predictability on team performance via team potency was significant, but positive when team members’ EI is high (indirect effect estimate = 0.50; 95% CI [0.02, 1.43]), whereas the indirect effect was not significant when team members’ EI is low. This pattern of results is contrary to that predicted by Hypothesis 7. We did not examine the moderated mediation of team potency on team satisfaction as we did not find support for Hypothesis 5b (i.e., team potency is not associated with team satisfaction).

Overall, in Study 1, we found that change predictability contributes to team performance by promoting team members’ capability perceptions. Moreover, the positive effect of change predictability on team potency and
Table 1. Study 1: Descriptive Statistics and Correlations.

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>I</th>
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<th>4</th>
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<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
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<tr>
<td>2. Team satisfaction (T2)</td>
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<td>4. Team potency (T2)</td>
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<td>0.52</td>
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<td>0.68**</td>
<td>0.33</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>5. Team identification (T2)</td>
<td>3.44</td>
<td>0.43</td>
<td>0.15</td>
<td>0.74**</td>
<td>0.11</td>
<td>0.57**</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>6. Flux in coordination (T2)</td>
<td>2.20</td>
<td>0.71</td>
<td>-0.09</td>
<td>-0.76**</td>
<td>-0.30</td>
<td>-0.68**</td>
<td>-0.65**</td>
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</tr>
<tr>
<td>7. EI</td>
<td>5.47</td>
<td>0.46</td>
<td>-0.34*</td>
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<td>0.29</td>
<td>-0.03</td>
<td>0.17</td>
<td>-0.30</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>8. Number of female members</td>
<td>1.87</td>
<td>0.89</td>
<td>-0.37*</td>
<td>-0.24</td>
<td>0.22</td>
<td>-0.32</td>
<td>-0.05</td>
<td>0.09</td>
<td>0.25</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>9. Past performance (T1)</td>
<td>106,852.51</td>
<td>165,472.35</td>
<td>0.57**</td>
<td>-0.21</td>
<td>0.00</td>
<td>-0.16</td>
<td>-0.15</td>
<td>0.34*</td>
<td>-0.35*</td>
<td>0.00</td>
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<td></td>
</tr>
<tr>
<td>10. Past satisfaction (T1)</td>
<td>4.17</td>
<td>0.56</td>
<td>0.29</td>
<td>0.37*</td>
<td>0.23</td>
<td>0.27</td>
<td>0.28</td>
<td>-0.18</td>
<td>0.18</td>
<td>-0.01</td>
<td>0.14</td>
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<tr>
<td>11. Past potency (T1)</td>
<td>3.62</td>
<td>0.49</td>
<td>0.42*</td>
<td>0.21</td>
<td>0.23</td>
<td>0.30</td>
<td>0.13</td>
<td>0.09</td>
<td>-0.13</td>
<td>0.30</td>
<td>0.63**</td>
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</tr>
<tr>
<td>12. Past identification (T1)</td>
<td>3.54</td>
<td>0.51</td>
<td>0.19</td>
<td>0.38*</td>
<td>0.12</td>
<td>0.35*</td>
<td>0.40*</td>
<td>-0.25</td>
<td>0.20</td>
<td>-0.11</td>
<td>-0.00</td>
<td>0.83**</td>
</tr>
</tbody>
</table>

Note. N=33.
*p < .05. **p < .01.
Table 2. Study 1: Results of Hierarchical Regression Analysis for Team Emergent States and Team Outcomes.

<table>
<thead>
<tr>
<th></th>
<th>DV: Team emergent states</th>
<th></th>
<th>DV: Team outcomes</th>
<th></th>
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<tr>
<td></td>
<td>Potency</td>
<td>Identification</td>
<td>Performance</td>
<td>Satisfaction</td>
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<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 3</td>
<td>Model 4</td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>−0.29</td>
<td>−0.36*</td>
<td>−0.22</td>
<td>−0.04</td>
</tr>
<tr>
<td>EI</td>
<td>0.01</td>
<td>−0.08</td>
<td>0.16</td>
<td>0.11</td>
</tr>
<tr>
<td>Prior states/outcomes (T1)</td>
<td>0.27</td>
<td>−0.17</td>
<td>0.24</td>
<td>0.37*</td>
</tr>
<tr>
<td>Coordination flux (T2)</td>
<td>0.01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictability</td>
<td></td>
<td>0.39*</td>
<td>0.35*</td>
<td>0.05</td>
</tr>
<tr>
<td>Potency (T2)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Identification (T2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>Predictability × EI</td>
<td>0.45*</td>
<td>0.45*</td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.17</td>
<td>.30</td>
<td>.41</td>
<td>.17</td>
</tr>
<tr>
<td>$\Delta F$</td>
<td>2.02</td>
<td>5.21*</td>
<td>4.95*</td>
<td>1.99</td>
</tr>
</tbody>
</table>

Note. $N=33$; standardized regression coefficients are reported.

*p < .05, one-tailed. **p < .01, one-tailed.
Figure 2. Interaction effects of predictability and EI on team emergent states.

subsequent team performance is stronger for teams comprising members with high EI. In Study 2, we examined the effects of change rationality, another informational attribute of team membership change, on team emergent states and outcomes. As noted earlier, all teams in Study 2 experienced an unpredictable member change, as the purpose of Study 2 is to examine whether and how change rationality contributes to team effectiveness when a membership change is unpredictable, and therefore more disruptive.

Study 2

Methods

Participants. Research participants were undergraduate students at a large university located in the northeastern United States. Students earned extra
course credit or a monetary reward for their participation. There were no significant differences in dependent variables (i.e., team emergent states and outcomes) between students who earned extra credit and those who received a monetary reward, and the distribution of reward methods was not significantly different across conditions. All participants were randomly assigned to three-member teams which were randomly assigned to two experimental conditions (Rationality: low vs. high). Of the 48 teams that participated in the study and were assigned to experimental conditions, one team did not complete the entire study, and three teams were eliminated due to members’ unreliable responses. The final sample consisted of 44 teams of 132 students. Attrition did not differ across experimental conditions. The average age of the final sample was 20.57 years old, and 58.65% of the participants were female.

**Procedures and Manipulation.** The SouperHot simulation, the computerized marketing simulation used in Study 1, also served as our task in Study 2. We used the same task for Study 1 and 2 to ensure that the effects of the experimental conditions in the two studies on team functioning are the result of differences in the manipulations and not task characteristics. We also used the same procedures as those in Study 1, except for the manipulation. We manipulated change rationality by providing information about why and how a member change is necessary and beneficial. When participants finished Phase 1, the experimenter announced the member change. Participants in the high rationality condition were provided with verbal and written explanations about why the change is necessary and how it is beneficial for their team in the next phase: the member change can diversify their knowledge and ideas, introduce ways to improve work processes, and foster the reflexivity of old members. On the other hand, participants in the low rationality condition did not receive any written or verbal information about the reasons for and the expected advantages of the member change.

**Measures**

**Team Emergent States.** We applied the same measures used in Study 1 for the emergent states. The internal consistency was satisfactory for both team potency ($\alpha = .88$) and team identification ($\alpha = .74$). The analysis of the intraclass correlation (Kenny & la Voie, 1985) and the within-group agreement (James et al., 1993) supported the aggregation of individual ratings of emergent states to the team level. Specifically, ICC(1) index values for team potency ($ICC(1) = 0.32, F = 2.38, p < .01$) and team identification ($ICC(1) = 0.39, F = 2.74, p < .01$) indicated reliability in team members’ ratings of the emergent states. ICC(2) values for team potency and identification
were 0.58 and 0.65, respectively. The within-group agreement index ($r_{wg}$) was .86 for team potency and .85 for team identification, which exceed the benchmark .70 level (James et al., 1993).

*Emotional Intelligence.* We applied the same measure used in Study 1 for team members’ EI by adopting Law et al.’s (2004) EI scale. The individual ratings of EI were aggregated to the team level by calculating each team’s average EI. The coefficient alpha reliability was 0.87.

*Team Outcomes.* Each team’s objective performance was measured by the cumulative profit earned during Phase 2 and team satisfaction was measured by Gladstein’s (1984) three items. The coefficient alpha reliability of team satisfaction was 0.95. We created team-level satisfaction by averaging individual scores. An ICC(1) of 0.26, an ICC(2) of 0.51, an $r_{wg}$ of .82, and a significant amount of between-group variance were observed ($F=2.03, p<.01$).

*Control Variables.* We used the same set of control variables as Study 1. For the models of team potency and identification, we controlled for number of female members and emergent states during Phase 1. For the models of team outcomes, we controlled for number of female members and team outcomes during Phase 1, and flux in coordination ($\alpha=.92$).

**Results and Discussion**

We checked the effectiveness of the change rationality manipulation using a seven-item measure adapted from Holt et al. (2007) “need for change” measure. A sample item is “There are legitimate reasons to change a member of this team.” The inter-item reliability for the rationality measure was satisfactory ($\alpha=.72$). We conducted an analysis of variance (ANOVA), the results of which supported a significant main effect for the rationality condition, $F(1, 42)=55.81, p<.01$. Participants in the high rationality condition ($M=3.16, SD=0.31$) were more likely to perceive that there were rational reasons for the change than participants in the low rationality condition ($M=2.43, SD=0.33$).

Table 3 shows the descriptive statistics and intercorrelations among all variables in Study 2. We tested our hypotheses using hierarchical regression analyses. Similar to Study 1, we conducted one-tailed tests. Table 4 presents the results of the analyses examining the effects of the experimental condition on the team emergent states. As Models 2 and 5 show, rationality of change was positively and significantly related to both team potency ($\beta=.35, p<.05$) and team identification ($\beta=.51, p<.05$), thus supporting Hypotheses
Table 3. Study 2: Descriptive Statistics and Correlations.

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<th>6</th>
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<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
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<tr>
<td>1. Team performance (T2)</td>
<td>283,500.07</td>
<td>167,204.86</td>
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<tr>
<td>2. Team satisfaction (T2)</td>
<td>4.20</td>
<td>0.60</td>
<td>.17</td>
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<tr>
<td>3. Rationality</td>
<td>0.55</td>
<td>0.50</td>
<td>.18</td>
<td>.31 *</td>
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<td></td>
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<tr>
<td>4. Team potency (T2)</td>
<td>3.76</td>
<td>0.55</td>
<td>.20</td>
<td>.75 **</td>
<td>.26</td>
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<tr>
<td>5. Team identification (T2)</td>
<td>3.55</td>
<td>0.58</td>
<td>.41 **</td>
<td>.81 **</td>
<td>.39 **</td>
<td>.76 **</td>
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<tr>
<td>6. Flux in coordination (T2)</td>
<td>2.32</td>
<td>0.77</td>
<td>-.14</td>
<td>-.66 **</td>
<td>-.28</td>
<td>-.54 **</td>
<td>-.50 **</td>
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<td>-.03</td>
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<tr>
<td>8. Number of female members</td>
<td>1.75</td>
<td>0.84</td>
<td>-.21</td>
<td>-.13</td>
<td>.33 *</td>
<td>.01</td>
<td>-.12</td>
<td>.28</td>
<td>-.21</td>
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<tr>
<td>9. Past performance (T1)</td>
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<td>.49 **</td>
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<td>.10</td>
<td>.03</td>
<td>.17</td>
<td>.30</td>
<td>-.04</td>
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<td>10. Past satisfaction (T1)</td>
<td>4.33</td>
<td>0.59</td>
<td>-.02</td>
<td>.14</td>
<td>-.03</td>
<td>.33 *</td>
<td>.27</td>
<td>.18</td>
<td>.23</td>
<td>.15</td>
<td>.19</td>
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<tr>
<td>11. Past potency (T1)</td>
<td>3.75</td>
<td>0.62</td>
<td>-.07</td>
<td>.14</td>
<td>-.08</td>
<td>.34 *</td>
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<td>.16</td>
<td>.25</td>
<td>.14</td>
<td>.17</td>
<td>.86 **</td>
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<tr>
<td>12. Past identification (T1)</td>
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<td>.01</td>
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<td>.18</td>
<td>.22</td>
<td>.25</td>
<td>.15</td>
<td>.16</td>
<td>.83 **</td>
<td>.73 **</td>
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</table>

Note. N = 44.

*p < .05. **p < .01.
Table 4. Study 2: Results of Hierarchical Regression Analysis for Team Emergent States and Outcomes.

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<th>DV: Team emergent states</th>
<th>DV: Team outcomes</th>
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<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
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</tr>
<tr>
<td>Female</td>
<td>−0.05</td>
<td>−0.18</td>
</tr>
<tr>
<td>EI</td>
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<td>−0.08</td>
</tr>
<tr>
<td>Prior states/outcomes (T1)</td>
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<td>0.41**</td>
</tr>
<tr>
<td>Coordination flux (T2)</td>
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</tr>
<tr>
<td>Independent variables</td>
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<td></td>
</tr>
<tr>
<td>Rationality</td>
<td>0.34*</td>
<td>0.34*</td>
</tr>
<tr>
<td>Potency (T2)</td>
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<td></td>
</tr>
<tr>
<td>Identification (T2)</td>
<td>0.46*</td>
<td>0.51**</td>
</tr>
<tr>
<td>Interaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rationality × EI</td>
<td>−0.28*</td>
<td>−0.24*</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.12</td>
<td>.22</td>
</tr>
<tr>
<td>$\Delta F$</td>
<td>1.81</td>
<td>5.14*</td>
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</table>

Note. $N=44$; standardized regression coefficients are reported.

*p < .05, one-tailed. **p < .01, one-tailed.
Kim and Bell

Figure 3. Interaction effects of rationality and EI on team emergent states.

2a and 2b. We also postulated that the effects of change rationality on team emergent states are moderated by team members’ EI (Hypotheses 3b and 4b). The results of Model 3 and Model 6 (see Table 4 and Figure 3 for interaction plots) reveal that the interaction effects are negative and significant for both team potency and identification. Rationality is more positively associated with team emergent states when team members’ EI is low, providing support for Hypotheses 3b and 4b.

Results also confirmed the unique contribution of team emergent states on team outcomes. Models 7 and 8 show the results for team performance and Models 9 and 10 present the results for team satisfaction (see Table 4). Team identification was significantly and positively related to both team performance ($\beta = .46, p < .05$) and satisfaction ($\beta = .51, p < .05$) after controlling for flux in coordination, supporting Hypotheses 6a and 6b. We did
not find significant effects of team potency on team outcomes, failing to support Hypothesis 5, and thus further investigation of Hypothesis 8 (i.e., moderated mediation of team potency) is not warranted. In addition, we found that team identification mediated the relationships between change rationality and team performance (indirect effect estimate = 0.24; 95% CI [0.04, 0.71]) and satisfaction (indirect effect estimate = 0.35; 95% CI [0.09, 0.71]). Further, the indirect effect of change rationality on team performance (indirect effect estimate = 0.52; 95% CI [0.05, 1.37]) and satisfaction (indirect effect estimate = 0.64; 95% CI [0.21, 1.18]) via team identification was positive and significant only when team members’ EI is low, whereas the indirect effect was not significant when team members’ EI is high, supporting Hypothesis 10.

General Discussion

In this research, we set out to examine how uncertainty-reducing attributes of team membership change (i.e., predictability and rationality) influence team effectiveness. We proposed that team emergent states (i.e., team potency and identification) would serve as salient mechanisms of the effects of change predictability and rationality on team outcomes following a membership change. We also predicted that team members’ EI would serve as an important team compositional factor that moderates the effects of the two change attributes on team effectiveness. Overall, the results of two experimental studies provided support for our theoretical arguments about the effects of the two uncertainty-reducing features. However, the outcomes lent partial support to our prediction about the moderating role of EI. As hypothesized, EI negatively moderated the relationships between change rationality and team emergent states in Study 2, such that the indirect effects of change rationality on team performance and satisfaction via team identification are positive only when the focal team members’ EI is low. However, team members’ EI significantly and positively moderated the effects of change predictability in Study 1. The theoretical and practical implications of these findings are discussed below, along with directions for future research on team membership change.

Theoretical Implications

Our findings contribute to research on team membership change and team dynamics in several important ways. Drawing on uncertainty reduction theory (Berger & Calabrese, 1975), this research reveals the role of two important change features in shaping team members’ affective reactions and team
outcomes. The weakening of team boundaries in contemporary organizations warrants more studies on the effects of team membership change. Although several recent studies have focused on the effects of team membership change on team effectiveness, they have reported mixed findings, indicating a need to examine diverse aspects of member change. The organizational change literature, on the other hand, has provided rich evidence about the importance of change characteristics that influence change recipients’ affective reaction and the success of the change (Oreg et al., 2011). Consistent with these theoretical perspectives, our findings demonstrate that when team members are provided with timely and relevant information about a membership change, they are more likely to form positive perceptions of team capabilities and belongingness, which positively impact team effectiveness. These findings highlight the importance of the two uncertainty-reducing attributes, which have received little attention in the literature of team membership change, as determinants of team affective emergent states and outcomes following a membership change.

Our findings also represent a novel and meaningful extension of uncertainty reduction theory to the context of team membership change. Employees’ perceived uncertainty has been described as an obvious outcome of an organizational change, and uncertainty has been regarded as a critical determinant of employees’ affective perceptions of and responses to the change event (van Dam, 2018). Although uncertainty is an inevitable consequence of change, it has been consistently found that it can be reduced through effective organizational and managerial actions (J. Allen et al., 2007; Oreg et al., 2011; van Dam, 2018) and, when managed well, it can lead to desirable outcomes (Brashers, 2001; Herzig & Jimmieson, 2006). In the context of team membership change, team members will experience high uncertainty in whom they work with, how they manage member departures, and how to team up with newcomers. In this sense, uncertainty reduction theory, which explains how people feel, think, and behave when faced with interpersonal uncertainty and how to handle it, has high potential to explain how teams manage member change events and achieve effectiveness.

Moreover, this study advances a more comprehensive understanding of team membership change by focusing on affective emergent states as key theoretical mechanisms. Despite growing attention to the effects of team membership change (e.g., Choi & Thompson, 2005; Lewis et al., 2007; Summers et al., 2012), prior studies have emphasized the importance of task-related team processes and overlooked affective emergent states. As illustrated through prior team dynamics research, team processes and emergent states are related but distinct constructs, each of which makes a unique contribution to team effectiveness (Marks et al., 2001). In this regard, we argue
that the absence of studies focusing on affective emergent states has contributed to an incomplete view of the effects of team membership change. We examined two emergent states, team potency and identification, as salient mechanisms through which team membership change may impact team effectiveness. Our results showed that the two emergent states make unique contributions to team performance and satisfaction even after controlling for task-related team process (i.e., flux in coordination).

We also found that team members’ EI moderated the effects of change predictability and rationality. Consistent with our prediction, the results suggest that change rationality is more influential when team members are low in EI. Contrary to our expectation, however, the effects of change predictability are amplified when the focal team consists of members with high EI. A potential explanation for these divergent findings may lie in the temporal differences in the dissemination of the two types of information to the team: change predictability information is provided prior to a membership change, whereas rationality information is given at the time of the change event. As Arrow and McGrath (1995) suggested, temporal patterns such as frequency, duration, timing, and regularity are important attributes of membership change events, which may determine the pattern of structural adjustments, the extent to which the change events are routinized, and the criticality of change effects. Change predictability, unlike rationality, can provide team members with time and opportunity to prepare for a future change. If team members are incapable of exploiting the opportunities from an expected change, the positive effects of change predictability should be weakened. Emotionally intelligent team members have the ability to catch and manage emotions and understand the links between events and affective reactions (George, 2000; Salovey & Mayer, 1990). Moreover, they can use their own and others’ emotions to promote desirable behaviors and attitudes (Salovey & Mayer, 1990). Therefore, when the change is predictable, compared to teams with low EI members, members with high EI are more likely to accurately estimate its effects on team affective states, establish effective strategies for coping with the change, and are likely better equipped to execute these strategies to facilitate desirable team states and outcomes.

Overall, our findings suggest that predictability information allows teams high in EI to leverage their resources to prepare for and cope with a membership change, whereas rationality information helps teams low in EI more effectively respond to the disruption that can arise when membership change is unpredictable. These findings contribute to our understanding of the complex interplay between change features, EI, and team affective responses. They are consistent with existing arguments regarding the joint effects of the task environment and team composition on team effectiveness (e.g., DeRue
et al., 2008; LePine, 2003). Moreover, they represent substantive extensions of prior research by delineating the interactive effects of EI and change processes in the context of team membership change.

Practical Implications

The results of this study provide practical implications for managing contemporary work groups and teams with fluid boundaries. One important finding is the influence of change processes, particularly the information provided to team members, on team outcomes in membership change contexts. Today’s work groups and teams experience membership changes for a variety of reasons, such as planned job rotation and training, the use of diverse employee modes and temporary teams, and member turnover. For practitioners who manage these changes, this study highlights the importance of providing timely and relevant information to the employees who experience the changes. When the change is planned, our results suggest it is beneficial to provide the focal team members with advanced notice about when and how the change will occur. This predictability information can enhance members’ confidence in the team, which facilitates performance after the change is implemented. However, for a variety of reasons, including rapid environmental changes, unexpected labor shortages, and voluntary turnover, managers may be unable to anticipate a team membership change. Our results suggest that when the change is unexpected, managers should put forth effort to convince team members that the change is necessary and beneficial. A clear rationale can help team members cope with unexpected membership change and ultimately help facilitate more desirable team states and outcomes. Moreover, our results highlight the importance of focusing attention on team composition in contexts characterized by dynamic team membership. Team members’ EI can be a valuable team asset, especially when a team change is planned and managers are able to provide detailed information about the change beforehand. Conversely, our findings suggest that when a team consists of members low in EI, change rationality is particularly important for coping with an unexpected membership change. In these situations, therefore, managers should strive to provide a clear rationale for the change and articulate the potential benefits that may emerge from it.

Limitations and Future Research Directions

Taken together, we believe that the theory and findings presented in this research make a significant contribution to our understanding of the effects of team membership change. However, the findings should be considered in
light of several limitations, which point toward potential future research directions. First, although this study examined two important features of the membership change process and their contributions to team effectiveness, there are other procedural aspects that should be examined in future research. As Arrow and McGrath (1995) have suggested, for example, the effects of team membership change can vary depending on its temporal patterns (e.g., frequency, duration, and timing) and locus of change initiation (e.g., individual members, group as a whole, external forces). Oreg et al. (2011) also identified other important procedural features that determine change recipients’ reactions, such as recipients’ participation and involvement, procedural and interactional justice, and the support of agents who manage the change. By examining and testing these diverse features in the context of team member change, we can develop a more comprehensive understanding of the linkages between features of team membership change and team effectiveness.

Second, in addition to team members’ EI, there are other compositional characteristics, such as team members’ personality traits, that should be examined in the context of dynamic team membership. Teams high in openness to experience, for instance, may exhibit greater receptivity and adaptability in the face of unpredicted membership changes because members are more broad-minded, imaginative, and curious (LePine et al., 2000). In addition, the effects of membership change may vary depending on team goal orientation, which has been shown to be an important determinant of team members’ perceptions and behaviors (Gong et al., 2013). Members with a learning goal orientation, for example, may perceive a sudden member change as an opportunity for learning and, as a result, may respond more positively. In contrast, members with performance avoidance goal orientation may perform better when they have prior information about a future change and the opportunity to prepare for it. Despite the recognized importance of team composition, our understanding of its role in teams with dynamic and fluid membership requires future investigation (Mathieu et al., 2014).

Third, we tested our hypotheses with student participants in a laboratory setting. We utilized the laboratory setting due to the control it affords, thereby enabling a rigorous examination of the effects of the uncertainty-reducing attributes on the team emergent states and outcomes following a membership change. Moreover, we utilized a decision-making simulation that mimics the complexity experienced by many real-world work teams, which enhances the fidelity of our studies (Colquitt, 2008; Ilgen, 1985). Nonetheless, the reliance on student samples may raise questions about external validity (Berkowitz & Donnerstein, 1982) and generalizability. Our samples may not fully represent the complexity of actual business environment because students may have
different motivations compared to working professionals. In this sense, there is an opportunity for future research to examine the effects of team membership change across different populations and settings.

Fourth, we tested the effects of the change features sequentially rather than concurrently. We designed the two experiments to align with the conceptualization of the two informational features in uncertainty reduction theory (Berger & Calabrese, 1975), which suggests that predictive certainty is “the first sense of uncertainty reduction” (p. 101). Given its foundational role in uncertainty reduction, our first study examined how predictability affects team effectiveness after a membership change. Having found that predictability influences the effects of membership change, we then conducted a subsequent study to test whether the second uncertainty-reducing feature, rationality, can help teams navigate the challenges that arise when a membership change is less predictable. However, this strategy limited our ability to test the potential interactive effects of the two change features. To address this limitation, future research could employ a concurrent approach and a $2 \times 2$ design to investigate the combined effects of predictability and rationality on team effectiveness after a membership change.

**Conclusion**

It is critical to gain further understanding of team membership change, not only because it is unavoidable in today’s organizations but also because it can have significant implications for team effectiveness. The current research contributes to this understanding by demonstrating the important role of both change attributes and team composition in determining the impact of team membership change on team effectiveness. In addition, our studies underscore the value of considering team emergent states as important mechanisms through which membership change influences team outcomes. We hope the current investigation stimulates future research that will yield further insights into how organizations can manage the complexities associated with dynamic team membership.

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Note

1. For the mediation and moderated mediation models, the effects of team potency, team identification, and flux in coordination were examined simultaneously. We calculated bootstrapped confidence intervals in estimating the effects (bootstrap sample size = 5,000).

References


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