

Does Team Culture Matter? Roles of Team Culture and Collective Regulatory Focus in Team Task and Creative Performance

Group & Organization Management
2016, Vol. 41(2) 232–265
© The Author(s) 2015
Reprints and permissions:
sagepub.com/journalsPermissions.nav
DOI: 10.1177/1059601115584998
gom.sagepub.com



**Yuhung Shin¹, Mihee Kim¹, Jin Nam Choi²,
and Sang-Hoon Lee¹**

Abstract

Despite the vast amount of research on the antecedents of team performance, the role of subcultures in team contexts has only received scant attention. This study investigates the relationships between different types of team culture and team performance. Team-level analyses conducted on the leaders and members of 104 teams revealed a significant association between internal process team culture and team task performance, as well as a marginally significant relationship between human relations team culture and team task performance. Furthermore, team prevention focus mediated the relationships between internal process and human relations team cultures and team task performance. Team promotion focus mediated the relationship between open system team culture and team creative performance. These findings offer new insights regarding team culture, collective regulatory focus, and team performance.

¹Hanyang University, Seoul, South Korea

²Seoul National University, South Korea

Corresponding Author:

Jin Nam Choi, College of Business Administration, Seoul National University, Gwanak-gu, Gwanakro 1, Seoul, South Korea.

Email: jnchoi@snu.ac.kr

Keywords

team culture, internal process culture, human relations culture, rational goal culture, open system culture, collective regulatory focus, prevention focus, promotion focus, task performance, creative performance

Organizational culture is a key factor that contributes to organizational effectiveness and employee work outcomes (Deal & Kennedy, 1982; Schein, 1992). However, due to the blurring of organizational boundaries and the proliferation of self-managed teams or autonomous work teams, subcultures or team cultures are becoming increasingly important to employees (Adkins & Caldwell, 2004). A subculture comprises “distinct clusters of understandings, behaviors, and cultural forms that identify groups of people in the organization” (Trice & Morand, 1991, p. 1). Previous research has recognized the existence of different subcultures in an organization (e.g., Hofstede, 1998; Jerimer, Slocum, Fry, & Gaines, 1991) and has shown that subcultures have a significant relationship with employee attitudes (e.g., Adkins & Caldwell, 2004; Lok, Westwood, & Crawford, 2005), but little is known about the link between subculture and unit-level performance.

Although the relationship has yet to be examined empirically, the subculture of work units is likely to affect their performance for several reasons. First, values and norms shared within a work unit promote behavioral consistency among unit members, and this consistency enables them to exert collective efforts toward achieving common goals (O’Reilly, 1989; O’Reilly & Chatman, 1996). Second, a subculture that resides in a work unit causes unit members to perceive and interpret organizational events in a similar way, which helps unit members understand and solve problems together (Schein, 1992). Finally, fit or sharedness of values within a workgroup promotes work attitudes and outcomes of its members by reducing ambiguities and frictions in work processes and articulating social expectations or norms (O’Reilly, Chatman, & Caldwell, 1991), as well as by endowing the members with a social identity, which establishes meaning and connectedness (Ashforth & Mael, 1989). Despite this theoretical plausibility, virtually no research to date has investigated the link between the subculture of a work unit and its performance. To fill this research gap, the present study examines the relationship between different subcultures and distinct facets of unit-level performance.

Specifically, by drawing on the competing values framework of Quinn and Rohrbaugh (1983), we predict that four different subcultures (i.e., internal process, human relations, rational goal, and open system) will differentially contribute to the task and creative performance of a team. Task performance refers to the degree of goal accomplishment enabled by task

behaviors based on formal job descriptions (Borman & Motowidlo, 1993). Creative performance pertains to the extent to which a team as a whole develops original and useful solutions to a problem (Basadur, 2004). In addition to the traditional form of task performance, creative performance is conceived as a competitive advantage for innovation and sustainability in a volatile and competitive business environment (Amabile, 1997). Thus, the first objective of this study is to examine the distinct implications of four types of team cultures toward the task and creative performance of work teams.

The present study further explores potential mediators linking the relationship between team cultures and performance. Ostroff, Kinicki, and Tamkins (2003) pointed out that empirical studies that examined the relationship between organizational culture and performance are limited in that they often lack a theoretical rationale explaining how organizational culture contributes to organizational performance. Similarly, intervening mechanisms through which team cultures are associated with team performance remain unclear. We address this issue by drawing on the model of team motivation (Chen & Kanfer, 2006) and regulatory focus theory (Higgins, 1998); we propose collective prevention and promotion foci as critical motivational states that mediate relationships between team cultures and team performance. Chen and Kanfer (2006) theorized that ambient inputs such as leadership climate, group norms, work design, and team feedback affect team performance by eliciting the motivational states of teams. Of the four types of ambient inputs, we isolate group norms reflected in a team culture that can influence team performance. Grounded in regulatory focus theory, we identify the collective motivation of a team to avoid negative outcomes (i.e., team prevention focus) or to attain positive outcomes (i.e., team promotion focus) as a critical motivational state that has disparate ramifications on team task and creative performance, respectively. As such, the present study unveils the relative roles of different team cultures in predicting team task and creative performance and elucidating the mediating mechanisms involving collective prevention and promotion foci, respectively. The current theoretical model is empirically validated using team-level data collected from leaders and members of 104 organizational teams.

Team Culture as an Ambient Input of Team Performance

Organizational subculture literature suggests that different subcultures can exist in an organization depending on location, functional focus, and professional background (Bloor & Dawson, 1994). For instance, the culture of a research and development (R&D) department is distinct from that of an

accounting department. However, subcultures may or may not be aligned with the dominant organizational culture (Meyerson & Martin, 1987). As employees frequently interact and identify more closely with their workgroup than the organization as a whole, their attitudes and behaviors are prone to be strongly affected by the culture of their immediate workgroup (Lok et al., 2005; Ostroff, Shin, & Kinicki, 2005). In addition, employees develop shared patterns of meanings and interpretations of events occurring in the organization (Morgan & Ogbonna, 2008). Such collective sense-making process shapes a subculture in the work unit, which is distinguishable from that of other work units in the organization (Sackmann, 1992; Van Maanen & Barley, 1984). In a similar vein, Hofstede (1998) maintained that within-unit social interactions, communication, interdependence, and leadership processes could contribute to the formation of a subculture in work units. Employing the notion of the referent-shift consensus model from the composition theory of Chan (1998), we operationalize team culture as the shared perceptions of the normative beliefs and behavioral expectations of team members in a work team.

Similar to organizational culture, subcultures can be categorized into different types suggested by culture typologies (Lok et al., 2005). In the present study, we adopt the competing values framework (Quinn & Rohrbaugh, 1983) as the relevant typology for team cultures. This framework classifies culture into four dimensions depending on whether the culture pursues flexibility or control and whether the culture has an internal or external focus. A culture that is flexible with an internal focus is called a human relations culture, and highly values teamwork, cohesion, and employee participation. A culture that is flexible and externally focused is known as an open system culture. This type of culture highlights dynamic entrepreneurial orientation, risk-taking, and innovation. By contrast, an internal process culture focuses on control with an internal focus and is characterized by efficiency, consistency, rules, and stability. Finally, a high degree of control with an external focus characterizes a rational goal culture, which emphasizes results, competitiveness, and customer focus.¹

Although no knowledge is available on the link between the four types of team cultures and team performance, existing studies conducted at the organizational level provide evidence for differential effects of different types of culture on organizational performance. Specifically, the human relations culture has been found to be associated with employee attitudes (Berson, Oreg, & Dvir, 2008). The rational goal culture has been positively related to organizational performance (Denison & Mishra, 1995; Denison, Nieminen, & Kotrba, 2014; Detert, Schroeder, & Mauriel, 2000). Meanwhile, the open system culture has been associated with more diverse outcomes, such as firm

performance (Chatman, Caldwell, O'Reilly, & Doerr, 2014), growth outcomes (Denison & Mishra, 1995), and innovation (Büschgens, Bausch, & Balkin, 2013). These findings suggest the possibility that different team cultures can be associated with different team outcomes.

Relationships Between Team Cultures and Team Performance

Drawing on Chen and Kanfer's (2006) theory of team motivation, we propose team cultures as crucial team ambient inputs that can influence team performance. Chen and Kanfer classified input variables that can affect team performance into ambient and discretionary inputs. Ambient inputs refer to team-oriented stimuli that pervade the team as a whole, whereas discretionary inputs are defined as stimuli directed and presented to specific team members (e.g., personal characteristics of team members). Specifically, they isolated leadership, group norms, work design, and team feedback as key ambient inputs that can promote team performance. Numerous studies have examined leadership, work design, and communication among members as precursors of team performance (Bass, 1985; Campion, Papper, & Medsker, 1996); however, a dearth of empirical research has examined the role of team culture and norms in predicting team performance. This omission is critical because group norms that guide the behaviors of team members become progressively more important in self-managed or autonomous work teams (Hackman, 1992). The necessity of strong leadership in work teams is diminishing because of the increasing empowerment and autonomy allowed for team members (Kirkman & Rosen, 1999). Instead, team cultures or behavioral norms that emerge within a team likely function as a powerful tool for regulating and motivating the team behavior.

We further propose that a specific type of team culture is conducive to the task and creative performance of teams. We postulate that internal process, human relations, and rational goal team cultures create work contexts that can facilitate the task performance of a team, whereas the open system team culture promotes team creative performance. The internal process team culture can foster a work environment where members have a clear sense of role expectations, and thus, are likely to fulfill task requirements, which in turn results in enhanced task performance. Furthermore, work procedures and processes are highly predictable in an internal process culture, which enables team members to accomplish their routines accurately and efficiently (Cameron & Quinn, 2006). Similarly, the human relations team culture values teamwork, cohesion, consensus, and sense of unity (Quinn & Rohrbaugh, 1983). Team members in such a culture are hesitant to jeopardize teamwork by taking risks or dissenting from the majority opinions, which may stifle

creative ideas within the team. Instead, team members in a human relations culture tend to collaborate with one another to accomplish the goals or tasks of teams, thereby generating high performance. Finally, the rational goal team culture is proposed to enhance task performance of a team by focusing on profits, competitive advantage, and market superiority (Cameron & Quinn, 2006). The rational goal team culture can direct the energy and efforts of team members toward the competitiveness of the team by providing them with a clear sense of mission (Denison & Mishra, 1995). Furthermore, given that the work atmosphere of the rational goal culture is result-oriented, team members are heavily concerned about producing high-quality task outputs.

In contrast, the open system team culture is expected to promote the creative performance of a team because it encourages risk-taking, change, and innovation (Shalley & Gilson, 2004). Members of a team with an open system culture are expected to challenge the status quo and think and behave in a creative way, thereby producing creative products (Cameron & Quinn, 2006). Although reported at the organization level, empirical findings have indicated that an entrepreneurial or innovative culture is positively related to innovative and creative performance (Büschgens et al., 2013; McLean, 2005). Taken together, we put forth the following relationships:

Hypothesis 1: Increases in the extent to which teams embody the (a) internal process, (b) human relations, and (c) rational goal cultures are positively related to team task performance.

Hypothesis 2: Increases in the extent to which teams embody the open system culture are positively related to team creative performance.

Collective Regulatory Focus as a Mediating Motivational State

In regulatory focus theory (Higgins, 1998), prevention and promotion foci are two motivational systems that regulate goal-directed behavior, which is represented by the avoidance of negative outcomes or the attainment of positive outcomes. Individuals with a prevention focus are motivated to avoid mistakes and failures and follow rules, whereas individuals adopting a promotion focus are eager to take risks and pursue hopes, ideals, and aspirations. The prevention focus in the workplace is characterized by vigilance or avoidance motivation that facilitates accurate execution of tasks in accordance with employee duties and responsibilities (Wallace & Chen, 2006). By contrast, the promotion focus manifests in the eagerness or approach motivation that enables employees to finish tasks quickly and accomplish more tasks.

Departing from the notion of regulatory focus as individual motivational systems, scholars have begun to conceptualize regulatory focus as a collective construct. Studies have generally conceptualized collective regulatory focus as collective motivation or strategic orientations of team members (Faddegon, Ellemers, & Scheepers, 2009; Faddegon, Scheepers, & Ellemers, 2008; Levine, Higgins, & Choi, 2000). These studies have documented that promotion and prevention foci are not only individual stable dispositions but also can be evoked by contextual factors and thus forming situation-elicited motivational states (Crowe & Higgins, 1997). Furthermore, given that promotion and prevention foci are independent of one another (Förster, Higgins, & Taylor Bianco, 2003; Wallace & Chen, 2006), a team can display high levels of promotion and prevention foci at the same time and can shift between each focus depending on situational and task demands (Brockner & Higgins, 2001).

According to the theory of team motivation (Chen & Kanfer, 2006), social interactions, communications, and social comparisons enable team members to reach consensus regarding the direction, amount, and duration of efforts required to achieve common goals. Similarly, self-categorization theory maintains that by comparing their own perceptions and views with those of other members, team members come to hold shared beliefs regarding the various aspects of their capabilities and efforts, which constitute an *emergent motivational state* of the team (Marks, Mathieu, & Zaccaro, 2001).

Social identity theory postulates that individual motivations and attitudes (e.g., self-esteem) are driven by a collective identity that is formed through comparing their group with other groups (Tajfel & Turner, 1986). Based on these premises, we define collective regulatory focus as a team-level motivational state in which team members coordinate the direction, intensity, and persistence of their efforts toward the avoidance of negative outcomes or the achievement of positive outcomes. Similar to team culture, we conceptualize team prevention and promotion foci based on the referent-shift consensus model because these two constructs reflect team motivational aspects that are distinguishable from individual motivational states (Chan, 1998).

Relationship Between Team Prevention and Promotion Foci and Team Performance

Regulatory focus research conducted at the individual level of analysis has demonstrated that regulatory focus is a significant predictor of various aspects of individual performance, including helping and creative behavior (Johnson, Shull, & Wallace, 2011; Neubert, Kacmar, Carlson, Chonko, & Roberts, 2008). At the group level, Rietzschel (2011) reported that team idea

generation was positively predicted by collective promotion focus of the team but not by prevention focus. In the present study, we propose significant associations between team prevention focus and task performance and between team promotion focus and creative performance after controlling for the effect of the other type of regulatory focus.

Two regulatory foci are expected to constitute independent pathways toward different aspects of team performance because a specific aspect of team performance is triggered by its relevant mode of motivation (Zaal, Van Laar, Stahl, Ellemers, & Derks, 2012). When a prevention focus is prevalent in a team, members are heavily concerned about following rules, avoiding errors and mistakes, and performing tasks accurately (Förster et al., 2003; Kark & Van Dijk, 2007). Teams with a high prevention focus should perform their tasks with increased accuracy and quality because they are motivated to fulfill performance expectations and avoid deviations from given roles and responsibilities. By contrast, when a promotion focus is evoked in a team, members tend to develop flexible mindsets and become willing to take risks, thereby generating more diverse ideas and creative insight (Crowe & Higgins, 1997; Friedman & Förster, 2001). Thus, we put forth the following hypotheses.

Hypothesis 3: Team prevention focus is positively related to team task performance.

Hypothesis 4: Team promotion focus is positively related to team creative performance.

Mediating Roles of Team Prevention and Promotion Foci

Combining the proposed relationships, we predict that the two collective regulatory foci will differently mediate the relationships between team cultures and team performance. Figure 1 depicts the hypothesized mediation processes. The proposed causal sequence of the culture-regulatory focus-performance is in line with extant theories and literature. First, Chen and Kanfer (2006) theorized that team ambient inputs (i.e., team cultures) elicit emergent motivational states of the team (i.e., team regulatory foci), which in turn yield team outputs (i.e., team performance).

Second, regulatory focus literature highlights that organizational culture is a key contextual factor that shapes employee regulatory orientation (Brockner & Higgins, 2001). Prior research on culture and regulatory focus has shown that cultural contexts affect the development of individuals' distinct regulatory orientation (e.g., Lee, Aaker, & Gardner, 2000; Uskul, Sherman, & Fitzgibbon, 2009). In particular, when team members are exposed to the same context, such as a team culture that signals a preferred regulatory orientation,

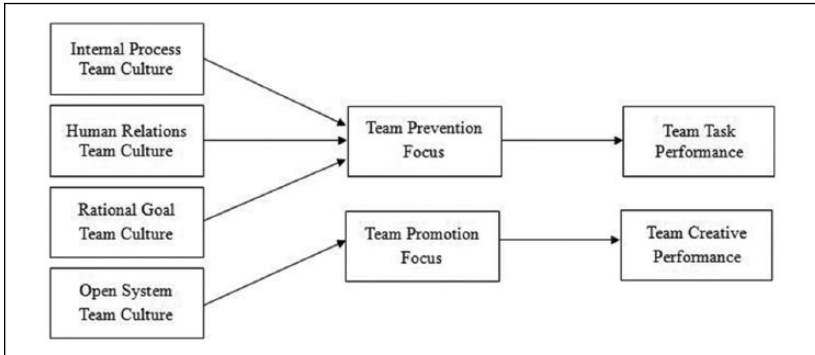


Figure 1. Proposed research model.

these social cues are discussed, shared, and reinforced among members, leading to the emergence of team-level, collective motivational states (Dragoni, 2005).

Although no knowledge is available for the link between culture and regulatory focus at the organizational level, organizational culture literature suggests the significant effect of organizational culture on firms' strategic orientation (e.g., Chuang, Morgan, & Robson, 2012; Deverell & Olsson, 2010). Similarly, by claiming that the dominant culture in an organization influences its strategic orientation with respect to goal accomplishment and task execution, Mintzberg (1979) disapproved the proposition that organizational strategies drive organizational culture. Grounded in these lines of reasoning, we argue that team culture prescribes behavioral norms and activates goal-directed motivational systems in a team, which stimulates members to coordinate their effort toward team performance.

Drawing on control theory (Ouchi, 1980), we further postulate that the internal process, human relations, and rational goal team cultures will be associated with team prevention focus. Control theory holds that the internal process, human relations, and rational goal cultures are heavily dependent on control mechanisms to prompt employees to behave consistently with organizational expectation (Ouchi, 1980). Such control mechanisms are closely related to a prevention orientation such that they cause employees to achieve organizational objectives by not deviating from the norms and expectations endorsed in the particular culture. Specifically, efficiency, stability, rules, and responsibility are regarded as core values and norms when a team exhibits an internal process culture. Thus, team members tend to direct their collective efforts toward task execution in a manner that avoids mistakes and follows rules, thereby

producing a higher level of task performance (van Dyck, Frese, Baer, & Sonnentag, 2005). Similarly, we anticipate the human relations team culture to elicit a team prevention focus by stressing tradition, consensus, and sense of unity. Hence, these factors lead to avoiding conflicts among team members. Violating group norms may cause social distancing or ostracism because behaviors consistent with group norms are deemed important in a human relations culture (Fortado, 1994; Westphal & Khanna, 2003). As such, members in a human relations culture fulfill their task requirements in a way that maintains their current interpersonal relationships and social security (Wei, Samiee, & Lee, 2014). Likewise, a rational goal team culture should be associated with team prevention focus in which team members are dictated by control mechanisms designed to pursue results, profits, and competition (Ouchi, 1980). Thus, collective motivation to avoid poor performance and a competitive disadvantage in a rational goal culture should lead to increased team task performance.

By contrast, in a team with an open system culture that emphasizes long-term goals, risk-taking, and innovation, members are less subject to control mechanisms. A high level of flexibility displayed in an open system culture encourages team members to deviate from existing procedures and implement innovation (Büschgens et al., 2013). Thus, an open system culture should be more strongly associated with a promotion focus than with prevention focus. A promotion focus shared among team members stimulates them to coordinate their efforts in a way that pursues ideals, optimism, and long-term opportunities, which in turn lead to more creative ideas and innovative outputs. In support of this argument, Büschgens et al.'s (2013) meta-analysis revealed that the open system culture is more strongly associated with innovation, compared with the other three types of cultures.

The proposed mediating roles of the two regulatory foci are consistent with the mediating effect of regulatory focus found in previous research. For instance, Neubert et al. (2008) demonstrated the mediating effect of prevention focus on the relationship between initiating structure and in-role performance as well as the mediating effect of promotion focus on the relationship between servant leadership and creative behavior. Johnson et al. (2011) reported that regulatory focus mediated the relationship between goal orientation and task performance. Although not at the team level, these findings indicate the possibility that prevention and promotion foci play distinct intermediary roles in translating the effect of team input variables on team outcomes. Therefore, we propose the following mediation hypotheses:

Hypothesis 5: Team prevention focus mediates the relationships between team embodiment of the (a) internal process, (b) human relations, and (c) rational goal culture and team task performance.

Hypothesis 6: Team promotion focus mediates the relationship between team embodiment of the open system team culture and team creative performance.

Method

Sample and Data Collection Procedure

Data for the current study were collected from 14 companies located in South Korea. These companies varied in firm size and industry. The industry types include services (50%), banking and finance (14.3%), manufacturing (14.3%), public sector (14.3%), and others (7%). Teams were the basic work unit of the participating companies, and all these companies adopted team-based performance evaluation and reward systems. Team members collaborated on interdependent tasks and frequently interacted and communicated with each other to perform the tasks. Team members shared resources and work-related information as well as responsibility for the task results.

We contacted the Human Resource (HR) managers of 14 organizations and asked them to randomly select 10 teams in their company and administer questionnaires to the leader and members of the selected teams. Participating leaders and members received different questionnaires in a separate envelope and were instructed to return the completed forms directly to the researcher in a sealed envelope. Participation in the study was voluntary, and the participants were assured of confidentiality and anonymity.

Of the 140 teams contacted by the HR manager, 119 agreed to participate in the study. Hence, the preliminary sample comprised 119 team leaders and 608 team members (response rate = 85%). After collecting the questionnaires from these participants, we conducted data screening procedures to minimize potential aggregation biases. First, we eliminated teams that consisted of fewer than three respondents (four members of two teams), which can be regarded as a dyad rather than a team and those teams that exhibited low within-team response rate (less than 50%, 30 members of 6 teams). Research indicates that a small number of responses at the group level and both systematic and random missing observations in a single group can substantially bias the results of group-level analyses (Allen, Stanley, Williams, & Ross, 2007; Chun & Choi, 2014). In addition, given that responses with low within-team agreement preclude capturing shared perceptions of collective phenomena (Choi, 2009; LeBreton & Senter, 2008), we excluded teams whose $r_{wg(j)}$ values were lower than .50 from the sample (27 members of 7 teams). After these screening procedures, the final sample comprised 104 leaders and 547 members of 104 teams (final response rate = 74%). To assess the presence of

systematic differences between the teams in the final sample and those screened out, *t* tests were conducted on the two groups. The results of the *t* tests indicated no significant differences between the two groups in terms of any of the study variables and demographic characteristics of members. Moreover, the results based on the initial sample and the final analysis sample were largely the same, which further suggests that the current findings were not affected by the data screening procedure.

In the final analysis sample, the average number of participants per team was 5.4 ($SD = 2.1$), ranging between 4 and 10 members. The company registry of the 14 participating organizations indicated that on average, there were 9.1 members in the 104 teams, which indicated that our sample represented 60% of the formal members in the teams. The average age of the team members was 36.2 years ($SD = 4.5$), and 33% of the members were female. The average organizational tenure of the members was 8.8 years ($SD = 7.3$), and average tenure in the current team was 2.7 years ($SD = 1.7$). The participants represented diverse job levels, such as rank-and-file employees (26%), associates (20%), managers (23%), and senior managers (26%). They performed various organizational functions, including administration (34%), planning/strategy (28.5%), sales and marketing (20%), finance/accounting (12.5%), and R&D (5%). The average age of the team leaders was 46 years ($SD = 5.4$), and 13.5% of the team leaders were female. The average organizational tenure and average tenure of team leaders were 17.5 ($SD = 7.9$) and 3.9 years ($SD = 4.9$), respectively.

Method Variance Reduction by Split-Group Design

To reduce potential common method biases resulting from the measurement of variables from the same source, we employed a split-group design as recommended by Conway and Lance (2010) and Ostroff, Kinicki, and Clark (2002). The split-group design has been widely used in team-level studies as a primary way to reduce common method biases (e.g., Choi, 2009; Klein, Knight, Ziegert, Lim, & Saltz, 2011; Shin, 2014; Shin & Eom, 2014). Following these practices, we randomly divided the members of a team into two equal-sized subgroups, A and B. On average, these subgroups were composed of three members, ranging between two and five. Members in Subgroup A rated the levels of internal process, human relations, rational goal, and open system cultures of their team. Members in Subgroup B provided data on the two regulatory foci of the team. Furthermore, in an effort to minimize common method variance and potential response biases, we used the ratings of task and creative performance of team leaders as measures of the dependent variables.

Measures

All study variables were assessed with multi-item measures using a 5-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*). To ensure that our measures effectively capture group-level phenomena, we employed team-referent items for all the measures (Chan, 1998). Except for team task and creative performance that were rated by leaders, all other variables were assessed by individual team members and aggregated to the team level. To justify the aggregation of individual responses to the team level, a set of psychometric properties was assessed, that is, $r_{wg(j)}$, ICC(1), and ICC(2) (Bliese, 2000; James, Demaree, & Wolf, 1984). The mean, minimum, and maximum values of $r_{wg(j)}$ scores for all study variables exceeded .84, .62, and 1.00, respectively, suggesting an acceptable level of agreement in member responses within a team (LeBreton & Senter, 2008).

The study variables exhibited significant between-team variability (F statistics, $p < .001$) and moderate ICC(2) values ranging between .51 and .65. These values resulted from the small size of the teams in our sample (average team size = 5.4 members; Klein & Kozlowski, 2000). Bliese's (1998) simulation showed that ICC(2) values higher than .70 are hardly found in groups with fewer than 10 members. For this reason, scholars have contended that even with relatively low to moderate ICC(2) values, high within-team agreement ($r_{wg(j)} > .70$) and between-team variability (significant F statistics) can justify data aggregation (Chun & Choi, 2014; Ehrhart, 2004; Kirkman, Chen, Farh, Chen, & Lowe, 2009; Klein et al., 2000). Thus, the current data offered sufficient statistical justification for the aggregation of team member responses to the team level.

Internal process team culture (Subgroup A). To construct the scale of internal process team culture, we adopted four items ($\alpha = .86$, $r_{wg(j)} = .90$, ICC(1) = .25, ICC(2) = .64, $F = 2.77$, $p < .001$) from the organizational culture assessment instrument (OCAI). The OCAI consists of six items that reflect six aspects of each culture, which are organizational leadership, organizational glue, dominant characteristics, management of employees, strategic emphases, and criteria of success (Cameron & Quinn, 2006). Among these six dimensions, we excluded organizational leadership and organizational glue from the present scale because they were not directly related to team culture. Thus, the measure of internal process team culture was composed of four items representing the other four aspects of culture. We revised these four items to team-referent items to reflect team culture. Examples of the items included "My team is a very controlled and structured place" and "My team emphasizes stability, efficiency, and control."

Human relations team culture (Subgroup A). Human relations team culture was measured with four items ($\alpha = .92$, $r_{wg(j)} = .87$, $ICC(1) = .22$, $ICC(2) = .60$, $F = 2.49$, $p < .001$) from the OCAI, which captured the four key dimensions of human relations culture (Cameron & Quinn, 2006). Sample items included “The management style in my team is characterized by teamwork, consensus, and participation among team members” and “My team emphasizes human development, mutual trust, and participation.”

Rational goal team culture (Subgroup A). Rational goal team culture was assessed with four items ($\alpha = .89$, $r_{wg(j)} = .88$, $ICC(1) = .25$, $ICC(2) = .65$, $F = 2.82$, $p < .001$) derived from the OCAI (Cameron & Quinn, 2006). Sample items were “The management style in my team is characterized by hard-driving competitiveness, high demands, and achievement” and “My team defines success on the basis of winning in the marketplace and outpacing the competition.”

Open system team culture (Subgroup A). Similar to the other three types of cultures, the scale for open system team culture consisted of four items ($\alpha = .89$, $r_{wg(j)} = .83$, $ICC(1) = .23$, $ICC(2) = .62$, $F = 2.60$, $p < .001$) from the OCAI (Cameron & Quinn, 2006). Sample items included “The management style in my team is characterized by risk-taking, innovation, freedom, and uniqueness” and “My team emphasizes acquiring new resources and creating new challenges.”

Team prevention focus (Subgroup B). To measure team prevention focus, we employed 3 items ($\alpha = .86$, $r_{wg(j)} = .92$, $ICC(1) = .18$, $ICC(2) = .55$, $F = 2.22$, $p < .001$) derived from the Work Regulatory Focus (WRF) scale of Neubert et al. (2008). The WRF scale originally consists of 18 items of prevention and promotion foci. Of these 18 items, 9 items reflect the security, oughts, and losses dimensions of prevention focus. However, due to constraints on the length of the survey, we used 3 items that represented three dimensions as a measure of team prevention focus. Furthermore, as the WRF scale consisted of self-referent items, we revised the items of this scale to team-referent items such that they could capture the collective prevention focus of the team. The 3 items were “People in my team concentrate on completing their work tasks correctly to increase their job security” (security), “At work, people in my team focus their attention on completing their assigned responsibilities” (oughts), and “People in my team focus their attention on avoiding failure at work” (losses).

Team promotion focus (Subgroup B). Nine items of the WRF scale represent the gains, achievement, and ideals dimensions of promotion focus (Neubert et al.,

2008). Of these items, four items ($\alpha = .72$, $r_{wg(j)} = .90$, $ICC(1) = .16$, $ICC(2) = .51$, $F = 2.00$, $p < .001$) capturing the three dimensions of promotion focus were adopted as a measure of team promotion focus. Similar to the items of team prevention focus, the items of promotion focus were modified as team-referent items to reflect the collective promotion focus of a team. The sample items were “People in my team take chances at work to maximize their goals for advancement” (gains), “If the job of people in my team did not allow for advancement, they would likely find a new one” (achievement), and “At work, people in my team are motivated by their hopes and aspirations” (ideals).

Team task performance (Team leader). To measure team task performance, we asked team leaders to evaluate the degree of task performance of their team using three items ($\alpha = .83$) from the in-role performance scale of Williams and Anderson (1991). Examples of the items were “My team members adequately complete assigned duties” and “My team members perform tasks that are expected of them.”

Team creative performance (Team leader). Team leader ratings were used to assess team creative performance. Team leaders reported on the level of creative performance of their teams based on four items ($\alpha = .86$) from the creative performance scale of Oldham and Cummings (1996). Sample items were “My team members develop ideas, methods, or products that are both original and useful to the organization” and “My team members generate creative ideas.”

Control variables. In our analyses, we controlled for several team-level variables that may affect team processes and outcomes. First, we controlled for team size and average team tenure to partial out their potential influences on the relationships among the study variables (Kozlowski & Bell, 2003; C. L. Pearce & Herbig, 2004). Team size was operationalized as the number of team members and average team tenure was computed by averaging the years that team members had spent in their current team. Second, drawing on the findings that task type affects regulatory focus (Van Dijk & Kluger, 2011), we created a task-type dummy variable representing banking, finance, insurance, and accounting. Finally, to control for potential effects of other ambient inputs in the model of Chen and Kanfer (2006), we requested team members to report on the level of task interdependence in the team (three items, for example, “My team members have a significant impact on each other’s job,” $\alpha = .81$, $r_{wg(j)} = .84$, $ICC(1) = .24$, $ICC(2) = .63$, $F = 2.38$, $p < .001$; J. L. Pearce & Gregersen, 1991), as well as the level of servant leadership displayed by their team leader (five items, for example, “My team leader makes

the personal development of team members a priority,” $\alpha = .91$, $r_{\text{wg}(j)} = .88$, $\text{ICC}(1) = .23$, $\text{ICC}(2) = .62$, $F = 2.48$, $p < .001$; Ehrhart, 2004). Taken together, five control variables (i.e., team size, average team tenure, task-type dummy, task interdependence, and team leader’s servant leadership) were included in all subsequent analyses.

Results

To assess the discriminant validity of the measures, we conducted confirmatory factor analysis (CFA) on the items of team cultures and regulatory foci by using structural equation modeling (SEM) with AMOS 18. Table 1 shows that the hypothesized six-factor model exhibited a good fit to the data, $\chi^2(df = 194) = 637.32$, $p < .001$, comparative fit index (CFI) = .94, root mean square error of approximation (RMSEA) = .06. The hypothesized measurement model also fit the data significantly better than alternative models (all $p < .001$ based on χ^2 difference tests), which validated the empirical distinctiveness of the study variables (Price, Choi, & Vinokur, 2002). In addition, we conducted separate CFA for the team leaders’ ratings of team task and creative performance. Based on the CFA, the proposed two-factor model, $\chi^2(df = 13) = 15.55$, $p < .001$, CFI = .99, RMSEA = .04, yielded a significantly better fit than the one-factor model, $\chi^2(df = 14) = 108.44$, $p < .001$, CFI = .68, RMSEA = .26; $\Delta\chi^2(df = 1) = 92.89$, $p < .001$. These CFA results indicated that the measures of the study variables possessed sufficient discriminant validity. Table 2 presents the descriptive statistics and correlations among the study variables.

Relationship Between Team Culture and Team Performance

Hypotheses 1a, 1b, and 1c proposed positive relationships between team embodiment of the internal process, human relations, and rational goal cultures and team task performance, respectively. Hypothesis 2 predicted a positive association between team embodiment of the open system culture and team creative performance. These hypotheses were tested via hierarchical regression analysis. In Step 1, the equation included control variables, such as team size, average team tenure of members, team task-type dummy, task interdependence, and servant leadership. In Step 2, team task and creative performance were regressed on the four types of team cultures. As shown in Model 3 of Table 3, when the four types of team culture were considered simultaneously, the internal process team culture was significantly associated with team task performance ($\beta = .25$, $p < .05$), and the human relations team culture marginally predicted team task performance ($\beta = .28$, $p < .10$).

Table 1. Results of Confirmatory Factor Analysis and Chi-Square Difference Tests.

CFA models	χ^2	df	CFI	RMSEA	$\Delta\chi^2$	p value of $\Delta\chi^2$
Model 0: Hypothesized six-factor model	637.32	194	.94	.06	—	—
Model 1: Five-factor model (combining prevention and promotion foci into a single factor)	977.29	199	.89	.08	339.97	<.001
Model 2: Four-factor model (combining HR and OS into a single factor and combining IP and RG into a single factor)	1,776.10	203	.78	.11	1,138.78	<.001
Model 3: Two-factor model 1 (combining HR, OS, and promotion focus into a single factor and combining IP, RG, and prevention focus into a single factor)	2,875.99	208	.64	.15	2,238.67	<.001
Model 4: Two-factor model 2 (combining prevention and promotion foci into a single factor and combining four cultures into a single factor)	2,633.24	208	.67	.14	1,995.92	<.001

Note. CFI = comparative fit index; RMSEA = root mean square error of approximation; HR = human relations team culture; OS = open system team culture; IP = internal process team culture; RG = rational goal team culture.

Table 2. Descriptive Statistics and Intercorrelations (N = 104).

Team-level variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Team size	5.37	2.10	—											
2. Average team tenure	2.69	1.69	.14	—										
3. Task type	.12	.32	-.11	-.05	—									
4. Task interdependence	3.64	.48	.03	.04	.13	—								
5. Servant leadership	3.67	.49	-.02	.08	-.00	.50***	—							
6. Internal process team culture	3.60	.52	.22*	.06	.08	.45***	.48***	—						
7. Human relations team culture	3.58	.61	.01	.03	.11	.55***	.62***	.60***	—					
8. Rational goal team culture	3.38	.61	.01	.13	.04	.41***	.44***	.51***	.55***	—				
9. Open system team culture	3.30	.60	-.16†	.02	-.08	.39***	.49***	.36***	.65***	.65***	—			
10. Team prevention focus	4.19	.38	.24*	.18†	.06	.23*	.20*	.38***	.35***	.13	.09	—		
11. Team promotion focus	3.52	.37	.12	-.00	-.09	.28**	.08	.17†	.18†	.24*	.31**	.15	—	
12. Team task performance	4.01	.57	-.04	.07	.12	.28**	.32**	.41***	.42***	.29**	.23*	.36***	.17†	—
13. Team creative performance	3.37	.62	-.15	.02	-.13	.24*	.29**	.29**	.32**	.40***	.39***	.03	.29**	.35***

†p < .10. *p < .05. **p < .01. ***p < .001.

Table 3. Results of Regression Analyses of Team Regulatory Focus and Team Performance ($N = 104$).

Dependent variable	Team prevention focus		Team promotion focus		Team task performance		Team creative performance	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6		
Control variables								
Team size	.14	.16	-.12	-.17†	-.18†	-.20*		
Average team tenure	.16†	-.04	.06	.03	-.01	.01		
Task-type dummy	.01	-.07	.04	.05	-.17†	-.15		
Task interdependence	.03	.27*	.01	-.03	.04	-.01		
Servant leadership	-.06	-.17	.05	.08	.03	.07		
Independent variables								
Internal process team culture	.25*	.03	.25*	.20	.14	.15		
Human relations team culture	.37*	-.13	.28†	.21	.03	.08		
Rational goal team culture	-.13	.03	.07	.09	.23†	.21		
Open system team culture	-.12	.36*	-.13	-.15	.10	.01		
Mediators								
Team prevention focus				.22*		-.07		
Team promotion focus				.12		.22*		
R^2	.25	.19	.24	.29	.24	.28		
ΔR^2				.05*		.04†		
F	3.54***	2.40*	3.31**	3.46***	3.33**	3.28**		

Note. Standardized regression coefficients are shown.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

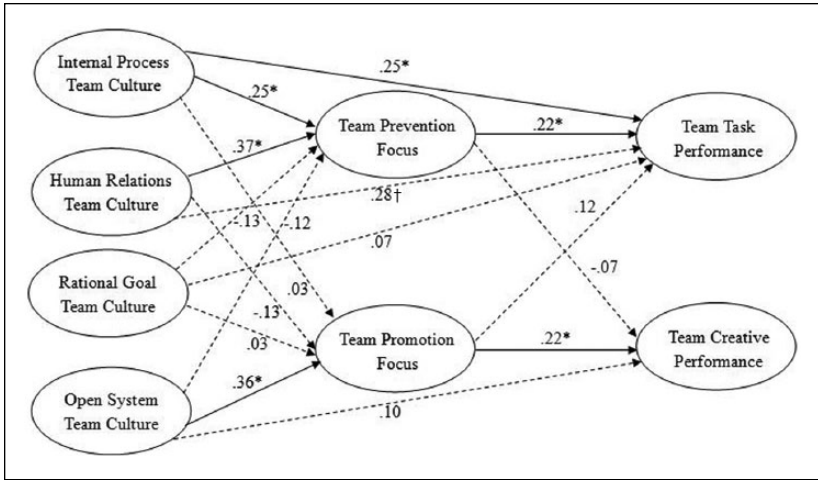


Figure 2. Results of the hierarchical regression analysis.

Note. Standardized coefficients are presented.

†p < .10. *p < .05.

However, we found no significant link between the rational goal team culture and team task performance ($\beta = .07, ns.$). Thus, Hypotheses 1a and 1b received support and partial support, respectively, whereas Hypothesis 1c was not supported. As illustrated in Model 5 of Table 3, the open system team culture was not a significant predictor of team creative performance ($\beta = .10, ns.$). Therefore, Hypothesis 2 was not supported.

Relationship Between Collective Regulatory Focus and Team Performance

Hypotheses 3 and 4 postulated positive associations between team prevention focus and task performance and between team promotion focus and creative performance, respectively. As reported in Models 4 and 6 of Table 3, the results of the hierarchical regression analyses indicated significant relationships between team prevention focus and task performance ($\beta = .22, p < .05$) and between team promotion focus and creative performance ($\beta = .22, p < .05$), over and above the variance accounted for by the controls and the team culture variables. Hence, Hypotheses 3 and 4 were supported. Figure 2 summarizes the results of the regression analyses.

Table 4. Tests of Indirect Effects.

Model: Team culture → Team regulatory focus → Team performance	Bootstrap results for indirect effect			
	Bootstrap indirect effect	Bootstrap SE	Lower limit 95% CI	Upper limit 95% CI
IP → Prevention focus → Task performance	.10	.05	.01	.22
HR → Prevention focus → Task performance	.08	.04	.01	.18
RG → Prevention focus → Task performance	.03	.03	-.01	.11
OS → Promotion focus → Creative performance	.07	.04	.01	.15

Note. Bootstrap sample size = 10,000. CI = confidence interval; IP = internal process team culture; HR = human relations team culture; RG = rational goal team culture; OS = open system team culture.

Mediating Role of Collective Regulatory Focus Between Team Culture and Team Performance

In Hypotheses 5a, 5b, and 5c, we anticipated the mediating effects of team prevention focus on the relationships between team embodiment of the internal process, human relations, and rational goal team cultures and team task performance, respectively. Meanwhile, Hypothesis 6 predicted that team promotion focus would mediate the relationship between team embodiment of the open system team culture and team creative performance. To test these mediating effects, we adopted the bootstrapping procedure (MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2008), which allowed the estimation of the sampling distribution of the proposed mediating effect. Table 4 presents the results of the bootstrapping analysis. Except for the rational goal team culture (effect size = .03; 95% confidence interval (CI) = [-.01, .11]), the proposed indirect effects were all supported. The internal process (effect size = .10; 95% CI = [.01, .22]) and human relations team cultures (effect size = .08; 95% CI = [.01, .18]) exerted significant indirect effects on team task performance through team prevention focus. Similarly, the open system team culture had a significant indirect effect on the team's creative performance via team promotion focus (effect size = .07; 95% CI = [.01, .15]). These findings supported Hypotheses 5a, 5b, and 6.

Table 5. Comparison of Alternative Structural Models.

Structural models	χ^2	df	CFI	TLI	RMSEA	AIC	$\Delta\chi^2$	p value of $\Delta\chi^2$
Model 0: Hypothesized structural model (IP/HR/OS → PVF/PMF → Task/Creative performance)	387.68	267	.91	.90	.06	530.68	—	—
Model 1: Reverse causality model (PVF/PMF → IP/HR/OS → Task/Creative performance)	443.32	268	.86	.86	.08	557.32	55.64	<.001
Model 2: Reverse causality model (Task/Creative performance → PVF/PMF → IP/HR/OS)	452.03	269	.87	.86	.08	564.03	64.35	<.001

Note. CFI = comparative fit index; TLI = Tucker Lewis index; AIC = Akaike information criterion; RMSEA = root mean square error approximation; IP = internal process team culture; HR = human relations team culture; OS = open system team culture; PVF = team prevention focus; PMF = team promotion focus.

Post Hoc Analysis

The proposed mediating relationships were confirmed through the bootstrapping analysis. Nonetheless, the cross-sectional nature of our study hampers strong causal inferences among variables. To explore the possible reverse causality among the variables, prior studies have compared the fit statistics of alternative structural models by using SEM (e.g., Chun, Shin, Choi, & Kim, 2013; Shin, 2014). Following this procedure, we specified two structural models that assessed alternative causal directions. Model 0 represented the proposed causal model in which team cultures predicted team performance through team regulatory foci. Model 1 specified reverse causality between team culture and team regulatory focus, thus predicting that team regulatory foci would foster their relevant mode of team culture, which in turn would enhance their corresponding aspects of team performance. Finally, Model 2 proposed another reverse causal model in which team task and creative performance shaped team cultures through the mediating process of team regulatory focus. Table 5 shows

that the proposed causal model (Model 0) demonstrated a decent fit to the data, $\chi^2(267) = 387.68$, CFI = .91, Tucker Lewis index (TLI) = .90, RMSEA = .06, Akaike information criterion (AIC) = 530.68. Moreover, Model 0 fit the data significantly better than either Model 1, $\Delta\chi^2(df=1) = 55.64$, $p < .001$, or Model 2, $\Delta\chi^2(df=2) = 64.35$, $p < .001$. These findings supported the proposed causal sequence among team culture, team regulatory focus, and team performance.

Discussion

Given the increasing empowerment and autonomy in work teams, the values and norms of the team are critical in understanding team processes and outcomes (Adkins & Caldwell, 2004). Moreover, in a highly competitive and complicated business environment, the ability to regulate the collective efforts of team members is considered the core competence for organizational teams (Rietzschel, 2011). Despite its obvious performance implications, the roles of team culture and collective regulatory focus have been neglected in team literature. Our findings indicated that team culture is a crucial ambient input of team performance, even after controlling for other pivotal ambient inputs, such as leadership and task characteristics. As hypothesized, the extent to which teams reflected the internal process and human relations cultures predicted team task performance, and these relationships were mediated by team prevention focus. In addition, the open system culture was linked to team creative performance through the mediating process of team promotion focus. Below, we discuss the implications and limitations of the present study.

Implications for Research

The current study contributes to the literature on subculture by demonstrating that subcultures indeed exist at the team level and vary across work teams, as evidenced by significant within-team agreement and between-team variability statistics for the four types of cultures. These findings are consistent with the results of prior research on subculture, which indicated the presence of different subcultures in an organization (e.g., Hofstede, 1998; Jerimer et al., 1991; Lok et al., 2005; Trice & Morand, 1991). In addition, the current analysis shows that different team cultures played unique, independent roles in predicting task and creative performance without suppressing the effect of the other. This pattern confirms the culture theory of Cameron and Quinn (2006), which maintains that different types of cultures are not mutually exclusive and reside in a work unit simultaneously, but these cultures can predict distinct outcomes. Furthermore, our study advances research on team

performance by identifying specific types of team culture conducive to different aspects of team performance and elucidating intervening mechanisms underlying these relationships.

The current findings provide meaningful insights into the link between team culture and collective regulatory focus. The extant literature has ignored this connection despite the argument that organizational culture is one of the key contextual determinants of regulatory focus (Brockner & Higgins, 2001). Thus, the values, goals, and norms that a team pursues should shape the regulatory focus of its members. According to our analysis, team values endorsing efficiency, control, and precision and team values stressing teamwork, consensus, and tradition strengthen the collective motivation of team members to fulfill their task requirements and avoid mistakes and failures. By contrast, when a team possesses group norms and values that pursue risk-taking, change, and flexibility, team members experience a collective motivational state toward hopes, ideals, and aspirations. These findings indicate that different types of team cultures can evoke distinct motivational states in a team.

The present study contributes to the rich body of mostly social-psychological and individual-level studies on regulatory focus (e.g., Crowe & Higgins, 1997; Friedman & Förster, 2001; Lam & Chiu, 2002; Neubert et al., 2008). To our knowledge, the study of Rietzschel (2011) was the first to attempt to measure and examine collective regulatory focus in intact work teams. Consistent with the findings of Rietzschel, the present study validates collective regulatory focus as a team-level construct. Furthermore, by revealing that the two regulatory foci are not only affected by different team cultures but also contribute to team task and creative performance differentially, our findings suggest that team prevention and promotion foci represent disparate dynamics in work teams. These results are in line with individual-level findings that prevention and promotion foci are affected by different antecedents and lead to distinct outcomes (e.g., Johnson et al., 2011; Neubert et al., 2008; Wallace & Chen, 2006). This pattern implies multilevel homology involving the nomological network of regulatory focus. In summary, the present study theorizes and validates a group-level nomological network of collective regulatory focus in organizational teams and thus highlights the value of prevention and promotion foci as collective properties with distinct performance implications.

Another important theoretical contribution of our study pertains to the mediating roles of team regulatory foci in the relationship between team culture and performance. The present findings reveal that team prevention and promotion foci are crucial motivational states that intervene in the ambient inputs–outcomes relationship, which endorses the core tenet of the team motivation model of Chen and Kanfer (2006). By uncovering independent

team-level pathways in which the internal process, human relations, and open system team cultures lead to distinct team outcomes via distinct regulatory focus, the current study advances the extant body of research on subculture and team performance.

Contrary to our prediction, the rational goal team culture was neither related to team prevention focus nor to team task performance. This result is inconsistent with prior findings that indicated a significant association between the rational goal culture and organizational performance (e.g., Denison & Mishra, 1995; Denison et al., 2014; Detert et al., 2000). The non-significant link between the rational goal team culture and task performance might be due to a marginally significant relationship between the rational goal team culture and team creative performance ($\beta = .23, p < .10$). In our sample, teams that focused on results and competitiveness generated more creative performance, which reflects the reality that many organizational teams consider creative performance as their strategic advantage (Amabile, 1997). Therefore, teams with a rational goal culture might have exerted more efforts in producing creative outputs rather than in performing routine tasks effectively. Another explanation for the weak effect of the rational goal culture is that placing too much emphasis on results may impede the intrinsic motivation of team members. Particularly, if a team culture fosters internal competitions among team members, they may not be willing to mobilize their collective efforts toward task accomplishment (Beersma et al., 2003). Thus, similar to the effects of performance-contingent pay, a rational goal culture could boost individual performance, but this could be harmful to team performance. Such effect of the rational goal culture on performance at different levels of organization warrants further empirical investigation.

Implications for Practice

With respect to managerial practice, our findings suggest that a relevant culture and regulatory focus should be promoted in a team to attain a specific type of team performance. To enhance team task performance, team leaders may need to foster an internal process or human relations culture by devising a control mechanism that supports such a culture (Ouchi, 1980). By clarifying roles and expectations to achieve stability and efficiency and rewarding behaviors reflecting those values, team leaders can engender an internal process culture and a collective prevention focus in their teams, which is a collective motivational state that is beneficial to team task performance. Likewise, focusing on teamwork, consensus, and employee development and reducing conflict within the team are possible ways to enhance team task performance by evoking a collective prevention focus.

Teams can benefit from cultivating an open system culture even though its direct effect is not manifested in their creative performance. By emphasizing values, such as risk-taking, flexibility, and innovation, encouraging optimism and new ways of working, and implementing a formal system to reward innovative ideas and behaviors, team leaders can elicit a collective promotion focus, which is a critical motivational state for enhancing creative performance. Similarly, Amabile (1988) argued that creativity could be facilitated by a creativity-inducing environment (e.g., group norms and culture supporting creativity). Apparently, an open system culture and a collective promotion focus can function as an environment that benefits team creativity.

The present findings suggest that several distinct pathways of culture-regulatory focus-performance identified in this study comprise relatively independent routes instead of competing or detracting from each other. Thus, leaders could pursue both regulatory foci and inspire their teams to achieve both high levels of task and creative performance because pursuing one route with distinct cultural norms and regulatory focus may not inhibit the other route if properly managed. Teams can ideally display high levels of prevention and promotion foci to maximize task and creative performance at the same time. To this end, organizations can enhance the sensitivity of their leaders to the task-related and contextual contingencies that prefer either one or both types of regulatory foci to implement strategies that best serve situational demands. Considering the increasing complexity of team task contexts and multiple demands that are often at odds with one another (e.g., achieving both productivity and innovativeness), leaders in contemporary organizations may need to be able to pursue different values, norms, and motivational states to achieve optimal performance in different domains.

Limitations and Directions for Future Research

Despite its theoretical and practical implications, this study has limitations. First, our post hoc analysis showed that the proposed mediating relationships were more valid than the reverse causal relationships, but causal inferences about the study variables are still limited due to the cross-sectional nature of the data. Bono and McNamara (2011) warned against the use of cross-sectional data because examining the effect of one variable on another inherently involves testing change. This issue becomes aggravated in testing mediation, which assesses the sequential effect of the independent variable on the dependent variable through the mediator. Given that mediation analysis requires temporal separation of independent variables, mediators, and dependent variables, future studies should employ longitudinal, panel, or experimental designs to draw a stronger conclusion about the mediating

effect of team regulatory focus on the relationship between team culture and performance (Bono & McNamara, 2011).

Second, although we constructed measurement scales that represented all the relevant aspects of each variable and exhibited sound psychometric properties, the use of abbreviated scales could undermine the construct validity of our study measures. Due to the constraint on the length of the survey, we only used a single item representing each sub-dimension of team prevention focus. Similarly, two sub-dimensions of team promotion focus were assessed with a single item. However, scholars caution that single-item measures can not only preclude capturing relatively complex constructs reliably (Loo, 2002) but also overestimate or underestimate the relationships among variables. Thus, the significant relationships between team prevention and promotion foci and their associated variables might have been affected by the measurement problems inherent in the use of single items. Therefore, future researchers may need to replicate the findings of the present study by using the full scale of each construct.

Third, as noted earlier, the use of small teams in our study caused moderate levels of ICC(2) values. Considering that ICC(1) values rarely exceed .30 in applied field research (Bliese, 2000), researchers need a sample of teams with more than 10 members to obtain ICC(2) values greater than .70. Nonetheless, as organizations are downsizing their teams to maximize adaptability and efficiency (DeRue, Hollenbeck, Johnson, Ilgen, & Jundt, 2008), obtaining data from larger teams could pose a challenge to researchers. To deal with this issue, future researchers should pay close attention to the potential trade-offs of small teams in their research design stage and use more reliable samples and measures of team-level constructs.

Finally, the present data were collected from diverse organizational teams, but our sample consisted of only Korean employees, which can weaken the generalizability of the current findings to other cultures. Researchers have reported that the prevailing types of cultural values and regulatory foci can differ across cultures (Hofstede, 1998; Lalwani, Shrum, & Chiu, 2009), which calls for research in more diverse cultures. Related to the issue of sample and research context, the dynamics involving team culture and regulatory focus may unfold differently in dissimilar types of teams. For instance, the effects of culture and regulatory focus on team creative performance may differ depending on the level of creativity required in the tasks of team members. Thus, future work could be directed at testing the propositions of the present study by investigating broader and more diverse samples and contexts. In addition, multilevel investigations of dynamics among culture, regulatory focus, and performance at different levels of organizations could constitute a meaningful research agenda.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Note

1. Alternative labels for the same culture are present in the organizational culture literature. The human relations culture has been labeled as a clan or supportive culture. The open system culture has been termed as an adhocracy, flexible, or innovative culture. Alternative labels for the internal process and rational goal cultures are a hierarchy or bureaucracy culture and a market or result-oriented culture, respectively. For the sake of consistency, we use Quinn and Rohrbaugh's (1983) labels in this article.

References

- Adkins, B., & Caldwell, D. (2004). Firms or subgroup culture: Where does fitting in matter most? *Journal of Organizational Behavior, 25*, 969-978.
- Allen, N. J., Stanley, D. J., Williams, H. M., & Ross, S. J. (2007). Assessing the impact of nonresponse on work group diversity effects. *Organizational Research Methods, 10*, 262-286.
- Amabile, T. M. (1997). Entrepreneurial creativity through motivational synergy. *Journal of Creative Behavior, 31*, 18-26.
- Amabile, T. M. (1988). A model of creativity and innovation in organizations. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 10, pp. 123-167). Greenwich, CT: JAI Press.
- Ashforth, B. E., & Mael, F. (1989). Social identity theory and the organization. *Academy of Management Review, 14*, 20-39.
- Basadur, M. S. (2004). Leading others to think innovatively together: Creative leadership. *Leadership Quarterly, 15*, 103-121.
- Bass, B. M. (1985). *Leadership and performance beyond expectation*. New York, NY: Free Press.
- Beersma, B., Hollenbeck, J. R., Humphrey, S. E., Moon, H., Conlon, D. F., & Ilgen, D. R. (2003). Cooperation, competition, and team performance: Toward a contingency approach. *Academy of Management Journal, 46*, 572-590.
- Berson, Y., Oreg, S., & Dvir, T. (2008). CEO values, organizational culture, and firm outcomes. *Journal of Organizational Behavior, 29*, 615-633.
- Bliese, P. D. (1998). Group size, ICC values, and group-level correlations: A simulation. *Organizational Research Methods, 1*, 355-373.
- Bliese, P. D. (2000). Within-group agreement, non-independence, and reliability: Implications for data aggregation and analysis. In K. J. Klein & S. W. J.

- Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations* (pp. 349-381). San Francisco, CA: Jossey-Bass.
- Bloor, G., & Dawson, P. (1994). Understanding professional culture in organizational context. *Organization Studies, 15*, 275-295.
- Bono, J. E., & McNamara, G. (2011). Publishing in AMJ—Part 2: Research design. *Academy of Management Journal, 54*, 657-660.
- Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt & W. C. Borman (Eds.), *Personnel selection in organizations* (pp. 71-98). San Francisco, CA: Jossey-Bass.
- Brockner, J., & Higgins, E. T. (2001). Regulatory Focus Theory: Implication for the study of emotions at work. *Organizational Behavior and Human Decision Processes, 86*, 35-66.
- Büschgens, T., Bausch, A., & Balkin, D. B. (2013). Organizational culture and innovation: A meta-analytic review. *Journal of Product Innovation Management, 30*, 763-781.
- Cameron, K. S., & Quinn, R. E. (2006). *Diagnosing and changing organizational culture: Based on the competing values framework*. San Francisco, CA: Jossey-Bass.
- Campion, M. A., Papper, E. M., & Medsker, G. J. (1996). Relations between work team characteristics and effectiveness: A replication and extension. *Personnel Psychology, 49*, 429-452.
- Chan, D. (1998). Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition models. *Journal of Applied Psychology, 83*, 234-246.
- Chatman, J. A., Caldwell, D. F., O'Reilly, C. A., & Doerr, B. (2014). Parsing organizational culture: How the norm for adaptability influences the relationship between culture consensus and financial performance in high-technology firms. *Journal of Organizational Behavior, 35*, 785-808.
- Chen, G., & Kanfer, R. (2006). Toward a systems theory of motivated behavior in work teams. *Research in Organizational Behavior, 27*, 223-267.
- Choi, J. N. (2009). Collective dynamics of citizenship behavior: What group characteristics promote group-level helping? *Journal of Management Studies, 46*, 1396-1420.
- Chuang, F., Morgan, R. E., & Robson, M. J. (2012). Clan culture, strategic orientation, and new product performance in Chinese marketing ventures: An exploration of main and moderating effects. *Journal of Strategic Marketing, 20*, 267-286.
- Chun, J. S., & Choi, J. N. (2014). Members' needs, intragroup conflict, and group performance. *Journal of Applied Psychology, 99*, 437-450.
- Chun, J. S., Shin, Y., Choi, J. N., & Kim, M. S. (2013). How does corporate ethics contribute to firm financial performance? The mediating role of collective organizational commitment and organizational citizenship behavior. *Journal of Management, 39*, 853-887.
- Conway, J. M., & Lance, C. E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology, 25*, 325-334.

- Crowe, E., & Higgins, E. T. (1997). Regulatory focus theory and strategic inclinations: Promotion and Prevention in decision making. *Organizational Behavior and Human Decision Processes*, *69*, 117-132.
- Deal, T. E., & Kennedy, A. A. (1982). *Corporate cultures*. Reading, MA: Addison-Wesley.
- Denison, D., & Mishra, A. K. (1995). Toward a theory of organizational culture and effectiveness. *Organization Science*, *6*, 204-223.
- Denison, D., Nieminen, L., & Kotrba, L. (2014). Diagnosing organizational cultures: A conceptual and empirical review of culture effectiveness surveys. *European Journal of Work & Organizational Psychology*, *23*, 145-161.
- DeRue, D. S., Hollenbeck, J. R., Johnson, M. D., Ilgen, D. R., & Jundt, D. K. (2008). How different team downsizing approaches influence team-level adaptation and performance? *Academy of Management Journal*, *51*, 182-196.
- Detert, J. R., Schroeder, R. G., & Mauriel, J. J. (2000). A framework for linking culture and improvement initiatives in organizations. *Academy of Management Review*, *25*, 850-863.
- Deverell, E., & Olsson, E. (2010). Organizational culture effects on strategy and adaptability in crisis management. *Risk Management*, *12*, 116-134.
- Dragoni, L. (2005). Understanding the emergence of state goal orientation in organizational work groups: The role of leadership and multilevel climate perceptions. *Journal of Applied Psychology*, *90*, 1084-1095.
- Ehrhart, M. G. (2004). Leadership and procedural justice climate at the unit level organizational citizenship behaviors. *Personnel Psychology*, *57*, 61-94.
- Faddegon, K., Ellemers, N., & Scheepers, D. (2009). Eager to be the best, or vigilant not to be the worst: The emergence of regulatory focus in disjunctive and conjunctive group tasks. *Group Processes & Intergroup Relations*, *12*, 653-671.
- Faddegon, K., Scheepers, D., & Ellemers, N. (2008). If we have the will, there will be a way: Regulatory focus as a group identity. *European Journal of Social Psychology*, *38*, 880-895.
- Förster, J., Higgins, E. T., & Taylor Bianco, A. (2003). Speed/accuracy decisions in task performance: Built-in trade-off or separate strategic concerns? *Organizational Behavior and Human Decision Processes*, *90*, 148-164.
- Fortado, B. (1994). Informational supervisory social control strategies. *Journal of Management Studies*, *31*, 251-274.
- Friedman, R. S., & Förster, J. (2001). The effects of promotion and prevention cues on creativity. *Journal of Personality and Social Psychology*, *81*, 1001-1013.
- Hackman, J. R. (1992). Group influences on individuals in organizations. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (Vol. 3, pp. 199-267). Palo Alto, CA: Consulting Psychologists Press.
- Higgins, E. T. (1998). Promotion and prevention: Regulatory focus as a motivational principle. *Advances in Experimental Social Psychology*, *30*, 1-46.
- Hofstede, G. (1998). Identifying organizational subcultures: An empirical approach. *Journal of Management Studies*, *35*, 1-12.
- James, L. R., Demaree, R. G., & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology*, *69*, 85-98.

- Jerimer, J. M., Slocum, J. W., Fry, L. W., & Gaines, J. (1991). Organizational subcultures in a soft bureaucracy: Resistance behind the myth and facade of an official culture. *Organization Science*, 2, 170-194.
- Johnson, P. D., Shull, A., & Wallace, J. C. (2011). Regulatory focus as a mediator in goal orientation and performance relationships. *Journal of Organizational Behavior*, 32, 751-766.
- Kark, R., & Van Dijk, D. (2007). Motivation to lead, motivation to follow: The role of the self-regulatory focus in leadership processes. *Academy of Management Review*, 32, 500-528.
- Kirkman, B. L., Chen, G., Farh, J., Chen, Z. X., & Lowe, K. B. (2009). Individual power distance orientation and follower reactions to transformational leaders: A cross-level, cross-cultural examination. *Academy of Management Journal*, 52, 744-764.
- Kirkman, B. L., & Rosen, B. (1999). Beyond self-management: Antecedents and consequences of team empowerment. *Academy of Management Journal*, 42, 58-74.
- Klein, K., Bliese, P. D., Kozlowski, S. W. J., Dansereau, F., Gavin, M. A., Hofmann, D. A., . . . Bligh, M. C. (2000). Multilevel analytical techniques: Commonalities, differences, and continuing questions. In K. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations* (pp. 512-553). San Francisco, CA: Jossey-Bass.
- Klein, K., Knight, A. P., Ziegert, J. C., Lim, B. C., & Saltz, J. L. (2011). When team members' values differ: The moderating role of team leadership. *Organizational Behavior and Human Decision Processes*, 114, 25-36.
- Klein, K., & Kozlowski, S. W. J. (2000). From micro to meso: Critical steps in conceptualizing and conducting multilevel research. *Organizational Research Methods*, 3, 211-236.
- Kozlowski, S. W., & Bell, B. S. (2003). Work groups and teams in organizations. In W. C. Borman, D. R. Illgen, & R. J. Klimoski (Eds.), *Comprehensive handbook of psychology, Vol. 12: Industrial and organizational psychology* (pp. 333-375). New York, NY: John Wiley.
- Lalwani, A. K., Shrum, L. J., & Chiu, C. (2009). Motivated response styles: The role of cultural values, regulatory focus, and self-consciousness in socially desirable responding. *Journal of Personality and Social Psychology*, 96, 870-882.
- Lam, T. W., & Chiu, C. Y. (2002). The motivational function of regulatory focus in creativity. *The Journal of Creative Behavior*, 36, 135-150.
- LeBreton, J. M., & Senter, J. L. (2008). Answers to 20 questions about interrater reliability and interrater agreement. *Organizational Research Methods*, 11, 815-852.
- Lee, A. Y., Aaker, J. L., & Gardner, W. K. (2000). The pleasures and pains of distinct self-construals: The role of interdependence in regulatory focus. *Journal of Personality and Social Psychology*, 78, 1122-1134.
- Levine, J. M., Higgins, E. T., & Choi, H. (2000). Development of strategic norms in groups. *Organizational Behavior and Human Decision Processes*, 82, 88-101.
- Lok, P., Westwood, R., & Crawford, J. (2005). Perceptions of organizational subculture and their significance for organizational commitment. *Applied Psychology: An International Review*, 54, 490-514.

- Loo, R. (2002). A caveat on using single-item versus multiple-item scales. *Journal of Managerial Psychology, 17*, 68-75.
- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research, 39*, 99-128.
- Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *Academy of Management Review, 26*, 345-376.
- McLean, L. D. (2005). Organizational culture's influence on creativity and innovation: A review of the literature and implications for human resource development. *Advances in Developing Human Resources, 7*, 226-246.
- Meyerson, D., & Martin, J. (1987). Cultural change: An integration of three different views. *Journal of Management Studies, 24*, 623-647.
- Mintzberg, H. (1979). *The structuring of organizations*. Englewood Cliffs, NJ: Prentice Hall.
- Morgan, P. I., & Ogbonna, E. (2008). Subcultural dynamics in transformation: A multi-perspective study of healthcare professionals. *Human Relations, 61*, 39-65.
- Neubert, M. J., Kacmar, K. M., Carlson, D. S., Chonko, L. B., & Roberts, J. A. (2008). Regulatory focus as a mediator of the influence of initiating structure and servant leadership on employee behavior. *Journal of Applied Psychology, 93*, 1220-1233.
- Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal, 39*, 607-634.
- O'Reilly, C. A. (1989). Corporations, culture and commitment: Motivation and social control in organizations. *California Management Review, 31*, 9-25.
- O'Reilly, C. A., & Chatman, J. A. (1996). Culture as social control: Corporations, culture, and commitment. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 18, pp. 157-200). Greenwich, CT: JAI Press.
- O'Reilly, C. A., Chatman, J. A., & Caldwell, D. F. (1991). People and organizational culture: A profile comparison approach to assessing person-organization fit. *Academy of Management Journal, 34*, 487-516.
- Ostroff, C., Kinicki, A. J., & Clark, M. A. (2002). Substantive and operational issues of response bias across levels of analysis: An example of climate-satisfaction relationships. *Journal of Applied Psychology, 87*, 355-368.
- Ostroff, C., Kinicki, A. J., & Tamkins, M. M. (2003). Organizational culture and climate. In W. C. Borman, D. R. Ilgen, & R. J. Klimoski (Eds.), *Handbook of psychology, Vol. 12: Industrial and organizational psychology* (pp. 565-593). Hoboken, NJ: John Wiley.
- Ostroff, C., Shin, Y., & Kinicki, A. J. (2005). Multiple perspectives of congruence: Relationships between value congruence and employee attitudes. *Journal of Organizational Behavior, 25*, 591-623.
- Ouchi, W. G. (1980). Markets, bureaucracies, and clans. *Administrative Science Quarterly, 25*, 129-141.
- Pearce, C. L., & Herbig, P. A. (2004). Citizenship behavior at the team level of analysis: The effects of team leadership, team commitment, perceived team support, and team size. *Journal of Social Psychology, 144*, 293-310.

- Pearce, J. L., & Gregersen, H. B. (1991). Task interdependence and extrarole behavior: A test of the mediating effects of felt responsibility. *Journal of Applied Psychology, 76*, 838-844.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*, 879-891.
- Price, R. H., Choi, J. N., & Vinokur, D. A. (2002). Links in the chain of diversity following job loss: How financial strain and loss of personal control lead to depression, impaired functioning, and poor health. *Journal of Occupational Health Psychology, 7*, 302-312.
- Quinn, R. E., & Rohrbaugh, J. (1983). A spatial model of effectiveness criteria: Toward a competing values approach to organizational analysis. *Management Science, 29*, 363-377.
- Rietzschel, E. F. (2011). Collective regulatory focus predicts specific aspects of team innovation. *Group Processes & Intergroup Relations, 14*, 337-345.
- Sackmann, S. A. (1992). Culture and subcultures: An analysis of organizational knowledge. *Administrative Science Quarterly, 37*, 140-161.
- Schein, E. H. (1992). *Organizational culture and leadership* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Shalley, C. E., & Gilson, L. L. (2004). What leaders need to know: A review of social contextual factors that can foster or hinder creativity. *Leadership Quarterly, 15*, 33-53.
- Shin, Y. (2014). Positive group affect and team creativity: Mediation of team reflexivity and promotion focus. *Small Group Research, 45*, 337-364.
- Shin, Y., & Eom, C. (2014). Team proactivity as a linking mechanism between team creative efficacy, transformational leadership, and risk taking norms and team creative performance. *The Journal of Creative Behavior, 48*, 89-114.
- Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. G. Austin (Eds.), *Psychology of intergroup relations* (2nd ed., pp. 7-24). Chicago, IL: Nelson-Hall.
- Trice, H., & Morand, D. (1991). Organizational subculture and countercultures. In G. Miller (Ed.), *Studies in organizational sociology* (pp. 45-69). Greenwich, CT: JAI Press.
- Uskul, A. K., Sherman, D. K., & Fitzgibbon, J. (2009). The cultural congruency effect: Culture, regulatory focus, and the effectiveness of gain- vs. loss-framed health messages. *Journal of Experimental Social Psychology, 45*, 535-541.
- Van Dijk, D., & Kluger, A. N. (2011). Task type as a moderator of positive/negative feedback effects on motivation and performance: A regulatory focus perspective. *Journal of Organizational Behavior, 32*, 1084-1105.
- van Dyck, C., Frese, M., Baer, M., & Sonnentag, S. (2005). Organizational error management culture and its impact on performance: A two-study replication. *Journal of Applied Psychology, 90*, 1228-1240.
- Van Maanen, J., & Barley, S. R. (1984). Occupational communities: Culture and control in organizations. In B. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 6, pp. 287-365). Greenwich, CT: JAI Press.

- Wallace, C., & Chen, G. (2006). A multilevel integration of personality, climate, self-regulation, and performance. *Personnel Psychology, 59*, 529-557.
- Wei, Y., Samiee, S., & Lee, R. P. (2014). The influence of organic organizational cultures, market responsiveness, and product strategy on firm performance in an emerging market. *Journal of the Academy of Marketing Science, 42*, 49-70.
- Westphal, J. D., & Khanna, P. (2003). Keeping directors in line: Social distancing as a control mechanism in the corporate elite. *Administrative Science Quarterly, 43*, 361-398.
- Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management, 17*, 601-617.
- Zaal, M. P., Van Laar, C., Stahl, T., Ellemers, N., & Derks, B. (2012). Social change as an important goal or likely outcome: How regulatory focus affects commitment to collective action. *British Journal of Social Psychology, 51*, 93-110.

Accepted Date: 10 April 2015

Submitted Date: 26 December 2013

Associate Editor: William Gardner

Author Biographies

Yuhung Shin is an associate professor at the School of Business, Hanyang University, Korea. She earned her Ph. D. in organizational psychology from Columbia University. Her research interests include team processes and effectiveness, regulatory focus, proactive behavior, and organizational culture and climate.

Mihee Kim is a Ph. D. student at the School of Business, Hanyang University, Korea. Her research interests include regulatory focus, reflexivity, and creativity in work teams.

Jin Nam Choi is Professor of Management at the College of Business Administration, Seoul National University, Korea. He earned his Ph.D. in Organizational Psychology from the University of Michigan. His research interests include innovation implementation, organizational creativity, and multilevel processes of human behavior in organizations.

Sang-Hoon Lee is a master student at the School of Business, Hanyang University, Korea. His research interests include team culture, regulatory focus, and organizational citizenship behavior.