Article

How Team Emotional Intelligence Connects to Task Performance: A Network Approach

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Abstract

Drawing on a social network analysis, we examined the role of social network structure (i.e., friendship network density) as a mediating factor linking team average emotional intelligence (EI) with team task performance and how this relationship is influenced by intrateam trust. The results from 97 teams (466 team members) working on student projects in a business university over a semester indicated that teams with higher average EI exhibit a higher density of friendship networks and better team task performance in contexts characterized by higher intrateam trust. The study increases our understanding of the mechanism through which EI at the team level may affect team performance and provides new insights into how team managers and members might enhance the effectiveness of project teams.

Keywords

team emotional intelligence, team performance, social network, network density

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Teams are prevalent in organizations and the use of teams is expected to continue to increase. However, an estimated 60% of these teams fail to achieve their goals (Courtright et al., 2017). The performance of teams is influenced by various input factors and team emotional intelligence (EI), as an input factor reflecting the emotional capabilities and resources that individual team members bring to the team, has been identified as one of the key predictors of team performance (e.g., Côté, 2007; Elfenbein, 2006; Stephens & Carmeli, 2016). Despite recognition of the importance of EI to team functioning (e.g., Hjertø & Paulsen, 2016; Troth et al., 2012), no studies have fully clarified the specific processes by which team-level EI relates to group-level outcomes. Our goal is to develop and present a model aimed at closing this gap.

Thus far, scholars have primarily studied intrateam trust (e.g., Barczak et al., 2010; Rezvani et al., 2018) and relationship conflict (e.g., Rezvani et al., 2019) by focusing on the mean levels of perceptions among team members in understanding the functioning of team EI. To our knowledge, no studies have examined the structural properties regarding team processes as mediating mechanisms of the team EI and team performance relationship. We argue that focusing on mean levels of group processes overlooks the structural properties and is insufficient to fully understand the role of group processes through which team EI influences performance outcomes. When team members who share responsibility for specific outcomes interact, they might both create some shared perceptions of group processes (e.g., intrateam trust, team commitment, team conflict) and develop their own individual social structures and networks (e.g., subgroups, friendship networks, team trust asymmetry). We therefore assess the combination of the shared and structural factors that could explain the positive association between team EI and team performance. Specifically, by focusing on mean EI as a proxy for the team, we investigated (a) the role of social network structure (i.e., friendship network density, an exemplar of structural properties regarding team processes) as a mediating factor linking team average EI with team task performance and (b) how this relationship is influenced by intrateam trust (an exemplar of shared perceptions of team processes).

Our research contributes to previous research in several aspects. First, scholars have developed and tested several mediating team processes through which team EI influences team outcomes by focusing on shared perceptions among team members. However, little attention has been directed toward the dynamic processes regarding the patterns of interaction in a team through which EI affects group outcomes. We went beyond the explanations offered by focusing on mean levels of perceptions alone in the literature and provided a more complete paradigm in explaining the effects of team EI on team effectiveness by jointly considering the shared perceptions and the patterns of interaction of group processes.

Second, social network scholars have differentiated the content and structure as two important aspects of team process mechanisms that explain the association between inputs and outcomes in groups (Carton & Cummings, 2012; Crawford & LePine, 2013). The content-based perspective of team phenomena specifies what exactly it is and focuses on the elemental characteristics (e.g., perceptions, attitudes, or behaviors) which represent the substance of interaction in a team. The structure-based perspective of team phenomena illustrates who exactly interacts with whom and highlights configural properties (e.g., density, centralization, or clique) which indicate the patterns of interaction in a team. We examined the dynamic processes through which team EI affects team performance by employing the structural perspective derived from social network analysis. It goes beyond study strategies that merely test for the existence of team member EI and performance linkages or that examine solely perceptions of team processes by at least starting the process of examining how the structure of network ties within a group may contribute to EI–outcome relationships.

Third, although research on whether team EI contributes to more effective team functioning and outcomes has increased recently (e.g., Jamshed & Majeed, 2019; Macht et al., 2019; Paik et al., 2019), how and when team-based EI affects team performance has been rarely examined (for one exception, see Wang, 2015). We traced mean levels of team member EI to task performance and examined the effects of team EI on team effectiveness through the structural influence of team process which is moderated in part by the shared perceptions of team processes. Therefore, the contribution of this research could simply be to examine for one of the first times the mechanisms and contingencies involved in the relationship between team-level EI and team performance.

Theoretical Background

Effective team processes embedded in interpersonal interactions might be essential for how team-level EI affects team outcomes. According to a multilevel perspective, team processes are inherently multilevel phenomena that emerge bottom-up (i.e., individual to team) from team member interactions and the emergent phenomena of team processes can be conceptualized in terms of both composition and compilation models (Kozlowski, 2015; Kozlowski & Chao, 2012; Kozlowski & Klein, 2000). We use the multilevel perspective (Kozlowski & Chao, 2012) to unpack group processes that could explain the positive association between team EI and team performance.

Multilevel theorists have distinguished multilevel constructs that emerge via either composition models or compilation models (Kozlowski, 2015;

Kozlowski & Chao, 2018). Composition models reflect shared perceptions of the extent to which process interactions occur generally among members and are concerned with agreement among members with respect to some general team property. High homogeneity indicates that a compositional phenomenon has emerged. In contrast to composition models, compilation models assume discontinuity and complex nonlinear emergence of constructs and are concerned with patterns, distribution, and variability among specific member contributions on team processes. This form of emergence is "analogous to the way different puzzle pieces fit together to create a meaningful unit" (Kozlowski & Chao, 2012, p. 339) and need not converge or coalesce among members.

For composition models, within-unit consensus (agreement) or consistency (reliability) is often used to justify composition of the unit-level construct, and dispersion among members is assumed to be small. The group-level mean based on an aggregate methodology is a typical representation of the shared team perception. Regarding compilational constructs of a team, there are at least two approaches in conceptualizing and measuring them. The first approach is based on an aggregate methodology, which is widely used to measure structures in terms of simple forms of dispersion (e.g., the variance around the group-level mean, the proportion of team members with some characteristic) as well as other distributions (e.g., minimum, maximum, polarization). The second approach is based on a network-based theory, which is used to assess configurational properties of a team in terms of the patterning of ties among its members (e.g., network closure; network centralization; subgroups).

Compared with an aggregate-based approach relying on measurements focusing on individuals and a process of aggregating individual-level perceptions to infer group-level structures, a network-based approach directly focuses on patterns of relational ties (e.g., the dyadic interactions in a team) and how these patterns influence the team as a whole. A core advantage of a network-based approach is that it becomes possible to better understand the specific types of resources and information flows that can explain more comprehensively why team processes influence team effectiveness. Likewise, network theory offers a number of different ways of conceptualizing and measuring structures, which can be used to assess the extent to which compilational constructs of team processes partly affected by team EI (as an input of emotional resources) have emerged for the team as a unit. Therefore, we examine the compilation-based emergences of team processes involved in the relationship between EI at the team level and team performance using social network analysis.

Team EI and Team Task Performance

Team-level EI is somewhat different from individual-level EI. A person's EI is an individual difference characteristic in related competencies that include accurately perceiving and understanding emotion in the self and others and utilizing, regulating, and managing emotion in adaptive ways (Bar-On & Parker, 2000; J. D. Mayer et al., 2008), whereas team EI has been conceptualized either as a cumulative group construct which is based in stable individual properties and has no emergence process or as an emergent group construct which is collectively created through interactions among the members and needs interaction or time to come into existence. The cumulative approach is resource based and views team EI as an input factor reflecting the emotional capabilities and resources that individual team members bring to the team (e.g., Chang et al., 2012; Jordan et al., 2002; Troth et al., 2012). The emergent approach is norm based and regards team EI as the ability of a group to develop a set of norms that promote awareness and regulation of member and group emotions (e.g., Druskat & Wolff, 2001; Koman & Wolff, 2008).

In the current model and study, given that team membership in our sampling teams is relatively short term which might limit the development of team norms shared among members, we take a resource-based framework and conceptualize team-level EI as an input factor, resulting in a sum of parts approach measured by the average of individual team members' EI regardless of the distribution between team members in EI. Team EI refers to the level of EI that team members collectively possess. Featuring a team as high score on EI would imply that, for the team as a unit, its members would be good at perceiving, understanding, utilizing, and managing emotion. That is, a team can procure a higher level of EI by having members with higher individual EI. Put differently, a team with high levels of team EI does not mean that all teammates have to score high on EI, just that there are at least a proportion of team members whose scores are high and exceed others for the team.

Teams consist of individual members who collectively contribute to team success (Li et al., 2015). As members with high EI are important assets to teams, having more EI resources within a group, across persons, would achieve greater team performance. The greater the level of EI within the group, the greater the group's resources in handling emotional issues, managing emotional content, and regulating emotional expression should be. Teams high on average EI should possess and display the empathy, persuasion, influence, emotional communication, and collaboration skills necessary to concentrate group efforts toward collective objectives. Prior research work has indicated that members with high EI are more likely to set a productive

emotional tone (e.g., pro-team collaboration, team psychological safety) and are more adept at deciphering the emotions of teammates without misunderstanding the intentions of their counterparts, which would enhance team performance (e.g., Chang et al., 2012; Elfenbein et al., 2007; Troth et al., 2012). Combining the above-noted premise with existing empirical evidence, we propose the following hypothesis:

H1: Team EI is positively related to team task performance.

Team EI and Social Network Density

Social networks are constructed from several types of ties (Baldwin et al., 1997). Density is a social network feature that has been used to describe the structure of a specified network (Roberson & Williamson, 2012). Social network density is calculated as the proportion of relationships existing between network members relative to all the relationships that could exist if all members were connected to each other, thus assessing the relative number of social ties in the whole network (Burt, 1992; also see Roberson & Williamson, 2012). Network researchers have distinguished different relationship types within and between groups (Baldwin et al., 1997; Ibarra & Andrews, 1993; Klein et al., 2004). Friendship network tie is one type of relationship in a social network. It reflects friendships and serves as a channel for the exchange of interpersonal resources, such as values, trust, and social support (Baldwin et al., 1997). Keeping in line with prior research on group and interpersonal relationships, we focus on friendship networks within groups (Jehn & Shah, 1997; Shah et al., 2006).

Teamwork often results in the establishment of friendship ties. In project team contexts, we argue that team-based EI influences friendship network density in two ways. First, as a pooled factor, aggregate levels of EI can increase or decrease the team's overall friendship network ties. Prior evidence has indicated that an individual with higher EI occupies a central position within friendship networks and has more friendship ties than those with lower EI (Miners, 2008; Zhang & Huang, 2015). Thus, teams with more members scoring higher on EI should have more friendship networks ties. Second, as an interactive factor, EI can shape team processes (e.g., team mood, team commitment, relationship conflict) by influencing team member interactions and indirectly impact overall friendship network density. Teams with more members scoring higher on EI should be less likely to be disrupted by temperamental and impulsive members and have inherent advantages in building and maintaining harmonious interpersonal relationships. As a result, a high level of team EI may offer more socioemotional support and facilitate

social interaction, which in turn creates more dense friendship networks. Accordingly, we propose the following hypothesis:

H2: Team EI is positively related to friendship network density.

The Mediating Effect of Friendship Network Density

We further posit that friendship network density is a path, or mediating mechanism, connecting team EI and team task performance. Social network researchers present two mechanisms that explain the effects of social networks: the external view and the internal view (Adler & Kwon, 2002; Krackhardt, 1992). In the external view, weak ties provide people with access to information and resources beyond those available in their own social circles (Burt, 1992; Granovetter, 1982; Krackhardt, 1992). It is the resources flowing through networks that lead to outcomes (Lin et al., 1981). In the internal view, strong ties provide greater motivation to be of assistance (Granovetter, 1982; also see Krackhardt, 1992). It is the mutual aid that leads to outcomes. In this study, we examine the social networks in specific project teams and focus on the degree of connectivity within a team network. Therefore, the internal or strong tie view provides a theoretical basis for this work.

Previous research has generally supported the influence of friendship on team performance (e.g., Jehn & Shah, 1997; Oh et al., 2004; Shah et al., 2006). We expect that the density of a friendship network will be positively related to team task performance based on the internal view. Specifically, a dense friendship network derives from their interactions, shared experiences, affective closeness (Coleman, 1990), and a mutual exchange of social resources, which indicates strong socialization among team members (Burt, 1987). Dense ties facilitate resource exchange between partners and encourage individuals to act in accordance with each other's expectations (Krackhardt, 1992). When team members support, respect, and help each other, the team should benefit in terms of a stronger sense of positive energy, greater collaboration, and a lower tendency to engage in social loafing. A relatively larger number of group members with ties indicate greater mutual interdependence among members. As Molm (1994) suggested, mutual interdependence fosters cooperation and information sharing, which in turn enhances group performance.

By combining the above hypotheses H1 and H2 with the premise for the link between friendship network density and team performance, we argue that higher team average EI should be able to create more optimal configurations of social ties (i.e., more dense friendship networks) within teams, and

eventually result in higher team performance. Thus, we propose the following hypothesis:

H3: Friendship network density mediates the positive relationship between team EI and team task performance.

The Moderating Effect of Intrateam Trust

In the field of organizational behavior, trust has been conceptualized as either unidimensional (e.g., R. C. Mayer et al., 1995) or multidimensional (e.g., McAllister, 1995). However, both of these conceptualizations emphasize that trust is intimately related to benevolence, honesty, and competence (R. C. Mayer et al., 1995; Simons & Peterson, 2000). Several studies have indicated that higher levels of team EI are associated with higher levels of mutual trust among team members and found that the impact of team EI on team outcomes is mediated by the intrateam trust (e.g., Barczak et al., 2010; Chang et al., 2012; Rezvani et al., 2018). In this study, however, we argue that intrateam trust, as part of a supportive team environment (Jehn & Mannix, 2001; Jehn et al., 2010), may function as a moderating mechanism underlying how team EI affects social network density.

Trusting team members may result in better communication and greater mutual support and motivation for members to pursue shared goals. In higher intrateam trust contexts, members with higher EI do not need to expend their socioemotional resources that could otherwise be dedicated to positive, cooperative activity contributing to the formation of friendship ties, whereas members with lower EI may be motivated to pursue more social interaction through better communication, more mutual support, and higher levels of cooperation. Frequent social interactions might enhance the possibility of developing friendship ties. When a team has low levels of trust, members with higher EI may allocate extra socioemotional resources to engage in resolving interpersonal disputes and differences to marshal collective efforts toward the team's goals. This may lead them to lessen the pool of available resources from which team members can draw to better sense and understand the emotional cues exhibited by team members and responding to them appropriately, which in turn may go against developing friendship. Lower EI members may be less willing to engage in communicating with other members and sharing resources (e.g., information, guidance, and assistance) due to their preoccupation with nonproductive issues (e.g., self-protection) and counterproductive emotions, which may reduce the potential of developing friendship ties among members. Therefore, we propose the following hypothesis:

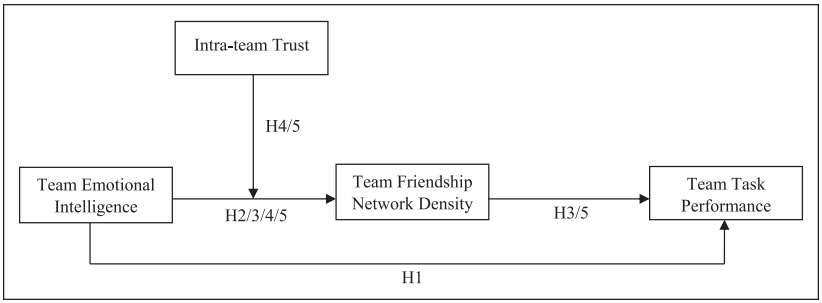

Figure 1. The proposed model.

H4: Intrateam trust moderates the positive relationship between team EI and team friendship network density so that the relationship is stronger under conditions of higher intrateam trust than under lower intrateam trust.

We have proposed that average team EI will interact with intrateam trust such that the positive relationship between team average EI and the density of the friendship network will be stronger when intrateam trust is high. Likewise, we have also assumed that friendship network density is positively related to team task performance. Based on the aforementioned propositions, we further develop and examine an integrated model (see Figure 1) that included both shared perceptions and configural patterns of team processes as mechanisms through which team EI relates to team performance. Such a rationale could mainly be grounded in the idea that the influence of team EI on team performance may be created and transmitted by optimal social networks (i.e., friendship network ties), depending on intrateam trust. Accordingly, we propose the following hypothesis:

H5: The indirect effect of average team EI on team task performance through the density of friendship networks will be stronger when the team exhibits high (vs low) intrateam trust.

Method

Sample and Procedure

A sample of undergraduate and postgraduate students from a university in eastern China was used for this study. A total of 470 responses from 98 teams

were collected. After deleting incomplete surveys, 466 responses representing 97 teams were analyzed. On average, the teams included approximately five members ($M = 4.80$, $SD = 1.05$), with team size ranging from three to seven members. Among the sample, 76.2% of the respondents were females, and 23.8% were males (four people did not report their sex). The age of the respondents ranged from 19 to 27 years ($M = 21.16$, $SD = 1.23$).

The project teams were formed by the instructors based on the students' various disciplinary backgrounds. Ninety seven teams worked on a semester-long project as part of a management class requiring them to (a) identify and research a novel business-related practice (e.g., human resource recruitment, training and development, or entrepreneurship plan), (b) develop and deliver a class presentation on the topic, and (c) write a team report on it. Each team had complete responsibility for determining what topic it would choose to research, how the team would be organized and arranged, how the team task and workload would be distributed among team members, and what the format of the presentation and final paper would be.

Before the data were collected, the instructors explained the purpose of the research to the participants and guaranteed that all responses would be kept confidential and used only for third-party research purposes. Due to circumstance constraints, we used two different ways to collect research data. Survey data from 53 project teams were collected at two time points separated by approximately 2 months. At Time 1 (at the time teams were formed), participants completed measures of EI and demographic characteristics. Two months later, at Time 2 (at the end of the project), participants rated their perceptions of intrateam trust and the density of friendship networks, focusing on the team project. Each respondent also provided individual peer ratings of their fellow team members in terms of their task performance in the team project work. Data from the other 44 project teams that also worked on a semester-long project were collected at two time points that were separated only by approximately half an hour at the end of the project. In the first class, participants completed the measures of Time 1. In the next class (approximately 30 min later), participants responded to the measures of Time 2. All the surveys were completed during class time.

Measures

EI. Participants responded to a 16-item self-report measure of EI (Wong & Law, 2002). The measure reflects a broad definition of general EI. Participants rated each item using a five-point Likert-type response scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Examples of the sample items include "I have a good understanding of the emotions of the people

around me" and "I am able to control my temper and handle difficulties rationally." Cronbach's alpha for all 16 items was .85. We applied the average scores to yield the team-level measure but did not include aggregation statistics. This is because team EI is conceptualized as a pooled resource that each member brings to the team, and team EI is not necessary to demonstrate a high degree of similarity among team members before calculating an average value (Chan, 1998; Elfenbein, 2006). This consideration is consistent with past studies on similar topics (e.g., Feyerherm & Rice, 2002; Jordan & Troth, 2004).

Intrateam trust. We assessed intrateam trust using a five-item Likert-type scale that has been employed successfully with prior team samples (Simons & Peterson, 2000). Examples of the sample items include "We absolutely respect each other's competences" and "We count on each other to fully live up to our word." Respondents rated these items on a scale ranging from 1 (*never*) to 7 (*always*), and the item responses were summed across all items. Cronbach's reliability coefficient for the scale was .85. Checks for aggregating individual rating to the team level using an average score yielded acceptable values (Castro, 2002; James et al., 1993; LeBreton & Senter, 2008): The average r_{wg} (J) across the 97 teams was .94, and the respective ICC(1) and ICC(2) values were .26 and .63, respectively, indicating support for aggregation from individual responses into a team-level measure of intrateam trust.

Friendship network density. Members of each team were asked to list the names of all of their team members. Friendship ties were measured by asking participants to answer the following question about each member of their team: "Is this person a good friend of yours, someone you socialize with during your free time?" This question was adapted from Baldwin et al. (1997). Respondents answered by indicating *yes* or *no* to the question (Klein et al., 2004; Miners, 2008). Using the responses to the question, we created friendship network matrixes for each team. Therefore, within a team, Person A could give Person B a yes-friendship tie, but Person B could give Person A a no-friendship tie. We calculated friendship network density by totaling the responses of every team member to the friendship network question and dividing this total by the maximum possible score for a team's matrix (also see Roberson & Williamson, 2012). We made the density calculations using the Pajek statistical software package (de Nooy et al., 2005).

Task performance. The measure used by Lam et al. (2002) was applied to assess task performance. This measure consisted of three items: "This team member is very competent," "This team member gets his or her work done

very effectively," and "This team member has performed his/her job well." Participants rated the items on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) for each of their team members. Reliability for the task performance scale was .92. We aggregated the ratings from the team members into a team-level measure of team task performance via a two-step process. First, we averaged the peer ratings of each of their fellow team members for everyone's task performance. Using all available peer ratings ($N = 1{,}878$) for the 466 ratees in the 97 teams, we figured out interrater reliabilities. As the results of r_{wg} for each teammate showed that a mean r_{wg} of .88 for task performance was ideal, each teammate received an averaged aggregated score across his or her peers for each of the task performance items. Then, we aggregated individual team member's task performance within each team to assess their teams' task performance for the team-level analyses in this study. As expected, aggregating the ratings from the team members into a team-level measure of team task performance yielded acceptable values; the average r_{wg} across the 97 teams was .95, the interrater reliability (ICC(1)) was .33, and reliability of group mean (ICC(2)) was .70, providing support for aggregation.

Control variables. Several control variables, such as team size, age, and gender, were included in our analyses. We also collected the participants' GPAs (grade point averages) as a proxy of cognitive ability. This information was obtained from the student status system after permission was granted by the participants and the management officer. Because prior literature has demonstrated that team size, age, gender, and cognitive ability were related to team processes and outcomes (e.g., Barrick et al., 1998; Troth et al., 2012), we included them and applied average scores to generate the team-level measures on age, gender, and GPA when assessing the relationships reported in our hypotheses. A dummy variable was included to control for potential systematic differences between two types of student teams in the sample (i.e., 2-month-interval cohort vs half-an-hour-interval cohort). In addition, we controlled for team EI diversity which was calculated using the within-group standard deviation of EI to exclude potential effects masked by the variability in individual EI.

Results

Means, standard deviations, and correlations for the key study variables are presented in Table 1. Five hypotheses were tested via regression analysis using Mplus 6.11. The control variables were held constant in these analyses. The interaction terms were calculated using mean-centered variables.

Table 1. Means, Standard Deviations, and Correlations Among Key Variables ($N = 97$).

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Team size	4.80	1.05	—									
2. Sample dummy[a]	1.45	0.50	.41**	—								
3. Age	21.21	1.04	−.20	−.17	—							
4. Gender[b]	1.76	0.32	.01	−.01	−.15	—						
5. GPA	2.75	0.23	−.05	−.04	.18	.24*	—					
6. Team EI diversity	0.41	0.17	−.01	−.03	−.10	−.16	.00	—				
7. Team average EI	3.83	0.22	.12	.00	.04	.07	.06	.00	**.85**			
8. Intrateam trust	6.12	0.51	−.03	.11	.02	.16	.26**	.09	.32**	**.85**		
9. Friendship network density	0.68	0.23	−.24*	−.11	.08	.10	.34**	.02	.16	.48**	—	
10. Team task performance	4.18	0.39	.01	.00	.03	.02	.22*	.25*	.32**	.71**	.48**	**.92**

Note. Scale reliabilities are on the diagonal in bold. GPA = grade point average; EI = emotional intelligence.
[a]Dummy coded: 1 = 2-month interval; 2 = half-an-hour interval. [b]Dummy coded: 1 = male; 2 = female.
*$p < .05$. **$p < .01$.

Table 2. Unstandardized Coefficients of Regression Analyses.

	Team task performance	Friendship network density	Team task performance	Friendship network density
Variables	M1	M2	M3	M4
Team size	−.009 (.038)	−.056* (.023)	.032 (.035)	−.037 (.020)
Sample dummy[a]	.019 (.078)	−.001 (.047)	.020 (.070)	−.036 (.042)
Age	.000 (.036)	−.008 (.022)	.006 (.033)	−.008 (.019)
Gender[b]	−.011 (.119)	.008 (.071)	−.017 (.106)	−.032 (.064)
GPA	.341* (.161)	.316** (.097)	.107 (.152)	.267** (.009)
Team EI diversity	.556** (.210)	.022 (.126)	.540** (.188)	−.069 (.113)
Team average EI	.538** (.163)	.179 (.098)	.405** (.149)	−.028 (.096)
Friendship network density			.743** (.152)	
Intrateam trust				.200** (.042)
Team average EI × Intrateam trust				.042* (.018)

Note. $N = 97$ teams. Standard errors are included in parentheses. GPA = grade point average; EI = emotional intelligence.
[a]Dummy coded: 1 = 2-month interval; 2 = half-an-hour interval. [b]Dummy coded: 1 = male; 2 = female.
*$p < .05$. **$p < .01$.

H1 proposed that higher team EI was related to better team task performance. Model 1 in Table 2 shows that the effect of team EI on team task performance was significant and positive ($B = .538$, $t = 3.298$, $p < .01$), providing support for H1. H2 proposed that team EI was positively related to friendship network density. Model 2 in Table 2 shows that the effect of team EI on friendship network density was not significant ($B = .179$, $t = 1.828$, $p = .068$), which does not support H2.

The mediation hypothesis (H3) was tested via the bootstrapping-based path analytic approach of Edwards and Lambert (2007) in Mplus 6.11. This procedure was used to reflect the asymmetric nature of the sampling distribution of an indirect effect (Bauer et al., 2006; Preacher et al., 2010). With 2,000 bootstraps, we found that the indirect effect for team EI → friendship network density → team task performance was .133 ($p = .071$) after controlling for team size, sample dummy, age, gender, GPA, and team EI diversity, with a 95% bias-corrected bootstrap confidence interval (CI) of [−.011, .277]. The finding indicates that team EI was not significantly positively related to team task performance via friendship network density; thus, H3 was not supported.

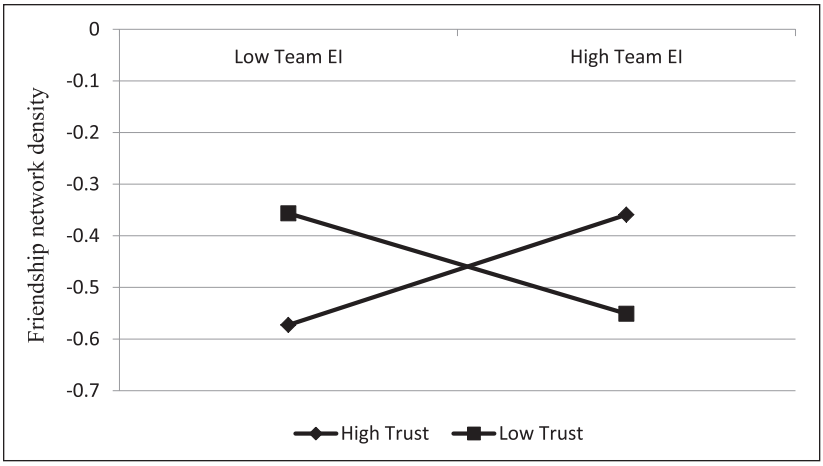

Figure 2. Intrateam trust moderates the effect of team average EI on friendship network density.
Note. EI = emotional intelligence.

H4 stated that average team EI would relate more positively to the density of the friendship network in high-intrateam-trust contexts. The results showed a significant interaction between average team EI and intrateam trust in predicting the density of friendship networks (Model 4, Table 2). To facilitate the interpretation of the interaction, as Aiken and West (1991) recommended, we plotted the interaction (Figure 2) after splitting the sample into two parts by mean score on intrateam trust and found that it was consistent with Hypothesis 4. The simple slope representing the association between average team EI and the density of the friendship network was positive and significant at one standard deviation above the mean in an intrateam trust context ($B = .258$, $t = 2.704$, $p < .01$) after controlling for team size, sample dummy, age, gender, GPA, and team EI diversity, but was not significant at one standard deviation below the mean in an intrateam trust context ($B = -.297$, $t = -1.635$, $p > .05$). The difference, $\chi^2(1) = 7.308$, $p < .01$, between the two effects suggests that intrateam trust strengthened the association between average team EI and the density of the friendship network, providing support for H4.

With regard to H5, we predicted that the moderating effect of high intrateam trust on the relationship between team EI and team task performance is mediated by the density of friendship networks. To test our hypotheses in an integrative fashion, we employed the bootstrapping-based path analytic approach recommended by Edwards and Lambert (2007). Results from linear

regression with maximum likelihood estimates and 2,000 data draws demonstrated that the indirect effect for team average EI on team task performance through the density of the friendship networks is significantly positive for higher levels of intrateam trust, $B = .197$; 95% CI = [.014, .381], whereas the indirect effect for team average EI on team task performance through the density of the friendship networks is not significantly negative for lower levels of intrateam trust, $B = -.119$; 95% CI = [−.297, .060], after controlling for team size, sample dummy, age, gender, GPA, and team EI diversity. The indirect effect at higher levels of intrateam trust is significantly different when compared with lower levels of intrateam trust, $\chi^2(1) = 5.844$, $p < .05$. Thus, the results supported H5.

Discussion

In this study, we examined network dynamics as a potential explanation for a positive association between team EI and team performance. We conceptualized friendship network density as a structural link mechanism and intrateam trust as a content-focused contingency factor, both of which are unexplored in prior research involved in the link between EI at the team level and team performance. More specifically, we investigated the extent to which the relationship between team-based EI and team task performance (via friendship network density) hinges on intrateam trust in a group using social network theory. Furthermore, our analyses for the effects of average team EI controlled for differences in team EI diversity, which allows us to verify the effects of mean team EI beyond what is captured by EI variance in teams. The results demonstrated that teams with higher average EI exhibited a higher density of friendship networks and better team task performance when working under greater intrateam trust conditions. In general, these results support the utility of a network analysis.

Although our study results supported hypotheses regarding the beneficial moderating effects of trust (i.e., a positive team EI–friendship network ties relationship, and positive indirect effect via friendship network density for high intrateam trust), our research did not support predictions regarding the main effects of EI on friendship network density and the indirect effects of EI on task performance through friendship network density. The former is anticipated and the latter is unexpected. One possible reason is that average team EI can mask potential effects of extreme scores (e.g., minimum EI, maximum EI) on friendship network density in a group. That is, the insignificant correlation of the mean team EI with friendship network density may be driven by the extreme EI scores in the group. For example, the highest EI person might know when to avoid others or make friends, whereas the lowest EI

person may disrupt interactions and cooperation within the team. These processes would reduce the number of friendship network ties in a group. Another possible explanation is that the sample size ($N = 97$) was not large so that we may not have sufficient statistical power to detect some of the smaller effects that could still be important.

Theoretical Implications

This study makes several theoretical contributions to the literature. First, we applied a network approach to understand the meditational chains whereby the effects of team EI are transmitted to team outcomes through team processes rather than relying on an aggregated approach. By employing a network approach, we provide a unique perspective into the link between team-based EI and team performance. Meanwhile, we also believe that connecting team EI to team performance through social networks is an approach that has a great deal of promise. This approach not only integrates the individualistic (e.g., actor characteristics) and group (e.g., network structure) approaches, but can also be designed specifically to detail patterns of such linkages, which could help better understand team phenomena and put forward a more insightful theoretical point of view.

Another contribution associated with that mentioned above is that we present an exemplar about how network patterns at the team level of analysis influence team outcomes, given that research work based on the network approach has largely focused on the benefits that actors obtain via favorable positions (e.g., the central positions) within the structure of a team's network, but paid less attention on network patterns in enhancing team outcomes. Meanwhile, considering that analyses of the personal characteristics associated with individuals' contributions to networks (e.g., Burt et al., 1998; Mehra et al., 2001; Thompson, 2005) have remained relatively rare, our findings add to the still limited, but gradually growing, evidence that the aggregation of individuals' EI characteristics at the team level (i.e., average team EI) interacts with intrateam trust may influence friendship network density, which expands the knowledge of the antecedents of social network structure.

Third, our application of the multilevel theory framework advances team-based EI research by describing in detail key patterns of team member interaction, rather than focusing solely on the general level or shared perception of team interaction, and by explaining the structural patterns of team member interactions and the existing content-focused perspective of team processes jointly manifesting in relationships with team outcomes. Our research challenges and complements the conventional view that increases of shared perceptions (e.g., intrateam trust) in team processes are inherently beneficial

and that the more of it the better off the team will be by considering how both intrateam trust as shared perceptions and friendship network ties as structural configurations involved in team processes shape the linkages between team EI and team outcomes.

Finally, some theorists and researchers (e.g., Ashkanasy, 2003; Côté & Miners, 2006; Troth et al., 2012) have called for the development of a model that examines the effect of EI on performance at the team level, including identification of the mechanisms through which team EI may impact performance in teams. We use the average score as a proxy of EI at the team level and study how team EI interacts with intrateam trust in explaining proximal network dynamic processes and distal team outcomes. The findings of this study increase our understanding of group performance by providing an explanation about how and when average team EI may create more optimal social networks (i.e., friendship network density), and ultimately influence team task performance.

Study Limitations and Future Directions

Certain limitations of this study could be addressed in future research. First, the participants in this study were undergraduates and postgraduates, which may limit the potential generalizability of the results. Future research could extend this study by examining whether the pattern of findings occurs in field settings in which the work is performed by project teams. Obvious constraints also include the lack of manipulated variables, same-source data, and self-report biases. With these constraints in mind, inferences regarding relationships among the variables made from the data stated things in the form of patterns of associations rather than implying causality.

Second, we used a mean score of team EI as the most straightforward measure (though we controlled for team EI diversity) and excluded other alternative team-level EI measures (e.g., the percentage of team members with high EI or a combination of the mean and skewness of team EI in a group) to keep the study and analysis complexity manageable. We suggest further theoretical and empirical examination of how alternative team EI configurations may enhance our understanding of the relationship between EI and performance via social networks. This could be done in part by both pretesting participants on EI and designing comparison groups with different EI configurations.

Third, relying on mean task performance of individual members as a proxy for the level available to the team in this study could be considered in light of inherent limitations in the current design. Although team-level outcomes (e.g., team performance) are inherently multilevel phenomena

that emerge from the interactions among team members over time and can be aggregated from the individual level within a multilevel theory, future studies can test the hypotheses with objective team-level outcome measures rather than using average task performance of individual members as a proxy for team outcomes.

Fourth, this study only investigated friendship network ties. Extant research indicates that both friendship network ties and consulting network ties are two pivotal relationship types for predicting important organizational outcomes. Given that consulting network ties involve exchange of work-related resources, which have more important implications for task performance compared with friendship network ties, it will be important for future research to develop and test the role of consulting network ties in the association between team EI and team performance.

Finally, future studies might include stronger measures (e.g., ability-based EI measure, both resource-based and norm-based EI measures, more structural concepts such as centralization or cliques) and additional process measures (e.g., team commitment to the shared task goal). Longitudinal models and multisource data can also be used to determine the ways team EI influences team effectiveness.

In conclusion, the finding that EI combined with team network structure and intrateam trust influences task performance promotes our understanding of overall team dynamics and performance. It provides new insights into how organizations, managers, and teammates might enhance the effectiveness of project teams.

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References

Adler, P. S., & Kwon, S. W. (2002). Social capital: Prospects for a new concept. *Academy of Management Review*, *27*, 17–40. https://doi.org/10.2307/4134367

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. SAGE.

Ashkanasy, N. M. (2003). Emotions in organizations: A multilevel perspective. In F. Dansereau & F. J. Yammarino (Eds.), *Multi-level issues in organizational behavior and strategy* (pp. 9–54). Elsevier.

Baldwin, T. T., Bedell, M. D., & Johnson, J. L. (1997). The social fabric of a team-based MBA program: Network effects on student satisfaction and performance. *Academy of Management Journal*, *40*, 1369–1397. https://doi.org/10.2307/257037

Barczak, G., Lassk, F., & Mulki, J. (2010). Antecedents of team creativity: An examination of team emotional intelligence, team trust and collaborative culture. *Creativity and Innovation Management*, *19*, 332–345. https://doi.org/10.1111/j.1467-8691.2010.00574.x

Bar-On, R., & Parker, J. D. A. (2000). *The handbook of emotional intelligence*. Jossey-Bass.

Barrick, M. R., Stewart, G. L., Neubert, M. J., & Mount, M. K. (1998). Relating member ability and personality to work-team processes and team effectiveness. *Journal of Applied Psychology*, *83*, 377–391. https://doi.org/10.1037/0021-9010.83.3.377

Bauer, D. J., Preacher, K. J., & Gil, K. M. (2006). Conceptualizing and testing random indirect effects and moderated mediation in multilevel models: New procedures and recommendations. *Psychological Methods*, *11*, 142–163. https://doi.org/10.1037/1082-989X.11.2.142

Burt, R. S. (1987). Social contagion and innovation: Cohesion versus structural equivalence. *American Journal of Sociology*, *92*, 1287–1335. https://doi.org/10.1086/228667

Burt, R. S. (1992). *Structural holes: The social structure of competition*. Harvard University Press.

Burt, R. S., Jannotta, J. E., & Mahoney, J. T. (1998). Personality correlates of structural holes. *Social Networks*, *20*, 63–87. https://doi.org/10.1016/S0378-8733(97)00005-1

Carton, A. M., & Cummings, J. N. (2012). A theory of subgroups in work teams. *Academy of Management Review*, *37*, 441–470. https://doi.org/10.5465/amr.2010.0322

Castro, S. L. (2002). Data analytic methods for the analysis of multilevel questions: A comparison of intraclass correlation coefficients, rwg (j), hierarchical linear modeling, within-and between-analysis, and random group resampling. *Leadership Quarterly*, *13*, 69–93. https://doi.org/10.1016/S1048-9843(01)00105-9

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. https://doi.org/10.1037/0021-9010.83.2.234

Chang, J. W., Sy, T., & Choi, J. N. (2012). Team emotional intelligence and performance: Interactive dynamics between leaders and members. *Small Group Research*, *43*, 75–104. https://doi.org/10.1177/1046496411415692

Coleman, J. S. (1990). *Foundations of social theory*. Belknap Press of Harvard University Press.

Côté, S. (2007). Group emotional intelligence and group performance. In M. A. Neale, E. Mannix, & C. Anderson (Eds.), *Research on managing groups and teams* (Vol. 3, pp. 309–336). Elsevier.

Côté, S., & Miners, C. T. H. (2006). Emotional intelligence, cognitive intelligence, and job performance. *Administrative Science Quarterly*, *51*, 1–28. https://doi.org/10.2189/asqu.51.1.1

Courtright, S. H., McCormick, B. W., Mistry, S., & Wang, J. (2017). Quality charters or quality members? A control theory perspective on team charters and team performance. *Journal of Applied Psychology*, *102*, 1462–1470. https://doi.org/10.1037/apl0000229

Crawford, E. R., & LePine, J. A. (2013). A configural theory of team processes: Accounting for the structure of taskwork and teamwork. *Academy of Management Review*, *38*, 32–48. https://doi.org/10.5465/amr.2011.0206

de Nooy, W., Mrvar, A., & Batagel, V. (2005). *Exploratory social network analysis with Pajek*. Cambridge University Press.

Druskat, V. U., & Wolff, S. B. (2001). Building the emotional intelligence of groups. *Harvard Business Review*, *79*, 80–91.

Edwards, J. R., & Lambert, L. S. (2007). Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. *Psychological Methods*, *12*, 1–22. https://doi.org/10.1037/1082-989X.12.1.1

Elfenbein, H. A. (2006). Team emotional intelligence: What it can mean and how it can affect performance. In V. U. Druskat, F. Sala, & G. Mount (Eds.), *Linking emotional intelligence and performance at work: Current research evidence with individuals and groups* (pp. 165–184). Lawrence Erlbaum.

Elfenbein, H. A., Polzer, J. T., & Ambady, N. (2007). Can teams have emotional skills? The case of recognizing others' emotions. In C. E. J. Hartel, N. M. Ashkanasy, & W. J. Zerbe (Eds.), *Research on emotion in organizations: Functionality, intentionality and morality* (pp. 87–120). Elsevier; JAI Press.

Feyerherm, A. E., & Rice, C. L. (2002). Emotional intelligence and team performance: The good, the bad and the ugly. *International Journal of Organizational Analysis*, *10*, 343–362. https://doi.org/10.1108/eb028957

Granovetter, M. S. (1982). The strength of weak ties: A network theory revisited. In P. V. Marsden & N. Lin (Eds.), *Social structure and network analysis* (pp. 105–130). SAGE.

Hjertø, K. B., & Paulsen, J. M. (2016). Beyond collective beliefs: Predicting team academic performance from collective emotional intelligence. *Small Group Research*, *47*, 510–541. https://doi.org/10.1177/1046496416661236

Ibarra, H., & Andrews, S. B. (1993). Power, social influence, and sense making: Effects of network centrality and proximity on employee perceptions. *Administrative Science Quarterly*, *38*, 277–303. https://doi.org/10.2307/2393414

James, L. R., Demaree, R. G., & Wolf, G. (1993). rwg: An assessment of within-group interrater agreement. *Journal of Applied Psychology*, *78*, 306–309. https://doi.org/10.1037/0021-9010.78.2.306

Jamshed, S., & Majeed, N. (2019). Relationship between team culture and team performance through lens of knowledge sharing and team emotional intelligence. *Journal of Knowledge Management*, *23*, 90–109. https://doi.org/10.1108/JKM-04-2018-0265

Jehn, K. A., & Mannix, E. A. (2001). The dynamic nature of conflict: A longitudinal study of intragroup conflict and group performance. *Academy of Management Journal*, *44*, 238–251. https://doi.org/10.2307/3069453

Jehn, K. A., Rispens, S., & Thatcher, S. M. B. (2010). The effects of conflict asymmetry on work group and individual outcomes. *Academy of Management Journal*, *53*, 596–616. https://doi.org/10.5465/AMJ.2010.51468978

Jehn, K. A., & Shah, P. P. (1997). Interpersonal relationships and task performance: An examination of mediation processes in friendship and acquaintance groups. *Journal of Personality and Social Psychology*, *72*, 775–790. https://doi.org/10.1037/0022-3514.72.4.775

Jordan, P. J., Ashkanasy, N. M., Härtel, C. E. J., & Hooper, G. S. (2002). Workgroup emotional intelligence: Scale development and relationship to team process effectiveness and goal focus. *Human Resource Management Review*, *12*, 195–214. https://doi.org/10.1016/S1053-4822(02)00046-3

Jordan, P. J., & Troth, A. C. (2004). Managing emotions during team problem solving: Emotional intelligence and conflict resolution. *Human Performance*, *17*, 195–218. https://doi.org/10.1207/s15327043hup1702_4

Klein, K. J., Lim, B., Saltz, J. L., & Mayer, D. M. (2004). How do they get there? An examination of the antecedents of centrality in team networks. *Academy of Management Journal*, *47*, 952–963. https://doi.org/10.2307/20159634

Koman, E. S., & Wolff, S. B. (2008). Emotional intelligence competencies in the team and team leader: A multi-level examination of the impact of emotional intelligence on team performance. *Journal of Management Development*, *27*, 55–75. https://doi.org/10.1108/02621710810840767

Kozlowski, S. W. J. (2015). Advancing research on team process dynamics: Theoretical, methodological, and measurement considerations. *Organizational Psychology Review*, *5*, 270–299. https://doi.org/10.1177/2041386614533586

Kozlowski, S. W. J., & Chao, G. T. (2012). The dynamics of emergence: Cognition and cohesion in work teams. *Managerial and Decision Economics*, *33*, 335–354. https://doi.org/10.1002/mde.2552

Kozlowski, S. W. J., & Chao, G. T. (2018). Unpacking team process dynamics and emergent phenomena: Challenges, conceptual advances, and innovative methods. *American Psychologist*, *73*, 576–592. https://doi.org/10.1037/amp0000245

Kozlowski, S. W. J., & Klein, K. J. (2000). A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions* (pp. 3–90). Jossey-Bass.

Krackhardt, D. (1992). The strength of strong ties: The importance of Philos in organizations. In N. Nohria & R. Eccles (Eds.), *Networks and organizations: Structure, form and action* (pp. 216–239). Harvard Business School Press.

Lam, S. S. K., Chen, X., & Schaubroeck, J. (2002). Participative decision making and employee performance in different cultures: The moderating effects of allocentrism/idiocentrism and efficacy. *Academy of Management Journal*, *45*, 905–914. https://doi.org/10.2307/3069321

LeBreton, J. M., & Senter, J. L. (2008). Answers to 20 questions about interrater reliability and interrater agreement. *Organizational Research Methods*, *11*, 815–852. https://doi.org/10.1177/1094428106296642

Li, N., Zhao, H. H., Walter, S. L., Zhang, X., & Yu, J. (2015). Achieving more with less: Extra milers' behavioral influences in teams. *Journal of Applied Psychology*, *100*, 1025–1039. https://doi.org/10.1037/apl0000010

Lin, N., Ensel, W. M., & Vaughn, J. C. (1981). Social resources and strength of ties: Structural factors in occupational status attainment. *American Sociological Review*, *46*, 393–405. https://doi.org/10.2307/2095260

Macht, G. A., Nembhard, D. A., & Leicht, R. M. (2019). Operationalizing emotional intelligence for team performance. *International Journal of Industrial Ergonomics*, *71*, 57–63. https://doi.org/10.1016/j.ergon.2019.02.007

Mayer, J. D., Salovey, P., & Caruso, D. R. (2008). Emotional intelligence: New ability or eclectic traits? *American Psychologist*, *63*, 503–517. https://doi.org/10.1037/0003-066X.63.6.503

Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, *20*, 709–734. https://doi.org/10.2307/258792

McAllister, D. J. (1995). Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations. *Academy of Management Journal*, *38*, 24–59. https://doi.org/10.2307/256727

Mehra, A., Kilduff, M., & Brass, D. J. (2001). The social networks of high and low self-monitors: Implications for workplace performance. *Administrative Science Quarterly*, *46*(1), 121–146. https://doi.org/10.2307/2667127

Miners, C. T. H. (2008). *It is who you know and what you know: An examination of the relations among emotional intelligence, social network centrality, and performance* [Unpublished doctoral dissertation]. University of Toronto.

Molm, L. D. (1994). Dependence and risk: Transforming the structure of social exchange. *Social Psychology Quarterly*, *5*, 163–176. https://doi.org/10.2307/2786874

Oh, H., Chung, M.-H., & Labianca, G. (2004). Group social capital and group effectiveness: The role of informal socializing ties. *Academy of Management Journal*, *47*, 860–875. https://doi.org/10.2307/20159627

Paik, Y., Seo, M., & Jin, S. (2019). Affective information processing in self-managing teams: The role of emotional intelligence. *The Journal of Applied Behavioral Science*, *55*, 235–267. https://doi.org/10.1177/0021886319832013

Preacher, K. J., Zyphur, M. J., & Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. *Psychological Methods*, *15*, 209–233. https://doi.org/10.1037/a0020141

Rezvani, A., Barrett, R., & Khosravi, P. (2019). Investigating the relationships among team emotional intelligence, trust, conflict and team performance. *Team*

Performance Management: An International Journal, *25*, 120–137. https://doi.org/10.1108/TPM-03-2018-0019

Rezvani, A., Khosravi, P., & Ashkanasy, N. M. (2018). Examining the interdependencies among emotional intelligence, trust, and performance in infrastructure projects: A multilevel study. *International Journal of Project Management*, *36*, 1034–1046. https://doi.org/10.1016/j.ijproman.2018.08.002

Roberson, Q. M., & Williamson, I. O. (2012). Justice in self-management teams: The role of social networks in the emergency of procedural justice climates. *Academy of Management Journal*, *55*, 685–701. https://doi.org/10.5465/amj.2009.0491

Shah, P. P., Dirks, K. T., & Chervany, N. (2006). The multiple pathways of high performing groups: The interaction of social networks and group processes. *Journal of Organizational Behavior*, *27*, 299–317. https://doi.org/10.1002/job.368

Simons, T. L., & Peterson, R. S. (2000). Task conflict and relationship conflict in top management teams: The pivotal role of intragroup trust. *Journal of Applied Psychology*, *85*, 102–111. https://doi.org/10.1037/0021-9010.85.1.102

Stephens, J. P., & Carmeli, A. (2016). The positive effect of expressing negative emotions on knowledge creation capability and performance of project teams. *International Journal of Project Management*, *34*, 862–873. https://doi.org/10.1016/j.ijproman.2016.03.003

Thompson, J. A. (2005). Proactive personality and job performance: A social capital perspective. *Journal of Applied Psychology*, *90*, 1011–1017. https://doi.org/10.1037/0021-9010.90.5.1011

Troth, A. C., Jordan, P. J., Lawrence, S. A., & Tse, H. H. M. (2012). A multilevel model of emotional skills, communication performance, and task performance in teams. *Journal of Organizational Behavior*, *33*, 700–722. https://doi.org/10.1002/job.785

Wang, S. (2015). Emotional intelligence, information elaboration, and performance: The moderating role of informational diversity. *Small Group Research*, *46*, 324–351. https://doi.org/10.1177/1046496415578010

Wong, C., & Law, K. S. (2002). The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. *The Leadership Quarterly*, *13*, 243–274. https://doi.org/10.1016/S1048-9843(02)00099-1

Zhang, H. H., & Huang, T. T. (2015). The transmitting mechanisms of emotional intelligence on performance: Sequentially mediated by intra-group trust perception and friendship network centrality. *Nankai Business Review*, *18*, 141–150.

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