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TEAM EMOTIONAL INTELLIGENCE: LINKING TEAM SOCIAL AND EMOTIONAL ENVIRONMENT TO TEAM EFFECTIVENESS

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Abstract

Work teams are labelled "emotional incubators" because of the ubiquitous emotion generated as team members work together. Although this emotion affects team processes and effectiveness, little theory or research has provided practical information about how teams can manage emotion so that it supports, rather than hinders, team effectiveness. To solve this problem, we draw on social psychological theory suggesting that emotion in teams primarily comes from whether team members' social and emotional needs (i.e., belonging, shared understanding and control) are satisfied by the team. We then present a study conducted with teams in six U.S. based (four global) companies, testing the relationship

between six emotionally intelligent team norms aimed at satisfying team member needs. We hypothesize that incorporating these six norms will lead to high levels of team effectiveness through their influence on the emergence of a productive social and emotional environment (i.e., team psychological safety and team efficacy). Hypotheses are primarily supported. Our study contributes to current knowledge about human social and emotional needs and the influence of emotion and its management on team effectiveness.

Keywords: teams, effectiveness, emotional intelligence

1. INTRODUCTION

Since the earliest days of team research, scholars have understood the ubiquity of emotion in teams and its influence on team motivation and effectiveness (Barsade & Gibson, 1998; Homans, 1950; Menges & Kilduff, 2015; Steiner, 1972). Although emotion in teams ranges from unpleasant (e.g., anger and fear) to pleasant (joy and thrill), the specific emotion is not as important as is its effect on team member interactions and collaboration (Smith & Berg, 1987). Because emotion is contagious in teams (Barsade, 2002), its influence on team member interactions spreads quickly and fuels either unproductive feedback loops of poor collaboration, and lower effectiveness, or productive feedback loops of pro-team collaboration, and higher team effectiveness (see Lerner, Valdesolo, & Kassam, 2015; Lindsley, Brass & Thomas, 1995). Unfortunately, downward spirals that generate lower levels of collaboration are more powerful and longer lasting than upward (Baumeister, et al., 2001). In this paper, we present and test theory aimed at helping teams manage their emotion in the direction of building productive social and emotional environment that supports pro-team collaboration and storng team effectiveness.

Team emotion management is defined as the team's influence over the emotions members experience in the team (Druskat, Wolff & Truninger, 2017). Just as a person's effective self-management of emotion leads to higher quality social interactions (Lopes, et al., 2005), effective team-management of emotion leads to higher quality team interactions and processes (Huy, 1999). Teams that do not manage their emotion suffer from what Steiner (1972) branded "irrational bends in direction," which create less collaboration and "process losses" (Steiner, 1972, p.9).

We propose that team emotion management is best carried out through the development and enforcement of a set of *emotionally intelligent norms*. These norms create a team culture that satisfies the social and emotional needs of team members considered to be the greatest triggers of emotion in team environments (see Clark et al., 2004; Fiske, 2014; Hareli & Parkinson, 2008). Specifically, we present hypotheses about the relationship between six emotionally intelligent team norms and a productive social and emotional environment, defined as

including team psychological safety and team efficacy, which we propose to facilitate team effectiveness. We test our hypotheses with work teams conducting a variety of interdependent tasks in six US based companies, four of which are global companies.

2. CAUSES OF EMOTION IN WORK TEAMS

Emotion is defined as the personal display of relatively intense affected or agitated feeling states (e.g., joy, love, contentment, fear, anger, or embarrassment) accompanied by physiological changes; it is differentiated from feelings, which involve awareness of the arousal and from moods, which are longer in duration (Fineman, 1991, p. 546). Emotions are highly evolved signals that provide information about events (or anticipation of events—rooted in past experience) in one's environment; the sensation of emotion demands attention (Archer, 2004). Emotions are meant to move us and to do so, they affect attitudes, cognitions, and behavior (Elfenbein, 2007). They can disrupt valuable time in a team, or, if managed well, can facilitate pro-team collaboration. Relevant to our thesis in this paper is the finding that emotions also have predictable and recognizable antecedent causes (George, 2002).

Emotion pervades teams, in part, because every human interaction evokes emotion (Fiske, 2014; Kemper, 2000) and interactions are the basic building blocks of teamwork (George, 2002). But, a deeper reason has recently been highlighted in theory and research– the chief triggers of emotion in teams are unconscious (or subconscious) social needs aroused when humans enter groups (see Clark et al., 2004; Fiske, 2014; Hareli & Parkinson, 2008). A review of the literature identified three primary social needs: belonging, shared understanding and control (see Druskat, Wolff & Truninger, 2017). The need to belong is defined as the desire for secure interpersonal relationships that provide acceptance as an inimitable team member, not easily replaced (Hornsey & Jetton, 2004). The need for shared understanding is defined as the desire to make accurate sense of the social situation by comparing the team's current reality with other team members, it improves team members ability to predict and control their destiny in the team (Fiske, 2014). The need for control is defined as the desire to influence one's own future (Shapiro, 2010) and has long been considered a primary trigger of emotion in teams (Hare, 1976).

Team members vary in the level of social need satisfaction they desire, but social needs are considered atavistic and universal (Leary, 2007). Their satisfaction (or lack of) triggers emotion that prioritizes and focuses attention and behavior toward gaining their satisfaction. When satisfied, they facilitate well-being and help a team member thrive in the team's environment (Pittman and Zeigler, 2013). Evidence suggests that at one time social needs aided human survival by prioritizing and motivating behavior that secured group inclusion and the security it provided (Levine and Kerr, 2013). Today humans continue to scan environments to determine their level of social needs satisfaction and this still generates the majority of emotion in group environments (Fiske, 2014). It

focuses behavior, and rewards a person with pleasurable emotion when needs are satisfied (see Sterling, 2012).

Social needs theory and research adds value to theory on emotion in teams by supporting ideas long been discussed by social psychologists – that emotion is not solely intrapersonal phenomena and emotion management need not begin and end with individual cognitions, states temperaments and skills (Clark, Fitness, & Brissette, 2004; Van Kleef, 2009). For example, Zajonc (1998) repeatedly argued that emotions were primarily social phenomena. Before him, Heider (1958) beseeched social scientists to remember how easily they might overlook the critical influence of the social situation on emotion and behavior. Thus, if emotion is created by the "interplay of person and situation," (see Fiske, 2014: 14), emotions in teams can be managed by developing a situation that satisfies team member social needs. As described below, we propose that team cultures (as created by team norms) that satisfy the social needs of team members, build a productive social and emotional environment that facilitates team effectiveness.

3. EMOTIONALLY INTELLIGENT TEAM NORMS

A number of scholars have drawn from emotional intelligence theory to advance thinking about managing emotion in teams (see Jordan & Troth, 2004). Emotional intelligence (EI) is the individual ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in oneself and others (Mayer, Caruso, & Salovey, 2000). Scholars have suggested several ways that EI could influence emotion management in team environments (Côté, 2007; Elfenbein, 2007). Some propose that team members with EI assist teams in managing emotion and that the greater the number of team members with EI, the better a team's emotion management (George, 2002, Jordan & Troth, 2004). Others argue that relying on the EI of individual team members is not enough to cultivate and sustain emotion management in teams and that it is preferable to manage emotion through team norms that build a productive social and emotional environment (Gantt & Agazarian, 2004; Huy, 1999). Team norms are informal rules that teams adopt to regulate and make member behavior predictable (Feldman, 1984). We agree with this latter group.

We define team emotional intelligence (Team EI) as a set of team norms that build a productive social and emotional environment that leads to constructive interactions and team effectiveness (see Druskat & Wolff, 2001). Team EI norms help manage emotion in the team environment by satisfying team member primary social needs Norms are team-level constructs. Team EI norms, like all team norms, are team-level constructs, however they specify expectations about the three levels of interactions that occur in team environments: (1) individual interactions that occur between team members, (2) Team interactions that occur among the team as a whole, and (3) cross-boundary interactions that occur between team representatives and external stakeholders

(see Arrow, McGrath, & Berdahl, 2000). We propose that Team EI norms lead to the emergence of a productive social and emotional environment that facilitates team effectiveness. Before presenting the six specific Team EI norms and our hypotheses, we first define a productive social and emotional environment, team effectiveness, and their link.

4. A PRODUCTIVE SOCIAL AND EMOTIONAL ENVIRONMENT AND TEAM EFFECTIVENESS

We propose that Team EI norms will produce a productive social and emotional environment that consists of two team motivational states that facilitate team effectiveness: (1) team psychological safety (Edmondson, 1999, Frazier et al., 2017) and (2) team efficacy (Gibson & Early, 2007). *Team motivational states* are cognitive and affective states that emerge from patterns of team member interactions (Marks, Mathieu, and Zaccaro, 2001). Although motivational states are dynamic, they remain fairly stable in teams with strong norms (Mullen & Cooper, 1994). We use Hackman's (1987) definition of team effectiveness as multidimensional and including: objective team performance and team viability, or the team's ability to continue performing well in the future.

4.1. Team Psychological Safety

Team psychological safety is a team-level cognitive and affective state defined as the degree to which the social climate in the team is conducive to taking interpersonal risks (Edmondson 1999). Willingness to take interpersonal risks improve team learning and effectiveness by facilitating question-asking, feedback seeking, and the discussions of problems or mistakes (Edmondson 1999). Since these behaviors enable a deeper level of openness and analysis, it is no wonder that safety has been found to be related to team member engagement (Kahn 1990) and team innovation (Burningham & West 1995). Team psychological safety motivates meaningful team interactions, processes, and performance (Frazier, et al., 2017).

Hypothesis 1: Higher levels of team psychological safety will be associated with higher levels of team effectiveness.

4.2. Team Efficacy

Team efficacy is a team-level cognitive and affective state through which members perceive that their team can and will perform effectively (Park, Spitzmuller, and DeShon, 2013). Gibson (1999) suggests that team efficacy grows out of team member interactions focused on the acquisition, organization, and exchange of information about each other, and about the team's task context, process, and past performance. Such interactions permit the development of a

shared sense of the team's potential. Team efficacy emerges when members are collectively confident that, together, the team has the skills and motivation to perform well. This generates team decisions and behaviors that aid team goal achievement (Gibson and Early, 2007).

Hypothesis 2: Higher levels of team efficacy will be associated with higher levels of team effectiveness.

5. EMOTIONALLY INTELLIGENT TEAM NORMS

Behavior in teams is structured through norms, defined as standards or informal rules adopted by team members to make member behavior in the team predictable (Feldman 1984; Stryker & Statham 1985). Team norms emerge from member interactions that actively create expectations about how members should behave and work together (Bettenhausen & Murnighan 1985). Norms structure the patterns of behavior that influence a team's level of effectiveness (Hackman 1987). We present a model of six specific norms we refer to as Team EI norms because they satisfy team member social needs for belonging, shared understanding and control and, therefore, produce a productive social and emotional environment (i.e., emergent states of team psychological safety and team efficacy) that support team effectiveness. Below we present six Team EI norms and hypothesize their links to productive social and emotional environment (i.e., team psychological safety and team efficacy.)

5.1. Interpersonal Understanding

The first Team EI norm we present is *interpersonal understanding*. It encourages behavior that seeks members to develop an accurate and shared understanding of team member talents, preferences, and needs. Actions taken to understand team members must be ongoing (i.e., exist as norms) because team member's lives are dynamic. This norm requires a team to continually seek opportunities to build a more accurate understanding of members. Members must take the time to ask each other about evolving needs, foci, and goals. A norm of interpersonal understanding helps satisfy members' social needs for belonging and an accurate understanding of one another. Team members experience a greater sense of belonging when they feel themselves to be known as unique and distinctive members (Brewer, 1991). Research shows that team members who feel their teammates know and understand are more creative and reliable than members who do not feel known or understood within their team (Thatcher & Greer, 2008). McAllister (1995) showed that interpersonally attentive behavior within a team helps build trust and perceived safety, which leads to increased knowledge sharing and cooperation (Larkey 1996; Rousseau, et al., 1998). We offer the following hypothesis:

Hypothesis 3: Higher levels of a norm of interpersonal understanding will be associated with higher levels of team psychological safety.

5.2. Confronting Members Who Break Norms

A team norm of confronting members who break norms enables management and control of member behavior. It encourages constructive feedback and candid feedback for member's whose actions disturb team operations. The norm helps build the emotional capability and capacity (i.e., the willingness to deal with difficult emotion, see Holmer 1994) to cope with the difficult feelings that might result from candid feedback. Teams that ignore inappropriate member behavior in an attempt to avoid conflict decrease their ability to influence team member behavior and gain a sense of control over the team. Murnighan and Conlon (1991) found that members of successful string quartets confronted rather than avoided problematic member behavior. When done skillfully, confronting members who break norms builds trust and safety in the team by promoting honest, trustworthy, predictable behavior, which increases team effectiveness (Campion, Medsker, & Higgs, 1993).

A norm of interpersonal understanding that facilitates member's understanding of one another can also improve and make easier team members' ability to effectively confront members who break norms. The better team members know and understanding each other, the more easily and effectively they can confront one another when norms are broken (Druskat & Wolff, 2001). Therefore, we offer the following hypotheses:

Hypothesis 4: Higher levels of a norm of confronting members who break norms will be associated with higher levels of team psychological safety.

Hypothesis 5: The strength of a team's norm of interpersonal understanding will be positively associated with its norm of confronting members who break norms.

5.3. Team Self-Evaluation

A team norm of team self-evaluation promotes shared team understanding about the team and builds in opportunities for continuous team improvement. It encourages behavior that seeks awareness of team-level strengths, needs, preferences, and resources. Through practice, it helps build the emotional capability to address the discomfort or anxiety that often accompanies evaluation. A norm of team self-evaluation encourages the surfacing and evaluation of routines or habits that may be compromising team effectiveness. Evaluating the "status quo" is a prerequisite for team development and team effectiveness (Gersick & Hackman 1990). The self-correction and improvement that can come out of a norm of team self-evaluation also helps build a team's sense of efficacy and stimulates team effectiveness by encouraging behavior that makes team efficacy self-fulfilling (Gibson & Early, 20007; Lindsley, Brass et al. 1995). Thus:

Hypothesis 6: Higher levels of a team norm of team self-evaluation will be associated with higher levels of team efficacy.

5.4. Proactive Problem Solving

A team norm of proactive problem solving helps satisfy team members' need for control by facilitating more control over a team's future. It encourages acknowledging challenges in a "can-do" way. It helps the team plan ahead and think proactively when problems occur, rather than rigidly or reactively, as so often occurs in human systems (Staw, Sandelands, & Dutton, 1981) and thus builds the team's sense of efficacy. Research links proactive planning to team effectiveness (Ancona & Caldwell 1992).

The emergence of a norm of proactive problem solving is facilitated by a norm of team self-evaluation. Team member reflection and discussion of their team's strengths and weaknesses leads a team to think and plan proactively about its future. We offer the following hypotheses:

Hypothesis 7: Higher levels of a team norm of proactive problem solving will be associated with higher levels of team efficacy.

Hypothesis 8: The strength of a team's norm of team self-evaluation will be positively associated with its norm of proactive problem-solving.

5.5. Organizational Understanding

A team norm of organizational understanding addresses team member social need for shared understanding of the organizations broader context and how it affects the team. The norm encourages behavior that seeks information from the larger organization and that attempts to understand the needs, preferences, perspectives, and behaviors of important individuals and teams outside of the team's boundary. Such behavior helps the team learn the conceptual frameworks and language used by important organizational members, a crucial step toward building networks of external relationships (Tushman & Scanlan 1981) that provides information, resources, and support from the larger organization (Ancona & Caldwell 1992; Yan & Louis 1999) and develops a team's sense of efficacy and control over its future. Therefore, we offer the following hypothesis:

Hypothesis 9: Higher levels of a team norm of organizational understanding will be associated with higher levels of team efficacy.

5.6. Building External Relations

A team norm of building external relationships addresses team member social need for control over the team and its outcomes. It encourages actions that build relationships with individuals and teams that can help the team achieve its goals, which have been linked to a team's sense of efficacy and team outcomes (Yan & Louis 1999). Research specifically reveals that team effectiveness is highest in teams with strategies that involve engaging and working with colleagues in the larger organization to acquire information, resources, and support; effectiveness and the team's sense of control and confidence is lowest in teams with non-aggressive and non-existent external boundary strategies (Ancona 1990; Ancona & Caldwell 1992). As discussed above, it makes

sense that teams who develop a norm of organizational understanding will be more likely to build a norm of going the next step and developing external relationships. We offer the following:

Hypothesis 10: Higher levels of a team norm of building external relationships will be associated with higher levels of team efficacy.

Hypothesis 11: The strength of a team's norm of organizational understanding will be positively associated with its norm of building external relationships.

Figure 1 displays our hypotheses and the full model we tested.

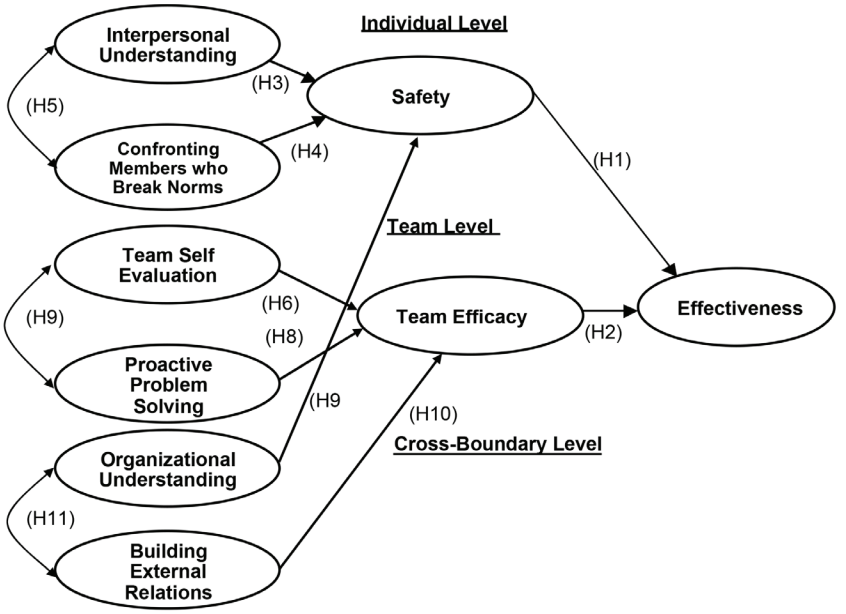


Figure 1 Hypothesized Model

6. METHOD

6.1. Study Participants and Setting

The sample was drawn from six organizations located in the Midwestern United States, including four Fortune 1000 firms. Diverse industries were represented including industrial and consumer goods manufacturers, financial services, transportation, and product design and development. The average number of teams per organization was 20.7 with a range of 8-40. Teams had a mean of 11.95 team members (Range = 4-29; Median = 8). Our full sample

consisted of 905 respondents representing 145 teams from six organizations. However, we were only able to obtain objective performance data for 119 of the teams (despite our best efforts to negotiate the need for good objective data prior to data collection, some organizations did not have objective data that could be broken down by specific teams). We received subjective effectiveness data from managers of 112 of the 119 that provided objective performance data. Our final sample included 109 teams (as described below, three teams were dropped for low participation rates) for which we had both objective and subjective effectiveness data. Of the team members in the final sample, 26% had high school degrees, 36% had some college or technical school, 19% had college degrees, and 9% had graduate work or degrees. Average company tenure was 7 years and team tenure was 2 years. Age was fairly evenly distributed, with 16% under 25 years of age, 31% between 26 and 35, 21% between 36 and 45, 23% between 46 and 55, and 7 % over 56 years of age. More than half (61%) was female.

6.2. Data Collection

Employees were invited to participate in a volunteer study about "how teams work," and were assured that their responses would be kept confidential. Questionnaires were distributed by one of the authors during regular working hours at each organization and collected by the same author upon completion. Only one person declined participation. For various reasons (e.g., travel, illness) several employees were not present for data collection. We used a 50% member participation rate as our cut off for including a team in the study. We dropped three teams from the study because their participation was less than 50%. For the 109 teams included in the study, team member participation ranged from 50% to 100% (mean =73%; median = 70%).

Emotionally intelligent team norms. Scales measuring the six Team EI norms were developed and pretested using two sections of graduate students in an MBA program. In the present study, interpersonal understanding was measured with four items, e.g., "On our team there is a clear sense of knowing and understanding each other." Confronting members who break norms was measured with five items, e.g., "In our team we will inform a member if his or her behavior is unacceptable by team standards." Team self-evaluation was measured with four items, e.g., "On our team we often discuss what is helping or hurting our performance." Proactive problem solving was measured with four items, e.g., "In our team we work hard to anticipate problems that might occur." Organizational understanding was measured with four items, e.g., "Members in our team have good insight into how decisions are made by our professors." Building external relations was measured with five items, e.g., "We build relationships with teams that can help make a difference in our performance." All constructs were measured using 7-point Likert scales ranging from 1 (Very Inaccurate) to 7 (Very Accurate), with some items reverse scored.

Emergent motivational states. Team psychological safety was measured using three items from Edmondson's (1999) scale, e.g., "It is safe to take a risk on this team." Team Efficacy was measured with three items used by Druskat and Kayes (1999), e.g., "Our team would deliver outstanding performance on any task."

Team effectiveness. Effectiveness was measured through two sources: (1) objective performance data for each team and (2) subjective performance ratings completed by the manager of each team. To measure objective performance, we asked contacts in each company to provide us with the metrics they used as the most important and accurate indicators of team performance. Examples of these include: number of defective parts; percentage of production goals met; percentage of revenue goals met, and turn-around times. We felt that some companies set goals that were easier to attain than others, thus we chose to standardize the metrics within companies. Objective performance for each team was then recorded as performance relative to all other teams in their company. Objective performance data was collected for a mean of 8.6 months (SD = 1.9; Mdn = 10; Range = 6 to 10 months), including a mean of 4.14 (SD = 1.68) months of performance data after questionnaire administration (Mdn = 4; Range = 3 to 7 months).

For the subjective performance measures, the manager responsible for each team was sent a rating form one month after team questionnaires were complete. (On average 2.25 later; Range = 1 to 4 months.). The form asked managers to provide an evaluation of their team on four dimensions using a 7-point Likert scale format: Team product quality, performance compared to other teams, the team's viability (i.e., ability to continue working together effectively in the future). Responses were tallied to produce a mean subjective effectiveness rating for each team.

7. RESULTS

7.1. Descriptive statistics, validity and reliability

Data were analysed using SPSS 17 and LISREL 8. There were less than 0.2% missing data and these data can be considered completely random; thus, we imputed these values with SPSS missing value analysis using the Expectation Maximization method for imputation. After imputation, we used intraclass correlations (ICCs) (Shrout & Fleiss 1979) to test whether individual data could be aggregated to obtain team-level variables. Since between-team variance significantly exceeded within-team variance for all factors, aggregation was appropriate ($F_{108,785} > 1.5$, $p < .001$) (Rousseau 1985). Descriptive statistics and ICCs are shown in Table 1.

Table 1 Descriptive Statistics, Reliabilities, ICCs and Correlations (n=109)

	Mean	SD	ICC_1	ICC_2	1	2	3	4	5	6	7	8
1. Interpersonal Understanding	4.72	.53	.11***	.45***	(.75)[a]							
2. Confronting Members	4.38	.70	.17***	.58***	.31**	(.73)						
3. Team Self-Evaluation	4.47	.59	.14***	.54***	.32**	.45***	(.73)					
4. Proactive Problem Solving	4.72	.57	.07***	.34***	.65***	.40***	.55***	(.78)				
5. Organizational Understanding	4.64	.65	.16***	.57***	.61***	.36**	.40***	.71***	(.71)			
6. Building Relations	4.78	.62	.14***	.52***	.64***	.41***	.62***	.77***	.65***	(.82)		
7. Team Efficacy	4.97	.72	.18***	.61***	.58***	.28*	.56***	.75***	.54***	.72***	(.76)	
8. Team Psych. Safety	4.80	.65	.16***	.56***	.69***	.27*	.25*	.70***	.73***	.63***	.62***	(.77)
9. Team Effectiveness	-.01	.78	--	--	.32**	.06	.14	.28*	.21[†]	.26*	.41***	.27*

Note. [a] Numbers in parentheses along the diagonal represent Cronbach's alpha for the scales. These were calculated using unaggregated data (n=905).

The intraclass correlation (ICC) statistic (Shrout & Fleiss, 1979) tests whether variance in member responses between teams significantly exceed the variance within teams. Significant coefficients support aggregation of individual responses to team-level constructs. These were calculated using unaggregated data (n=905).

[†]p<.1. *p < .05. **p < .01. ***p < .001.

We next analysed our hypothesized global model (Figure 1) using Structural Equation modelling (SEM) with LISREL 8.72. Table 2 shows the estimated correlations among the constructs of our global model. However, the norms and the two emergent motivational states (team psychological safety, and team efficacy) showed multi-collinearity to a great extent (for example among the states, r = 0.708). To address this issue, Bentler and Chou (1988) suggest splitting the model so the hypotheses can be tested. Consequently, we ran three separate models (see Figure 2), one for each level – individual, team and cross-boundary. This subdivision model specification strategy avoids collinearity problems and also leads to a less complex model, which is more appropriate for our relatively reduced sample size.

Table 2

Bivariate correlations among the latent factors

	1	2	3	4	5	6	7	8	9
1. Team Effectiveness	1.000								
2. Team Psych. Safety	0.423	1.000							
3. Team Efficacy	0.598	0.708	1.000						
4. Building Relations	0.443	0.745	0.741	1.000					
5. Org. Understanding	0.477	0.804	0.799	0.927	1.000				
6. Proactive Problem Solving	0.514	0.830	0.860	0.859	0.927	1.000			
7. Team Self Evaluation	0.353	0.529	0.591	0.684	0.738	0.710	1.000		
8. Confronting Members Who Break Norms	0.213	0.467	0.356	0.413	0.446	0.502	0.548	1.000	
9. Interpers. Understanding	0.441	0.878	0.737	0.795	0.858	0.867	0.521	0.517	1.000

7.2. Measurement Model

As required, we first tested the fit of the measurement model. We tested the global measurement model's fit using Confirmatory Factor Analysis (CFA) with Maximum likelihood estimation. The model included the six norms from the three levels, both emergent motivational states and team effectiveness. Because we first pruned the items with low reliability from the original questionnaire (Druskat & Wolff, 2001). Table 3 shows that the loadings of each item on its associated norm. The global fit indexes for the global measurement model are relatively high and the unidimensionality (the assumption of local independence) cannot be rejected for each norm using the Chi-square test associated with the maximum likelihood estimation.

Table 3

Measurement Model: Item Loadings and Global Fit Indexes

Team Effectiveness	Team Psych Safety	Team Efficacy	Organizational Understanding	Proactive Problem-Solving	Team Self-Evaluation	Confronting Members	Interpersonal Understanding	Building Relations
1.000								
	0.692							
	0.882							
	0.717							
	0.751							
	0.745							
		0.900						
		0.630						
		0.809						
		0.899						
			0.781					
			0.648					
			0.739					
			0.762					
				0.689				
				0.795				
				0.904				
					0.580			
					0.621			
					0.896			
					0.712			
						0.724		
						0.747		
						0.797		
							0.620	
							0.686	
							0.871	
							0.922	
								0.817
								0.694
								0.897
								0.870

DF= 422; Satorra-Bentler Scaled Chi-Square = 489.906 (P=.0124)
Root Mean Square Error of Approximation (RMSEA) = 0.0457
90 Percent Confidence Interval for RMSEA = (0.0229 ; 0.0625)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.110
Comparative Fit Index (CFI) = 0.990

Although our sample size was reduced (109 teams), the magnitude of the loadings and the parsimony of the measurement models (individual, team, and cross-boundary) (Saris, Satorra & Van der Veld, 2009) lead to relatively high power, which allowed us to trust the Maximum Likelihood (ML) estimation criteria and common goodness of fit indexes. However, since our data violates the hypothesis of Multivariate Normality we have used the Satorra-Bentler (1988) Chi-square scaled test as the first global fit index in addition to RMSEA, its p-value of close fit and its confidence interval as well as CFI. However, to avoid what Kline (2005, p.321) labelled "Fit index tunnel vision" (which is tantamount to looking at indexes of overall model fit and discarding other types of information on fit), we paid more attention to the detailed diagnosis of the residuals, to the estimates, and to the detection of misspecification errors rather than global fit (see Saris et al., 2009 for an extension). The strategy used by Saris and his colleagues (Saris et al., 2009) also takes into account the power of the test rather than using recipes from manuals based only on statistical significance. Using this test procedure, no misspecifications in the measurement model were detected.

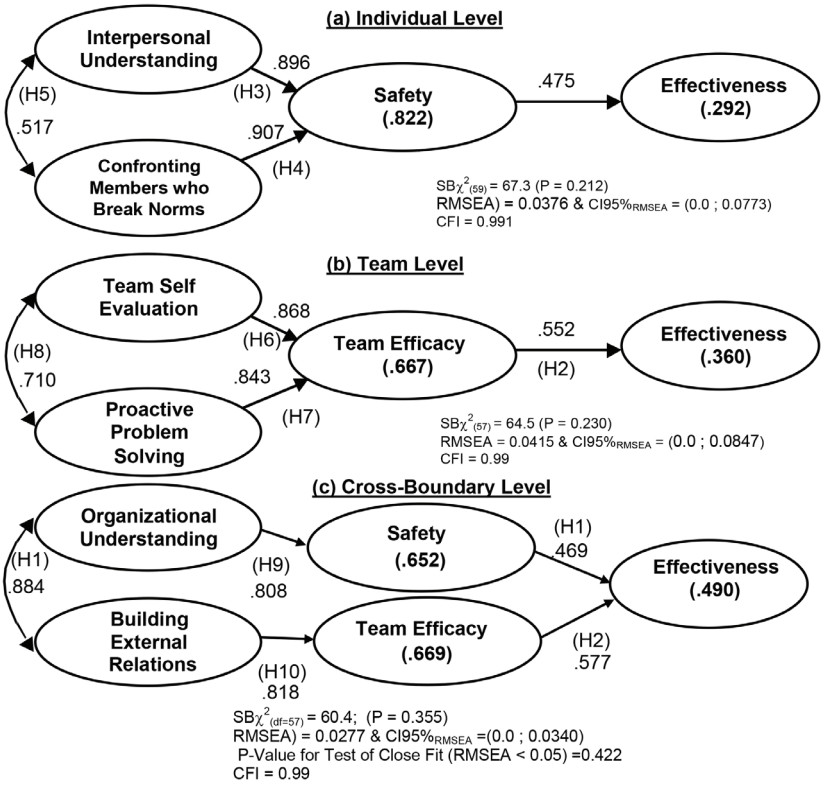
Reliability is usually computed as Cronbach's alpha (α; Cronbach, 1951) on the assumption that items are at least tau-equivalent (e.g. Bollen, 1989: 215-216). We did not reject the unidimensionality of our items within each norm, but we rejected the loadings equality and the equality of the measurement error variances. So, likely our estimates of the reliability are negatively biased, i.e., our estimate is likely lower than the actual value and thus it is conservative. The estimates of the global reliabilities per construct are shown in

7.3. Tests of Hypotheses

As mentioned above, the hypotheses were tested specifying the structural model for each level. Chi-square change and other goodness of fit indexes of these three structural models do not exhibit significant changes in comparison with the measurement model and the detailed diagnoses do not provide any suggestion of misspecification errors (Saris et al., 2009). Since all models tested represent a reasonably good fit and no presence of misspecification errors, we can proceed to interpret the tests of our hypothesis.

Figure 2(a) illustrates the model for individual team member norms. The estimates of the effects support Hypotheses 1, 3, 4, and 5. These results support Hypothesis 1, which focuses on the positive effect of team psychological safety on team effectiveness. Our data show a significant correlation (r = .517) between interpersonal understanding and confronting members who break norms supporting Hypothesis 5. Since Hypothesis 5 is supported, to estimate the individual effects of each norm on team psychological safety we estimated the effects of the individual norms separately by specifying only one norm at a time in the model[1]. Results also corroborate Hypotheses 3 and 4, namely, both individual norms have positive effects on team psychological safety.

[1] Due to collinearity among individual norms (r=0.517) we have estimated the effects of the individual norms on safety separately by specifying only one norm at a time in the model: Interpersonal Understanding or alternatively only Confronting members Who Break Norms.



Note: Numbers in parentheses represent squared multiple correlations. This is similar to r-squared and represents a measure of the variance explained by the model for the particular construct.

*p<.05 ** p< .01 ***p<.001

At the team level only team efficacy is specified in the model tested. Results from Figure 2(b) corroborate Hypothesis 2, which predicts a positive effect of team efficacy on team effectiveness. Regarding team norms – Hypotheses 6 to 8 – the path diagram of Figure 2(b) shows that our data support Hypothesis 6 and 7, that is, the team's norms of team self-evaluation and proactive problem solving positively affect team efficacy. Since we find also support for Hypothesis 8 concerning the correlation between the team's norm of team self-evaluation and the team's norm of proactive problem-solving (r= .710), to estimate the individual effects of each norm on efficacy we estimated the effects of the team norms separately by specifying only one norm at a time in the model (similar to our statement in Footnote 1).

Finally at the cross-boundary level the path diagram of Figure 2(c) shows that Hypotheses 10 and 11 are clearly supported by our data, i.e., first, the strength

of a team's norm of building external relations is high (standardized coefficient = .818) and positively related to team efficacy; and the magnitude of the correlation between the team's norm of organizational understanding and the team's norm of building external relations is the highest of any path coefficient (.884).

To summarize, our study findings support our fundamental premise that Team EI Norms account for a great extent of the variability in the development of the emergent motivational states used to measure a productive social and emotional environment (R^2 at any level ranges from 67% to 82%). which in turn predicts more than 29% of the variance in team effectiveness at each level.

8. CONCLUSIONS

Overall, study findings supported our proposal that Team EI norms are related to the development of a productive social and emotional environment (i.e., psychological safety and team efficacy), which in turn predicts team effectiveness. These findings also reveal that Team EI supports team effectiveness. However, a longitudinal study is necessary to verify causality in the relationships among the norms and between the norms and the emergent motivational states.

We did not find our hypothesized positive relationship between confronting members who break norms and team psychological safety. It may be that confronting members diminishes safety within the team. Providing difficult feedback, even if it is constructive, so that it can be heard without harming members' sense of safety is not easy and must be skillfully done. We were not aware of any of the teams we studied receiving training on how to provide constructive feedback. Moreover, when sharing the results of our study with the participating organizations, managers consistently mentioned that their team members were not comfortable providing one another with feedback. Indeed, confronting members who break norms had the lowest mean of all the norms studied ($\overline{x}$ = 4.38, S.D. = .70).

8.1. Implications for Theory and Practice

Our study makes a number of contributions to theory and research on team effectiveness. Scholars have consistently discussed the tendency for researchers to discuss team emergent states, such as team psychological safety and trust, as if they can be commanded (Kelly & Barsade, 2001; Marks et al., 2001). Few group researchers have examined the behaviors and norms that underlie the emergence of these productive social and emotional states that motivate team outcomes. Our research provides important information about how productive social and emotional states like team psychological safety and team efficacy emerge. Team norms are an important, though understudied, influence on team emotion, environments, behavior, and outcomes.

Our study results also support our idea that specific emotionally intelligent Team EI Norms account for significant variance in predicting a

productive social and emotional team environment and team effectiveness. Another contribution made by this research is the support it provides for the idea that emotion influences team effectiveness. It is well known that emotions are "integral to the work of work teams" (Barsade & Gibson, 1998). Research on emotion in teams and in particular on the environmental influence of emotions in teams has recently increased (see Menges & Kilduff, 2015). We hope our study encourages more research on the relationship between team norms and productive social and emotional team environments.

8.2. Limitations and Directions for Future Research

A strength of our research was the quality of our team effectiveness data. At the same time, a weakness was that norm and emergent motivational state data were collected in the same survey. As discussed above, causal relationships cannot be inferred unless data is longitudinal. Future research should take the time to test some or all of our causal predictions longitudinally.

Future theory and research should also examine in greater detail the link between confronting members who break norms, team-level emergent motivational states and team effectiveness. This research might seek to differentiate effective from problematic confrontation and then identify the norms and behaviors that best support feedback that changes behavior, builds learning and relationships, and facilitates team effectiveness. Future research might also test whether an intervention focusing on developing skills in giving and receiving effective feedback influences the relationship between confronting members who break norms, team psychological safety and team effectiveness.

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