The Impact of Emergent Leader Emotionally Competent Behavior on Team Trust, Communication, Engagement, and Effectiveness

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Abstract

The purpose of this paper is to help clarify the actions of effective emergent leaders in self-managing work teams (SMWTs). Toward that end, we present a study of the behavior of 32 emergent leaders in self-managing manufacturing teams that had worked together for five years. Multiple methods were used to test hypotheses that leader behaviors consistent with the development of emotionally competent team norms (interpersonal understanding, caring behavior, creating an optimistic environment, and proactive problem solving) would be more strongly linked to team trust, open communication, personal task engagement, and team effectiveness than traditional task-focused leader behaviors (directive statements, using questions). Most hypotheses were supported. Directive leader behaviors were for the most part negatively associated with team trust, open communication, and personal task engagement. It is argued that in SMWTs that have a history and a future together, emergent leaders who engage in behaviors that build team emotional competence are more likely to create team effectiveness than emergent leaders focused on directing team members.
Surveys show that a growing number of organizations are implementing self-managing teams in order to lower costs and improve decision-making (Lawler, 1998). Self-managing work teams (SMWTs) are defined as teams that monitor and manage their own performance, make decisions related to their work, and take collective responsibility for meeting their own goals (Hollander & Offermann, 1990). While implementing SMWTs is often productive for organizations, the most common reason for failure is poor leadership (Beyerlein, Johnson, & Beyerlein, 1996; Cohen, Chang & Ledford, 1997; Wageman, 2001).

Leading a self-managing team sounds paradoxical and, in fact, the unclear nature of the role makes leader over-management and under-management common problems (Manz & Sims, 1984; Druskat & Wheeler, 2003, Walton, 1977). Getting the leadership role “right” is particularly difficult because so little research has helped clarify the role. Yet, researchers have consistently found that effective leadership of SMWTs is pivotal for their success (Kirkman & Rosen, 1999; Wageman, 2001). This leadership can come from two sources: external leaders who reside outside of the team (see Druskat & Wheeler, 2003; Manz & Sims, 1987), and emergent or informal leaders who emerge from inside of the team (see Bales, 1950; Wolff, Pescosolido, & Druskat, 2002).

The purpose of this chapter is to investigate and identify the actions of effective emergent leaders in SMWTs. Most research on emergent leaders has focused on identifying the leadership behaviors that predict one’s emergence into the leadership role. This research has, traditionally, suggested that group members who emerge as informal leaders exhibit two types of behavior: task-focused and socio-emotional (Bales, 1950; Smith & Foti, 1998; Taggar, Hackett, & Saha, 1999). Recently, however, research and theory have suggested that emergent leader socio-emotional skills may be most necessary team effectiveness (Pescosolido, 2002, 2004; Wolff et
Wolff and his colleagues (2002) argued and found that leader empathy, defined as the ability to recognize and understand the feelings and emotions in one’s team, is the basis for identifying and employing the task-focused and/or socio-emotional behaviors that are most appropriate to a situation; their findings suggest that empathic skill is critical to leader emergence. Pescosolido (2002, 2004) also argued that team effectiveness is contingent on an emergent leader’s ability to manage the team’s emotions, and that because of an emergent leader’s status, he or she is in the unique position to be able to effectively influence emotions as they arise in the team.

In a related theory, Druskat and Wolff (2001) have argued that for groups who have been working together for a long period of time, awareness and management of emotion are critical to team effectiveness. They specifically argue that because emotion is ubiquitous in groups (see Kelly & Barsade, 2001), a group’s ability to develop emotionally competent norms (defined as norms that acknowledge, recognize, monitor, discriminate, and respond constructively to emotion and emotional challenge) leads to group effectiveness (Druskat & Wolff, 2001). It is important to note that research has revealed that emergent team leader socio-emotional skills predict whether a team develops emotionally competent norms (Druskat, Wolff, & Dyck, 2001).

In this chapter, our objective is to use recent theory and research to develop and test hypotheses about effective emergent leader behavior and its link to team effectiveness. Specifically, we use parts of Druskat and Wolff’s (2001) socio-emotional theory of group effectiveness, Pescosolido’s (2002) theory of emergent leaders as managers of emotion, and previous research findings on the role of leader task-focused behaviors (Lord, 1977; Tagger et al., 1999) to develop hypotheses about the emergent leader behaviors significantly linked to the development of group trust, open communication, task engagement, and team effectiveness.
We will use the terms group and team interchangeably in this paper. Also, we define a group or team as “made up of individuals who see themselves and who are seen by others as a social entity, who are interdependent because of the tasks they perform as members of a group, who are embedded in one or more larger social systems (e.g., community, organization), and who perform tasks that affect others (such as customers or coworkers)” (Guzzo & Dickson, 1996: 308).

**Emergent Team Leaders**

Group researchers have long known that certain influential group members emerge as leaders in groups (see Bales, 1950). These emergent leaders have been formally defined as team members who exhibit initiative and have influence over group members (Hollander, 1961; De Souza and Klein, 1995). They hold no legitimate authority or power. Instead, they acquire authority from group members who give them control because they believe these individuals provide value to the group. In fact, emergent leaders have been found to be more responsive to followers’ needs, more interested in the task, and more competent than appointed leaders (Yammarino, 1996).

Two distinct trends of thought have emerged over the past few years regarding the behavior of emergent leaders. The first, exemplified by Taggart et al. (1999), suggests that individuals emerge as leaders primarily because of their knowledge of and focus on the team’s task. Consequently, these individuals use their influence to create task-focused roles and strategies to assist team performance.

The second, exemplified by Pescosolido (2002) and Wolff and his colleagues (2002), and emphasized in our present study, suggests that the primary role of emergent leaders within an empowered or self-managing team context is to create a team environment that allows for
understanding of differences, expression of emotion (positive and negative), and trust between team members. The assumption underlying this premise is that, in an empowered team environment, most team members are already competent at the task, therefore, building a trusting team, member participation and communication and engagement of member talent and energy becomes a primary leadership responsibility. Schein (1980) supported this view in his argument that a relational style of leadership, as opposed to a task-focused style, becomes increasingly important as employees take on increasing responsibility. Therefore, what may be most needed in SMWTs are emergent leaders who can build the trust, communication, and task engagement necessary for SMWT success. We now turn to an explanation of the socio-emotional theory of group effectiveness to identify emergent leader behaviors that might build trust, open communication, and task engagement.

**The Socio-Emotional Theory of Group Effectiveness**

The socio-emotional theory of group effectiveness (Druskat & Wolff, 2001; Wolff & Druskat, 2003) contributes to current theory on group effectiveness by clarifying how emotion and relationships influence group effectiveness. As shown in Figure 1, the theory proposes that team member engagement in the group’s task and in effective task-focused processes (e.g., communication), are supported by group social capital, defined as constructive group member relationships (e.g., trust), which, in turn, is supported by emotionally competent group norms (ECG norms). The cornerstone of the theory is a set of emotionally competent norms that a team must develop. Important to the thesis in this paper is Druskat and Wolff’s (2001) proposal that emergent leaders play a role in the development of ECG norms. Their research has also found that emergent leader socio-emotional skills predict whether emotionally competent norms get developed (Druskat, Wolff, & Dyck, 2001). However, no research has examined whether
emergent leaders enacting emotionally competent behaviors enables team effectiveness. Below we explain the socio-emotional theory and how emotionally competent behaviors influence team effectiveness.

An Emotional Structure

The interpersonal interactions and behaviors that are at the core of group work are the source of many emotions, e.g., joy, contentment, fear, anger, and embarrassment (Kemper, 1978). However, the emotional dynamics (i.e., exhibition of emotion and the way emotion is dealt with) that occur in groups are not random; they emerge through member interactions, which are restricted by the social context and the range of actions considered admissible by contextual and cultural factors (Morgeson & Hofmann 1999). Over time, group member back-and-forth interactions cause certain emotional dynamics to become routine and to emerge as a collective emotional structure or a set of norms about how emotion is exhibited and dealt with in a group. The status of emergent leaders enables them to play an influential role in determining which dynamics will emerge as group norms (Bales, 1950).

Group Emotional Competence

According to Wolff and Druskat (2003), the emotional structure a group adopts determines its level of emotional competence. Group emotional competence is defined as a group culture created by a set of norms that facilitate a productive social and emotional environment that leads to group effectiveness. “Emotionally competent group norms” are defined as rules and expectations that foster the acknowledgement, recognition, monitoring and discrimination among
emotions, and constructive responses to emotion and emotional challenge (see Holmer, 1994; Huy, 1999).

In the present field study, because of resource constraints, we chose to examine four of the nine emotionally competent norms defined by Druskat and Wolff (2001). The first of the norms we examined is “interpersonal understanding,” defined as the expectation that members will work to understand the feelings, interests, concerns, strengths and weaknesses of team members. It is akin to demonstrating empathy or sympathy, the latter of which is defined as understanding someone’s emotions without necessarily feeling those emotions oneself. The second norm is “caring behavior,” defined as the expectation that members will take actions to communicate appreciation, respect, and possibly affection for others. The third norms is “creating an optimistic environment,” defined as the expectation that members will take actions to produce positive group affect and an optimistic outlook within the group. The fourth norm is “proactive problem solving,” defined as the expectation that members will work to anticipate problems before they occur or to take immediate ownership and control of a problem.

Trust, Open Communication, and Task Engagement

The socio-emotional theory of team effectiveness proposes that emotionally competent norms lead to group social capital (defined as the value added by the structure and quality of social relationships, e.g., trust, group identity -- see Nahapiet and Ghoshal 1998), and effective task processes, all of which are proposed to lead to group effectiveness. Therefore we also chose to examine constructs from each of these categories including trust, which has been defined as the most fundamental element of social capital (Coleman, 1990, Putnam, 1993), open communication, a task process that is fundamental to group interaction and effectiveness (Steiner, 1972), and task engagement, which is central to the effort
required for group task effectiveness (Hackman, 1986; Kahn, 1990). These constructs will be defined below.

**Team Effectiveness**

We agree with those who argue that long term effectiveness in SMWTs requires that teams focus on two aspects of team effectiveness: (a) performance, defined as the degree to which the team’s product or service meets the needs of customers, and (b) team viability, defined as the degree to which members of the team are able to continue working together in the future (see Hackman, 1986). In teams that work together for long periods of time, a singular focus on performance would eventually harm member well-being, group viability, and eventually, customer satisfaction (Sundstrom & DeMeuse, 1990). Therefore, we also include measures of team performance and team viability to examine team effectiveness in this study.

**Task-Focused Leader Behaviors**

As previously discussed, two distinct trends of thought have emerged about emergent leader behavior. Some theorists (e.g., Lord, 1977; Taggart et al., 1999) suggest that the primary role for emergent leaders is to focus the team on its task. These theorists argue that emergent team leaders are most effective when they use their influence to encourage and demand task-focused norms and behavior. Leader behaviors recommended by these theorists include directing and questioning team members to increase their participation and task focus. Such behaviors optimize efficiency and productivity (Bales, 1950; Lord, 1977; Stein & Heller, 1979; Taggar et al., 1999). We examine task-focused behaviors in our study because research emphasizing task-focused emergent leader behavior has been primarily conducted in short term student groups. Thus, as presented below in our hypotheses, we propose that task-focused behavior can have a negative influence on motivation and team effectiveness in SMWTs in that work together for
long periods of time and have a history as well as a future together. Here, task focused behaviors may be perceived as controlling and might have a negative influence on trust, communication, and task engagement (see Ryan, 1982, Tetrick, 1989).

**Study Hypotheses**

We begin by hypothesizing that specific emergent leader behaviors will predict team trust, open communication, and task engagement and the group effectiveness constructs of team viability and team performance. Then, using the socio-emotional theory of team effectiveness, we hypothesize that some of the relationships between leader emotionally competent behaviors and team performance will be mediated by trust, open communication, and task engagement.

**Emergent Leader Behaviors and their Link to Trust, Communication, and Task engagement**

**Team Trust.** Trust involves the willingness to make oneself vulnerable to the actions of others because of the expectation that those actions will be favorable to one’s interests (Mayer, Davis, & Schoorman, 1995). Trust can grow out of positive affect displayed between individuals (i.e., reciprocal care and concern) and/or out of calculus-based cognitions (i.e., I believe you will do what you say) (Rousseau et al, 1998). Group member trust is particularly important in SMWTs because it reduces member opportunism and increases participation that is cooperative, altruistic, and extra-role (Fukuyama, 1995). Research also indicates that trust can improve the enactment of task related activities by improving the coordination of actions (Dirks, 1999).

The behavior of leaders sets the tone for relationships among team members and influences the quality of those relationships (Bass, 1990; Kirpatrick & Locke, 1996; Shamir, Zakay, Breinen, & Popper, 1998). Consistent with the ideas of Mayer and his colleagues (1995) suggesting that trust involves the expectations that others’ actions will be favorable to one’s interest, we propose that two types of emergent leader behavior will influence the level of trust...
among members of a SMWT. First, trust is enhanced when leaders exhibit behaviors consistent with “interpersonal understanding” because they increase team members’ sense of being understood and valued. Second, trust is hurt when emergent leaders are directive and direct member behavior, which can be interpreted in the SMWT environment as attempting to assume control of a collectively managed team. We offer the following hypothesis:

**Hypothesis 1:** Trust in team members is positively associated with emergent leader display of: (a) interpersonal understanding and (b) negatively associated with leader directive statements.

**Open team communication.** Communication is the major ingredient by which a SMWT is held together (Steiner, 1972). Open team communication refers to honest and full participation in the communication and exchange of information among team members. Open communication norms invite candor and dissent. In fact, communication does not need to be agreeable to be effective; even when a dissenting viewpoint is wrong it often improves group decisions (Nemeth & Staw, 1989). Open communication is considered particularly important in SMWT environments because jobs and decisions are more complex than they are in traditional teams, and breadth and depth of member input is critical to team decisions and problem solving (Pearce & Ravilin, 1987).

Although research indicates the complex nature of the task drives members of self-managing teams to openly communicate more than members of traditional teams (LePine & Van Dyne, 1998), we argue that emergent leaders in SMWTs influence the extent and openness of that communication. We believe that team members will be more apt to take the risks inherent in speaking openly in an environment where leaders listen to and work to understand members and make them feel their presence is essential to the team (see Edmondson, 1999). We also believe
that the task-focused behavior of using questions will increase communication simply by virtue of its intent being to get members to participate and share ideas and opinions. On the other hand, Morrison and Milliken (2000) argue that leaders can easily close down communication and honesty when they engage in authoritative or directive behavior because it signifies that member input is unnecessary. We offer the following hypotheses:

**Hypothesis 2:** Team open communication is positively associated with emergent leader display of: (a) interpersonal understanding, and (b) using questions, and negatively associated with (c) leader directive statements.

**Task engagement.** Task engagement implies involvement, commitment, and the application of one’s “full self” to one’s work. Theory and research suggest that engagement of member energy and commitment is linked to SMWT effectiveness (Pearce & Ravlin, 1987) and should be a fundamental leadership objective (Bass, 1990). According to Kahn (1990), leaders influence the degree to which individuals either become engaged or alienated from their work. His research revealed that engagement increases in an environment experienced as psychologically safe, that is, where individuals feel accepted, supported and able to participate without negative consequences (Kahn, 1990). We propose that by virtue of their respect and influence in the group, emergent leaders are in a position to behave in ways that help to create such an environment and to increase member involvement in the task and in the team’s self-management. Thus, we believe that a psychologically safe environment that facilitates task engagement is likely to be created through interpersonal understanding, which lets members know their input is valued, and through caring behavior, which helps create the type of supportive environment discussed by Kahn. We also believe that task engagement will be reduced if members feel that leaders are indirectly *pushing* them to engage through the use of
tactics like “using questions”. We offer the following hypotheses:

**Hypothesis 3:** Member task engagement is positively associated with leader display of:
(a) interpersonal understanding and (b) caring behavior, and negatively associated with leader display of (c) using questions.

**Emergent Leader Behaviors and their Link to Team Effectiveness: Team Viability and Performance**

Research indicates that team leaders influence team performance (see Bass, 1990). One of the most robust predictors of individual performance is a sense of efficacy or belief in one’s capability to perform a task (Gibson, Randel, & Earley, 2000). A growing body of research suggests that team efficacy, or a team’s belief in its capability to perform well is also a strong predictor of task performance (Campion et al., 1993; Gibson, 1999; Guzzo et al., 1993, Pescosolido, 2001). Positive expectations seem to stimulate behavior that makes them self-fulfilling (Darley & Fazio, 1980; Lindsley, Brass, & Thomas, 1995). We, therefore, argue that team leader behavior that creates optimism about the team’s ability to be successful will be associated with team performance. We also believe that leader behavior that encourages members to manage their negative emotions through proactive problem-solving will be associated with team performance. Recent research examining the socio-emotional theory of group effectiveness reveals that a norm of proactive problem solving is strongly linked to team performance (Wolff, Druskat, Koman, & Messer, 2006). We offer the following hypotheses:

**Hypothesis 4:** Team performance is positively associated with emergent leader display of: (a) creating an optimistic environment and (b) proactive problem solving.

Team viability is defined as a group’s ability to continue working together effectively in the future. Viable teams are healthy teams in which members feel they are valued by the team,
feel optimistic about the future, and feel that when it works together the team is strong and effective. Therefore, we argue that leader interpersonal understanding and creating an optimistic environment will increase team viability. We also believe that leader behavior aimed at overtly directing member behavior will reduce the teams sense of strength and have a negative influence on team viability.

**Hypothesis 5:** Team viability is positively associated with emergent leader display of: (a) creating an optimistic environment and (b) interpersonal understanding, and negatively associated with leader display of (c) directive statements.

**Mediation of the Effects of Leader Emotionally Competent Behavior on Team Effectiveness**

The socio-emotional theory of group effectiveness proposes that the link between emotionally competent behaviors and team effectiveness is mediated by social capital and task processes (Wolff & Druskat, 2003). Thus, using ideas from the socio-emotional theory of group effectiveness (see Figure 1) and the logic provided in the above hypotheses, we propose three mediating relationships.

First, we propose that the link between leader interpersonal understanding and team performance will be mediated by the social capital variable of trust. Second, we propose that the link between leader interpersonal understanding and team performance will also be mediated by the group process variable of open communication. Finally we propose that the link between leader caring behavior and team performance will be mediated by task engagement. Therefore, we offer the following hypotheses,

**Hypothesis 6:** The effects of interpersonal understanding on team performance will be mediated by trust.

**Hypothesis 7:** The effects of interpersonal understanding on team performance will be
mediated by open communication.

**Hypothesis 8:** The effects of caring behavior on team performance will be mediated by task engagement.

**Method**

**Setting**

The research site was a Fortune 500 chemical processing manufacturing plant with 2000 employees and 150 self-managing production teams. Teams had undergone the change from manager-led to self-managing approximately five years prior to data collection. The manufacturing operation was a continuous process, running for 24 hours, seven days a week. Teams rotated their four day, 12 hour shifts so that all teams eventually worked all shifts. Team members belonged to one team.

**Data Collection and Procedures**

Data were collected as part of a larger study of norms and processes in SMWTs. A sample of 20 teams out of the 150 was selected for in-depth study. To obtain the sample we obtained nominations from managers and team members, and performance data. Teams were selected to represent all areas of the plant, to be conducting comparable production tasks, and to be considered at least average performers. According to plant management this latter criterion meant teams were fully self-managing and a primary research objective was to study self-managing teams. All teams in the sample were responsible for running large manufacturing equipment with the objective of achieving high production quantity and quality through the management of time, coordination, equipment breakdowns, and frequent product changes. Teams ranged in size from 6-13 members ($M = 9.75$).

**Emergent leader behavior.** Emergent leader behavior was assessed by coding leader
behavior on video-tapes each team. Coding leader behavior enabled us to get a measure of emergent leader behavior in the context of their team without subjecting the study to the biases and inaccuracies inherent in self-reports or other-reports (e.g., ratings from peers). Video-tapes were obtained from in a 2.5 hour video taped team interviews conducted with each team. The interview format was the Critical Incident Interview (Flanagan, 1954) adapted for use with a full team. The interviewer asked the team to discuss two types of events: (a) events in which the team worked well together and felt effective as a team, and (b) events in which members did not work together well and felt less than effective as a team. The role of the interviewer in a critical incident interview is to say as little as possible so as not to lead the interviewees. In a team critical incident interview, the interviewer asks questions and lets the interviewees tell their story and come to consensus on issues with as little interruption as possible. The full interview consisted of going back and forth between the two types of events and discussion among group members.

Interview Data Processing and Analysis

Of the twenty teams included in the study, four teams were eliminated leaving a final sample of 16 teams. Two teams were eliminated because technical errors made the videotapes difficult to code. Two more teams were eliminated because they had elected a team coordinator who was unable to attend the interview. Field observations suggested that in this plant election meant that a member was respected and influential within the team. Consequently, we felt that the absence of these elected leaders would have significantly impacted our ability to study emergent leaders within the group. These elected leaders missed the interviews because they were members of the plant paramedical team, which was undergoing training at the time of the interviews. Field notes were examined to determine if there were other missing team members
who stood out as being highly influential on the plant floor, no cases of this were discovered.

Team member participation in interviews ranged from 57% to 100% (M = 83%, Mdn = 82%), with 3 teams falling below 75% participation and 5 teams achieving 100% participation. Absences were in most cases due to illness, or conflicting meetings. Given the size of the teams (range = 6-13 members, M = 9.8), the percentage of members in each team who participated in the team interviews was high. This was most likely because team members were either given time off the production line or paid overtime wages to participate. Total participation included 130 team members.

Identification of the emergent team leaders. To identify emergent team leaders we used the definition cited in previous research: team members who take initiative and have influence over other team members (DeSouza & Klein, 1995; Wheelan & Johnston, 1996), which led us to use two criteria for leader selection. The first was election by the team into the role of team coordinator. Team coordinators had no formal authority in the team. They worked on the production line and received the same pay as other members, but had time off of the line each day to: monitor the daily "line-up" (i.e., ensure team members knew their daily positions on the line), get supplies, take product samples to labs, keep daily records, and act as a contact person for external management. Teams decided whether to rotate this position or to elect one coordinator. Eight of the sixteen teams in our final sample chose to elect a coordinator. Our use of election as a criterion was based on field notes suggesting that election signaled that an individual had influence in the team and that his or her ideas were respected by team members. As a validity check for the use of this criterion, the researchers watched these members on the videotapes and using the criteria outlined below for selection of emergent leaders in the remaining eight teams, determined that these members acted as emergent leaders during the
session. In all eight cases this was true. This check also reinforced the validity of our leader selection criteria outlined below.

Our second criterion for leader selection was selection by a panel of four judges who independently viewed the videotapes to select team members who showed initiative and had influence, which was operationalized as: (a) when this individual talks, others take notice and listen, (b) the individual’s statements and ideas have influence over the statements and actions of other members, and (c) the individual shows initiative by suggesting topics and sharing ideas; importantly, consistent with point b, these initiatives must be accepted by team members (as opposed to rejected or ignored).

Over the years, research has repeatedly found that more than one emergent leader emerges in most teams (see Bales, 1950; Burke, 1971; DeSouza & Klein, 1995; Neubert, 1999; Wheelan & Johnston, 1996). Thus, our first task was to determine the number of leaders emerging in the SMWTs in our sample. Four members of our research team used the criteria outlined above while independently and repeatedly watching the videotapes. There was consensus that two emergent leaders emerged in these teams. Previous researchers has also found that two leaders emerge in groups the size of those we were studying (Bales, 1950; Bales & Slater 1955; Neubert, 1999; Wheelan & Johnston 1996), thus, we decided to code the leadership behaviors of the two emergent leaders in each team.

After we viewed the tapes to determine number of leaders, four independent judges proceeded to independently review the tapes (using the criteria outlined above) to select the two leaders in each team. They achieved an interrater reliability (James, Demaree & Wolf, 1984) of .98 (range for all leaders = .89 – 1.0). It is worth noting that we conducted a post-hoc analyses (e.g., after data were analyzed) and found no significant differences between the frequencies of
each coded behavior exhibited by the leaders in our sample that had been elected as coordinators and those who were selected by the judges. We also found no significant differences between those exhibited by the two leaders in each team.

Content analysis of leader behaviors. Our research questions ask about the specific behaviors exhibited by the emergent leaders of SMWTs. Consequently, we created a behavioral code to describe and operationalize the individual leader behaviors examined in this study. The behavioral code was created by the authors through a careful process of examining of the research literature and the videotapes to ensure that our descriptions of leader behaviors were relevant to the types of behaviors seen in the SMWTs. Table 1 presents the final codes, their definitions, and examples of the statements coded for a behavior. This list served as a codebook.

Coding leaders and determining code reliability. At this point, two coders joined our research team to code the behavior of each emergent leader in the 16 teams (32 leaders). The coders underwent a training process to learn the codes by iteratively coding clips from four training video tapes (clips not used in the final analyses) and meeting with the researchers to clarify applications and code definitions. Once the coders reached an inter-rater reliability of .75 on each code using the training tapes, they independently coded three 15 minute clips from each of the sixteen tapes (coding the two leaders on each tape for a total of 45 minutes per tape). The first 15 minute clip occurred one half hour into the interview, the second clip occurred one hour into the interview and the third clip occurred one and a half hours into the interview. The timing of these clips was selected to capture representative sections of the tape that did not involve the
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early warm-up or winding down phases of the interview.

Coding involved marking a code on a scoring sheet and indicating the timing on the tape when an emergent leader exhibited the behavior as it was described in the codebook. Coding videotaped critical incident interviews allowed the codes to be applied in three ways: (a) To non-verbal behaviors exhibited during the team interview (e.g., a head nod to signify affirmation of a member idea), (b) to statements made during the interview (e.g., the leader stating that she agrees with a member's idea), and (c) to leader behaviors that occur within the critical incident being described (e.g., as part of the critical incident, a member describes how the leader supported her ideas). The leader was the unit of analysis and the number of times a code could be applied was unlimited.

When coders completed a tape, they made a frequency count of the number of times each code had been applied to each leader. When all tapes had been coded, coding reliabilities were calculated for each separate code as the percent agreement across all tapes between both coders (Boyatzis, 1998). Coders achieved a mean reliability of .88 (range for all 13 codes = .75 to .99). To determine the final frequency count for each code for each leader, we averaged the code applications of the two coders. The end result was a frequency count of the number of times a leader exhibited each of the seven behaviors. Table 2 presents the means and standard deviations for exhibition of each behavior by the 32 emergent leaders and intercorrelations among the behaviors. Because team self evaluation occurred so infrequently (M = .22, SD = .49), we chose to drop it from all further analyses.

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Trust, communication, and task engagement. Trust in group members was measured using seven items from Cook and Wall’s (1980) interpersonal trust at work survey; sample items include, “Most of my teammates can be relied upon to do as they say they will do,” and “I can rely on the other workers in my team not to make my job more difficult by careless work.” Cronbach’s alpha estimated scale reliability was .73. Item anchors for this and all other scales used in the study were 1 = strongly disagree to 7 = strongly agree.

Open group communication was assessed using Seashore, Lawler, Mirvis, and Cammann's (1982) four item open group process scale; example items include, “My teammates are afraid to express their real views” (R), and “In my opinion everyone’s opinion gets listened to.” Cronbach’s alpha scale reliability was .86.

Task engagement was measured using six task engagement items from Hackman and Oldham’s (1980) Job Diagnostic Survey; sample items include, “Whether or not this job gets done right is clearly my responsibility,” and “I feel a very high degree of personal responsibility for the work I do on this job.” Cronbach’s alpha scale reliability was .79.

Scale aggregation. Individual responses to the scales (including the three listed above and the team viability scale listed below) were aggregated to the team level because aggregation was consistent with Rousseau’s (1995) suggestion that the level of analysis be based on the focal unit of the study. We were interested in the influence of emergent leader behavior on the team as a whole, thus the focal unit of the dependent measures was the team. To determine if aggregation was empirically justifiable we performed the intraclass correlation coefficients (ICCs) test (Shrout & Fleiss, 1979). The ICC test has been discussed as difficult to pass because significance requires both high within-team agreement and low between-team agreement (see James et al., 1984). Our ICC analyses showed all of our scales were significant at the p < .05 level. Overall,
we felt these analyses supported our conceptual argument for aggregation, and the scales were aggregated.

**Team effectiveness.** Because production tasks varied slightly, interviews were conducted with managers to determine the objective data most representative of each team’s performance. Data type included: Amount of top quality product produced per "person hour," average amount of time taken for product changes, and average amount of waste produced. Daily performance data were collected for a mean of 10 weeks. To enable comparisons of performance data across teams conducting different tasks, data were standardized using z-scores. This resulted in a score for each team showing how far above or below the mean its performance stood relative to all other teams in the plant doing the same work. For all teams included in the study, tasks and equipment were considered of comparable difficulty to perform and operate.

Team viability was measured using items from the group viability scale from Hackman’s (1990) Flight Crew Survey; sample items include, “There is a lot of unpleasantness among people in this team (R),” and “Sometimes one of us refuses to help another team member out.” Cronbach’s alpha scale reliability was .79. Table 3 shows descriptive statistics and intercorrelations among our various dependent variables.

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Insert Table 3 about here

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**Results**

To test our hypotheses, we conducted a series of regression analyses using the trust, communication, task engagement, team viability and team performance as the dependent variables and entering the hypothesized emergent leader behaviors as the independent variables.
Table 5 shows the results.

Trust, communication, and task engagement. Hypothesis 1 predicted that team trust would be positively associated with emergent leader display of: (a) interpersonal understanding and negatively associated with leader (b) directive statements. The overall regression model was significant (F = 5.13, p < .01) indicating that together these behaviors significantly predicted trust and accounted for 26% of the variance in trust. Hypothesis 1a was supported; leader exhibition of interpersonal understanding was a positive predictor of trust (Beta = .56, p < .01). Hypotheses 1b was not supported; however leader exhibition of directive statements was almost a significant negative predictor of trust (Beta = -.35, p < .10).

Hypothesis 2 predicted that team open communication would be positively associated with emergent leader display of: (a) interpersonal understanding and (b) using questions, and negatively associated with leader (c) directive statements. The overall regression model was significant (F = 3.08, p < .05) indicating that together these behaviors significantly predicted open communication and accounted for 25% of the variance in open communication. Hypothesis 2a was supported; interpersonal understanding was a significant predictor of open communication (Beta = .40, p <.05.). Hypothesis 2b was also supported; leader “using questions” was a significant predictor of open communication (Beta = .38, p < .05). Hypothesis 2c was also supported; leader directive statements were a significant negative predictor of team responsibility (Beta = -.50, p < .05).

Hypothesis 3 predicted that task engagement would be positively associated with
emergent leader display of: (a) interpersonal understanding and (b) using questions, and
negatively associated with (c) using questions. The overall regression model was significant (F =
5.45, p < .01) indicating that together these behaviors significantly predicted task engagement
and accounted for 37% of the variance in task engagement. Hypotheses 3a was not supported.
Interpersonal understanding was not a significant positive predictor of task engagement (Beta =
.06, n. s.). Hypotheses 3b and 3c were both supported. Caring behavior was found a significant
positive predictor of task engagement (Beta = .35, p < .05). Using questions was found a
significant negative predictor of task engagement (Beta = -.51, p < .01).

Team effectiveness

Team performance. Hypothesis 4 predicted that team performance would be associated
with emergent leader display of: (a) creating an optimistic environment and (b) proactive
problem solving. The overall regression model was not significant (F = 2.67, p < .10), however,
it was approaching significance. This indicated that together these leader behaviors did not
significantly predict team performance. However, it is encouraging that creating an optimistic
environment was a significant predictor team performance (Beta = .38, p < .05). We were
surprised to find that not only was proactive problem solving not a significant predictor of team
performance, it was negatively related to team performance (Beta = -.27, n. s.).

Team viability. Hypothesis 5 predicted that team viability would be positively associated
with emergent leader display of: (a) interpersonal understanding and (b) creating an optimistic
environment, and negatively associated with (b) using questions. The overall regression model
was significant (F = 4.02, p < .05) indicating that together these behaviors significantly predicted
team viability and accounted for 30% of the variance in team viability. Hypothesis 5a and 5b
were not supported. Interpersonal understanding was not a significant positive predictor of
viability (Beta = .27, n. s.), nor was creating an optimistic environment (Beta = .13, n. s.).

Hypotheses 5c was supported as leader directive statements (Beta = -.57, p < .01) was a significant negative predictors of team viability.

**Tests for mediation.** To assess the degree to which trust, communication, and task engagement mediate the relationship between leader behavior and team performance, we used the multi-step analysis suggested by Kenny, Kashy, and Bolger (1998). Three relationships must be investigated to demonstrate mediation: (1) the proposed mediator must significantly predict the dependent variable, (2) the independent variable must predict the mediator, and (3) the contribution of the independent variables must drop considerably for partial mediation and must become insignificant for full mediation, when entered into the model together with the mediating variable.

Hypothesis 6 predicted that trust would mediate the relationship between leader interpersonal understanding team performance. As shown in Table 5, the degree of team trust is strongly related to team performance (step 1), interpersonal understanding predicts team trust at an acceptable level (p<.10; Kenny et al., 1998) (step2), and interpersonal understanding drops to insignificant when entered in to the model simultaneously with trust (step 3). Thus, Hypotheses 6 is supported. Trust fully mediates the relationship between leader interpersonal understanding and team performance.

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Insert Table 5 about here

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Hypothesis 7 predicted that open communication would mediate the relationship between
leader interpersonal understanding and team performance. As shown in Table 6, the degree of open communication is strongly related to team performance (step 1), interpersonal understanding does not predict open communication at an acceptable level (p=.36) (step2), however Kenny and his colleagues (1998) state that this association does not need to be significant. Finally, the relationship between interpersonal understanding and performance drop (but not significantly as it was not significantly related to open communication in the first place) when it is simultaneously entered into the model with open communication (step 3). Thus, Hypotheses 7 is partially supported. Open communication partially mediates the relationship between leader interpersonal understanding and team performance.

Hypothesis 8 predicted that task engagement would mediate the relationship between leader caring behavior and team performance. As shown in Table 7, the degree of task engagement is not significantly associated with performance. Thus, we never get beyond step 1. Thus, Hypotheses 8 is not supported. Task engagement does not mediate the relationship between leader caring behavior and team performance.

Discussion

Since the mid 1980’s there has been a steady increase in the number of SMWTs
implemented at all levels of organizations (Cohen & Bailey, 1997; Lawler, 1998). However, despite knowledge that leading SMWTs is more complex than leading a traditional team (Hackman, 1986) and that leadership is pivotal to their success SMWTs (Cohen et al., 1997; Kirkman & Rosen 1999) little research has examined the leadership role in these teams (Druskat & Wheeler, 2003). For the present study, we chose to examine closely the efficacy of emergent team leader behaviors on team behavior and effectiveness, because we believe emergent leadership is fundamental for SMWT effectiveness. Unlike external leaders of SMWTs, emergent leaders are continuously present and thus have continuous influence over team behavior.

Our study makes several contributions to current knowledge. First, as predicted, our results indicate that emergent leader behavior consistent with emotionally competent norms has a positive influence on team trust, open communication, task engagement, and on team effectiveness. This suggests that emotionally focused emergent leader behavior influences positively the experience of working in a SMWT and influences the bottom line. As predicted, a second contribution to knowledge is the finding that in the SMWT context, task-focused leader behavior generally has a negative influence on the team experience, particularly when it is directive behavior. It is important that we stress that these results are very likely due to the types of teams we studied. That is, self-managing teams that have a five year past and a long future in front of them. Recent research (Robert, Cheung, & Trembath, 2004) has found that team task has a strong influence on the emergent leader traits that influence team effectiveness. It may be that when a SMWT is in a start-up phase, or if team members do not know each other well, that task-focused leader behavior is most effective. This is a question for future research.

Our results also contribute to knowledge about specific emergent leader behaviors and
the routes through which they influence team performance. The first, and perhaps most powerful, behavior we studied was interpersonal understanding. This behavior involved taking actions to fully understand team members – even to the point of empathizing with them. This behavior linked significantly to the exhibition of leader trust and open communication and linked strongly to team viability. Moreover, the behavior also linked to objective team performance through the mediating relationship of trust and open communication. This suggests that one of the most important ways an emergent leader in a well-established SMWT can impact team performance is by making members feel emotionally understood and validated. Such behaviors create a climate of trust and open communication which increases performance.

Another leader behavior we examined was “caring behavior,” which linked significantly to member task engagement. We found that when members feel supported and cared for it enables them to fully engage in the task at hand. This finding is consistent with Kahn’s research on caring behavior in organizations (1990). In a strange twist, task engagement was not found to be related to team performance. This may have been due to our small sample size and clearly needs to be examined again in future research.

Creating an optimistic environment was another leader behavior we examined. Because of its link to team efficacy, which has consistently been found to be associated with team performance (see Gibson, 1999), we hypothesized and found that optimistic leader behavior was linked to objective team performance. This suggests that emergent team leaders have an influence on this critical climate variable. It also suggests that managing emotion so that the outlook in the group is positive may be a fundamental part of the emergent leader’s role.

We predicted that the leader behavior of “proactive problem solving” would have a positive influence on objective team performance since the norm of proactive problem solving
has previously been linked to team effectiveness (Wolff et al., 2006); however, this prediction was not supported. It may be that this behavior, which is hypothesized in the socio-emotional theory of group performance to manage group anxiety and emotion, was perceived as too task-focused in an environment where leader task-focused behaviors were not helpful to the team.

Although we found that the task-focused behavior of “directive statements” was consistently negatively related to team trust, open communication and viability, we did find that, as predicted, the task-focused behavior of asking questions had a positive impact on open communication. It may be that when task-focused behaviors are directly related to improving the group emotional climate, they have a positive affect on the team climate.

Finally, our study provides some support for the socio-emotional theory of group effectiveness. As shown in Figure 1, the theory proposes that emotionally competent norms link to group effectiveness through their influence on trust and task processes like open communication. We tested whether trust and open communication mediated the relationship between leader interpersonal understanding (an emotionally competent norm) and objective team performance. Results supported our hypotheses. It appears that the socio-emotional theory of group effectiveness has some promise and should be studied further.

Study limitations

There were a number of limitations in our study that must be noted. First, we had a small sample of emergent leaders. Second, and perhaps most important, we coded leader behavior during one team meeting that was, in fact, an interview. We cannot guarantee that when these emergent leaders and these teams are on the shop floor that leader behaviors will be the same. On the plus side, however, despite the fact that we used multiple methods in this study (coded leader behavior, questionnaires, and objective performance), many of our predictions were
supported. This suggests that the coded interviews were demonstrating behaviors of importance to the team.

Conclusion

In 1998, three organization scholars predicted that if someone could crack the code on how to effectively lead SMWTs – they would fare well in the new millennium (Maertz, Moregson, & Campion, 1998). By no means have we yet cracked that difficult code. Much more research is needed on the leadership of SMWTs. However, we do believe that we have added to current knowledge and thus taken one more step closer to cracking the SMWT leadership code. Specifically, our research suggests that emergent leaders have an important influence on SMWT climate and performance. Also, that one of the most useful skills an emergent leader can bring to an SMWT is an awareness of emotion and its influence on the team.
References


**Team effectiveness and decision making in organizations:** 9-45. San Francisco: Jossey-Bass.


Stein, R. T. 1977. Accuracy of process consultants and untrained observers in perceiving


### Table 1

**Emergent Leader Behaviors, Definitions, Sample Quotes and Examples**

<table>
<thead>
<tr>
<th>Emotionally Competent Behaviors</th>
<th>Definitions</th>
<th>Sample Quotes and Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Interpersonal Understanding</strong></td>
<td>(a) Demonstrating insight into a member’s personality or personal situation, or b) Expressing empathy or the ability to hear and understand the thoughts, feelings, needs and concerns of others.</td>
<td>“That recognition made her light up like a light bulb.” “You can tell when she’s smiling inside. She’s smiling inside right now.”</td>
</tr>
<tr>
<td><strong>2. Caring Behavior</strong></td>
<td>(a) Supporting members in the conversation by affirming their ideas or input through statements or body language (e.g., affirmative nods). (b) Praise comes from the leader and goes to specific individuals (c) Verbal or non-verbal support, affection, or warmth.</td>
<td>“Exactly.” “What she just said.” “Most of the time [Pam] was right.” The leader made coffee for another team member and gave it to her before getting his own coffee. The leader touches team member in a caring way.</td>
</tr>
</tbody>
</table>
### Table 1 continued

<table>
<thead>
<tr>
<th>Emergent Leader Behaviors</th>
<th>Definitions</th>
<th>Sample Quotes and Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Creating an Optimistic Environment</td>
<td>(a) Explicit comments demonstrating optimism about the teams ability to handle problems and to manage itself.</td>
<td>“We knew what (the external leader) expected of us. We knew what we wanted to do and what was needed to do a good job.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“I think we could have made that decision.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“We don’t need a supervisor to do a good job.”</td>
</tr>
<tr>
<td>4. Proactive Problem Solving</td>
<td>Statements made to influence the team to think proactively about a problem.</td>
<td>“You have to give people in the creel time to catch up”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“We just had to do whatever we could.”</td>
</tr>
</tbody>
</table>

#### Task-Focused Behaviors

<p>| 5. Using Questions | (a) Using questions that involve/invite team members into the conversation, or (b) using questions to confirm own assessment or interpretation of the situation. | “How long did it take?” |
|                   |             | “Sally, you were there… what did you think had happened?” |
|                   |             | “Is that not right?” |</p>
<table>
<thead>
<tr>
<th>Emergent Leader Behaviors</th>
<th>Definitions</th>
<th>Sample Quotes and Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Directive Statements</td>
<td>(a) Intervening to direct conversation or member conversation (e.g., stepping in to define what happened or has to happen), or (b) directive questions.</td>
<td>“What happened is this…”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“No. No, you were there then…”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Can’t you tell some things about that meeting?”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“How do you think we are going to tell them if you don’t want to bring it up so we can talk about it?”</td>
</tr>
<tr>
<td></td>
<td>The difference between this code and #6 (Using Questions) is the tone involved. Here, the question is in the form of a directive or command.</td>
<td></td>
</tr>
</tbody>
</table>

Table 1 continued
Table 2  
Descriptive Statistics for Emergent Leader Behaviors and Intercorrelations Among Behaviors  
(N=32)  

<table>
<thead>
<tr>
<th>Leader Behaviors</th>
<th>Mean</th>
<th>S.D.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Interpersonal Understanding</td>
<td>1.06</td>
<td>1.76</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Caring Behavior</td>
<td>14.4</td>
<td>9.44</td>
<td>.38*</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Optimistic Environment</td>
<td>1.50</td>
<td>2.45</td>
<td>.20</td>
<td>-.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Proactive Problem Solving</td>
<td>3.78</td>
<td>4.36</td>
<td>-.02</td>
<td>.14</td>
<td>.30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Directive Statements</td>
<td>7.75</td>
<td>5.94</td>
<td>.44*</td>
<td>.39*</td>
<td>.03</td>
<td>.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Using Questions</td>
<td>2.59</td>
<td>3.59</td>
<td>-.04</td>
<td>.09</td>
<td>-.09</td>
<td>.31</td>
<td>.31</td>
<td>--</td>
</tr>
</tbody>
</table>

Note.  *p < .05.  **p < .01.  ***p < .001.
Table 3

Descriptive Statistics, Reliability Estimates, and Intercorrelations among the Dependent Variables (N=16)

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Trust</td>
<td>5.63</td>
<td>.38</td>
<td>.73</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Open communication</td>
<td>5.08</td>
<td>.74</td>
<td>.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Task engagement</td>
<td>5.84</td>
<td>.38</td>
<td>.79</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Team performance</td>
<td>.26</td>
<td>.90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Team viability</td>
<td>5.10</td>
<td>.81</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Cronbach’s alpha reliability estimates are shown along the diagonal in parentheses.

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

Scales ranged from 1 = strongly disagree to 7 = strongly agree.

Team performance is reported as z-scores.

N=16
### Table 4

**Results of Regression Analyses Used to Test Hypotheses about Leader Behaviors that Predict Trust, Communication, Task engagement and Team Effectiveness (N=32)**

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variables</th>
<th>Team Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Trust</td>
<td>Open Communication</td>
</tr>
<tr>
<td>Emergent Leader Behaviors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal Understanding</td>
<td>.56**</td>
<td>.40*</td>
</tr>
<tr>
<td>Caring Behavior</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optimistic Environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proactive Problem Solving</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Directive Statements</td>
<td>-.35+</td>
<td>-.50*</td>
</tr>
<tr>
<td>Using Questions</td>
<td>.38*</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>5.13</td>
<td>3.08</td>
</tr>
<tr>
<td>p</td>
<td>&lt;.01</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>R²</td>
<td>.26</td>
<td>.25</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.21</td>
<td>.17</td>
</tr>
<tr>
<td>df</td>
<td>2, 29</td>
<td>3, 28</td>
</tr>
</tbody>
</table>

**Note.** Standardized regression coefficients are shown.

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

a N = 30
### Table 5

**Mediating Effects of Trust on the Link between Interpersonal Understanding and Team Objective Performance**

**Step 1**
Predicting: Team Objective Performance  \( R^2 = .10 \)

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Beta</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team Trust</td>
<td>.48</td>
<td>2.86</td>
<td>.008</td>
</tr>
</tbody>
</table>

**Step 2**
Predicting: Team Trust  \( R^2 = .23 \)

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Beta</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal Understanding</td>
<td>.31</td>
<td>1.80</td>
<td>.08</td>
</tr>
</tbody>
</table>

**Step 3**
Predicting: Team Objective Performance  \( R^2 = .24 \)

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Beta</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal Understanding</td>
<td>-.14</td>
<td>-.79</td>
<td>.43</td>
</tr>
</tbody>
</table>

Team Trust                      | .52  | .30 | .007 |

**Note.** Standardized regression coefficients are shown.
Table 6

Mediating Effects of Open Communication on the Link between Interpersonal Understanding and Team Objective Performance

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Predicting: Team Objective Performance</th>
<th>$R^2 = .16$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variable</td>
<td>Beta</td>
<td>$t$</td>
</tr>
<tr>
<td>Open Communication</td>
<td>.40</td>
<td>2.30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2</th>
<th>Predicting: Open Communication</th>
<th>$R^2 = .03$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variable</td>
<td>Beta</td>
<td>$t$</td>
</tr>
<tr>
<td>Interpersonal Understanding</td>
<td>.17</td>
<td>.92</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Predicting: Team Objective Performance</th>
<th>$R^2 = .16$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variables</td>
<td>Beta</td>
<td>$t$</td>
</tr>
<tr>
<td>Interpersonal Understanding</td>
<td>-.04</td>
<td>-2.1</td>
</tr>
<tr>
<td>Open Communication</td>
<td>.40</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Note. Standardized regression coefficients are shown.
Table 7

Mediating Effects of Task engagement on the Link between Caring Behavior and Team Objective Performance

### Step 1
Predicting: Team Objective Performance  \( R^2 = .05 \)

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Beta</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task engagement</td>
<td>.23</td>
<td>1.23</td>
<td>.22</td>
</tr>
</tbody>
</table>

### Step 2
Predicting: Task engagement  \( R^2 = .08 \)

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Beta</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caring Behavior</td>
<td>.33</td>
<td>1.90</td>
<td>.07</td>
</tr>
</tbody>
</table>

### Step 3
Predicting: Team Objective Performance  \( R^2 = .07 \)

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Beta</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caring Behavior</td>
<td>-.29</td>
<td>-1.54</td>
<td>.13</td>
</tr>
<tr>
<td>Task engagement</td>
<td>.32</td>
<td>1.69</td>
<td>.10</td>
</tr>
</tbody>
</table>

Note. Standardized regression coefficients are shown.
Figure 1
Simplified Socio-emotional Model of Group Effectiveness (Druskat & Wolff, 2001)

Team Effectiveness
(e.g., team viability, team performance)

Task-Focused Processes
(e.g., open communication, task engagement)

Social Capital
(e.g., trust)

ECG Norms
(e.g., interpersonal understanding, caring behavior, optimism, proactive problem solving)