Emotional Intelligence Competencies in the Team and Team Leader: a multi-level examination of the impact of Emotional Intelligence on Group Performance.

By

Elizabeth Christine Stubbs

Submitted in partial fulfillment of the requirements

For the degree of Doctor of Philosophy

Dissertation Advisor: Dr. Richard Boyatzis

Department of Organizational Behavior

CASE WESTERN RESERVE UNIVERSTIY

January, 2005

CASE WESTERN RESERVE UNIVERSITY

SCHOOL OF GRADUATE STUDIES

We hereby approve the dissertation of

_____

candidate for the _____ degree*

(signed) _____

(chair of committee)

_____

_____

_____

(date) _____

*We also certify that written approval has been obtained for any proprietary material contained therein.

Dedicated to my parents, Pam and Tony Stubbs, for they have made my educational journey possible

Emotional Intelligence Competence in the Team and Team Leader: a multi-level examination of the impact of Emotional Intelligence on Group Performance

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

Acknowledgements

First and foremost I would like to thank my committee members for their guidance, mentoring and support through not only my dissertation, but my time at CWRU. I have been fortunate enough to work with a few of you extensively and feel grateful for all that I have learned from you. While I am grateful to my entire committee, I must pay particular thanks to Vanessa and Richard. Both of you have spent many hours working with and developing me. I appreciate all the time you have spent working through ideas and reading endless drafts of proposals, papers, and this thesis.

Thank you's are also deserved by many of my colleagues, friends and family members. Personal and professional support has proven to be my strength through this journey. To my colleagues and friends, Gene, Steve, Alan, Donna, Julia, and Jamie, I thank you. You each have offered me support and friendship at some point during my journey that I found invaluable.

To my research partner and friend for life, I would have never made it to this point without your unending friendship, honesty, and loyalty. I am forever grateful to you Anita for all the late night phone calls, brainstorming, wonderfully honest feedback and most importantly your friendship.

My gratitude for my family members cannot be expressed with words. I thank my parents Pam and Tony and my husband Brian for sticking with me and supporting me through my educational process. I appreciate your flexibility when I have had to cancel things at the last minute to complete schoolwork, for listening to me ranting and raving, and for always believing I could do it, even when I didn't believe it myself. Brian your

love and support has kept me going. Thank you for your understanding when I was locked in my office for weekends on end and for taking care of everyday living so I did not have to.

All in all, I would not have a complete draft of my thesis if it were not for the caring and support of my family, friends, and committee members. I thank you all for your efforts and energy in my personal and professional development.

LIST OF ABBREVIATIONS

Abbreviation	
EI	Emotional Intelligence
ECGN/ ECG norms	Emotionally Competent Group Norms
ECI	Emotional Competence Inventory
EQI	Emotional Quotient Inventory
MSCEIT	Mayer Salovey Caruso Emotional Intelligence Test
EC	Emotional Competencies
IU	Interpersonal Understanding
CMBN	Confronting members who break norms
CB	Caring Behavior
TSE	Team Self-Evaluation
CRWE	Creating Resources for Working with Emotion
PPS	Proactive Problem Solving
OU	Organizational Understanding
BER	Building External Relationships
NFI	Normed Fit Index
RFI	Relative Fit Index
RMSEA	Root Mean Square Error of Approximation

Abstract

This paper examines the relationship between team leader emotional intelligence (EI), team level emotional intelligence, measured through the group's emotionally competent group norms (ECGN), and lastly team performance. It is argued here that team leader's EI will influence the development of ECGNs. Secondly, it is hypothesized that the presence of ECGNs will positively influence group effectiveness. Data were collected from 422 respondents representing 81 teams in a military organization. Results show that team leader emotional intelligence is significantly related to the presence of emotionally competent group norms on the teams they lead. Results also showed three ECGNs are significantly related to effectiveness. Propositions for future research are offered.

Introduction

Chapter 1

The examination of emotions in organizations is a relatively new area of study. Research has examined the role emotions affect the relationship between individual and organizational performance. One modality to examine the effects of emotions on performance is through an individual's emotional intelligence (EI). Individual emotional intelligence competencies have been shown to be significantly related to individual performance (Boyatzis, 1982). However, the study of emotions within a team and the effects of emotions on team performance is a new avenue of research.

Recently, Druskat & Wolff (1999, 2001a, 2001b) proposed a model of how emotions and emotional behaviors are manifested in groups and how the behavioral norms that are established in a group affect the group's performance. The proposed behavioral norms are labeled Emotionally Competent Group Norms (ECGN). These norms have been linked to team performance (Druskat, Messer, Koman & Wolff, 2003). However, The factors that contribute to the development of ECGNs have never been examined.

The purpose of the research presented here is to assess the team leader emotional intelligence competencies that affect the emergence of emotionally competent norms in a team. Emotional intelligence is one facet of leadership, and is being examined in this research because of its importance to leader performance (Boyatzis, 1982; Watkin, 2000; Gabriel & Griffiths, 2002). Specifically, the present research examines how the emotional intelligence of a leader affects the emotional norms that emerge in a team (ECGNs) and

how both the individual and team levels of emotional intelligence affect performance within the organization. An introduction to the topics of individual level emotional intelligence, team level emotional intelligence and team performance is presented below.

Emotional Intelligence

In the early to mid 1900's, scholarly discussions treated emotions with a negative connotation. They were thought of as overcoming and ruling individuals. Emotions were to be controlled by the individual or he or she would succumb to their influences (Young, 1936; Schaffer, Gilmer & Schoen, 1940). Emotions were later thought of as positive aspects of humans helping to prioritize tasks, focus, organize, and motivate oneself. It was also realized that emotions are holistic in nature because they involve the whole human, mind and body; through neural, cognitive, and motor processes (Leeper, 1948; Mandler, 1975; Simon, 1982; Izard & Buechler, 1980; Plutchik, 1980; Tomkins, 1962; Izard, 1991). Research also suggested that emotions emerged in the human species through the evolutionary process "to provide new types of motivation and new action tendencies as well as a greater variety of behaviors to cope with the environment and life's demands" (Izard, 1991, p9).

Today, emotions are viewed as organized responses, that can create outstanding leaders and star performers (Boyatzis, 1982; George, 2000). It has been argued that what differentiates outstanding leaders and performers is how they manage their emotions, and the emotions they elicit in others (Watkin, 2000; Goleman, 1998; Boyatzis, 1982). This ability is referred to as emotional intelligence (Goleman, 1995; Goleman, 1998; Boyatzis, 1982; Salovey & Mayer, 1990).

At the rudimentary level, it is clear that emotions are involved in everyday work lives. Most activities occurring in the work environment evoke emotions. For example, people get angry, annoyed, frustrated, happy, and proud, all of which can occur in the span of one afternoon when working on one or more work tasks. Individuals create, as well as, evoke emotions in the workplace on an hourly basis (Rafaeli & Worline, 2001). At the same time, emotions are what tie individuals to one another and what tie them to the organization (Rafaeli & Worline, 2001, p 110).

Emotional intelligence theory is one of the main tools for understanding emotions in organizations (Gabriel & Griffiths, 2002). One of the tenants of EI is that an individual's emotions not only affect the individual, but those around them. In the same token, the emotions individuals experience throughout the day are "inextricably bound up with other people and social worlds, with one of the most powerful of those being the organizational work context" (Rafaeli & Worline, 2001 p 95).

Team Level Emotional Intelligence

Scholars have discussed the differences between a team and group (Fisher, Hunter & Macrosson, 1997). This paper will not cover that discussion. Like Cohen and Bailey, I define a group as "a collection of individuals who are interdependent in their tasks, who share responsibility for outcomes, who see themselves and who are seen by others as an intact social entity embedded in one or more larger social systems and who manage their relationships across organizational boundaries." (Cohen & Bailey, 1997, p. 241). Morgan, Glickman, Woodard, Blaiwes and Salas, (1986, p.3) define a team as "a

distinguishable set of two or more individuals who interact interdependently and adaptively to achieve specified, shared, and valued objectives". Popular management literature tends to use the term team, where scholarly literature uses the term group (Cohen & Bailey, 1997, p 241). As this paper adds value to both arenas, the terms group and team will be used interchangeably.

Druskat, Messer, Koman & Wolff (2003) are among the few scholars who have examined the link between group norms and group effectiveness. This was accomplished by examining the emotionally competent group norms (ECGNs) of teams and the relationship of those norms on the team performance. The proposed ECGNs vary from previous theory and research in that they address the social norms and rules of groups, emotional safety required to be a successful group and the emotional skills necessary to build relationships with others (Wolff, Druskat, Koman, Messer, 2005).

The ECGNs proposed by Druskat and Wolff and tested by Druskat, Messer, Koman and Wolff are comprised of norms representing three levels', the individual, the team, and the organization. Within each level there is at least one awareness and one regulation norm. This is consistent with the awareness and regulation norms prevalent in the individual level EI theories.

At the interpersonal level, ECGNs represent "awareness and regulation of the emotion of individual members" (Wolff & Druskat, 1999, p. 15). The norms must support the individual team member's needs while also "influencing or regulating them so as to induce desirable behaviors" (Druskat & Wolff, 1999, p.13). The importance of norms focused on individual member behavior is suggested by research, revealing that the presence of one group member with strong emotion could influence the emotion of

the entire group (George, 1995). The norms associated with the individual level are: interpersonal understanding, caring behavior, and confronting members who break norms (Druskat & Wolff, 1999, 2003; Hamme, 2003; Druskat, Messer, Koman & Wolff, 2003).

Moving from the interpersonal to the group level, ECGNs are evidenced by the "awareness and regulation of group level emotion" (Wolff & Druskat, 1999, p.15). A group's ability to be self-aware requires the group to look both within and outside itself. The group looks within itself to understand its needs, processes, and preferences while also looking outside itself to understand its current state. Groups have different degrees of self-awareness. These norms propose that effective groups use the data gathered through their self-awareness activities (team self-evaluation) to exhibit the norms of creating resources for working with emotion, creating an affirmative environment and proactive problem solving. The regulation group level norms are norms that guide a group's behaviors to produce a positive emotional consequence for the group (Wolff & Druskat, 2003).

The three regulation group level norms examined are: creating resources for working with emotion, creating an affirmative environment, and proactive problem solving (Druskat & Wolff, 2003; Hamme, 2003; Druskat, Messer, Koman & Wolff, 2003). Entrenched in the group's ability to look outside itself are the abilities to have an awareness of other teams within and outside of the organization and to build relationships with these teams. In order to do this strategically, the team must have an understanding of the organization it operates within. The norms associated with the external boundary, or organizational level of the ECGNs, are organizational understanding and building

external relationships. See Table 1 for a comparison of the EI competencies and ECGNs in their awareness and regulation clusters.

Table 1.

Comparison of EI competency clustering and ECGN clustering

Cluster	**EI Competency**	**ECG Norm**
Self Awareness	Accurate Self Assessment Emotional Self Awareness Self Confidence	Interpersonal Understanding
Self Regulation (management)	Achievement Orientation Adaptability Emotional Self Control Initiative Optimism Transparency	Confronting Members who Break Norms Caring Behavior
Team Awareness		Team Self Evaluation
Team Regulation		Creating Resources for Working with Emotion Creating an Affirmative Environment Proactivity in Problem Solving
Organizational Awareness (Social Awareness)	Empathy Organizational Awareness Service Orientation	Organizational Understanding
Organizational Regulation	Change Catalyst Conflict Management Developing Others Influence Inspirational Leader Teamwork/Collaboration	Building External Relationships

(Sala, 2000; Boyatzis, 1982; Goleman, 1998; Druskat & Wolff, 1999, Druskat, Messer, Koman & Wolff, 2003; Hamme, 2003)

Team effectiveness

Because this study is examining the underlying factors of team effectiveness, it is important to define the term. I have a similar view as scholars who argue that team effectiveness is a multidimensional construct (Goodman, 1979; Hackman, 1987; Sundstrom et al., 1990). The term team effectiveness entails both meeting customer specifications and being able to work together effectively in the future (Hackman, 1987). This view ensures that the group is not focused on customer satisfaction, to the exclusion of concern with the well being of the group and its members. If that were the case, interaction processes would likely suffer and eventually hurt effectiveness.

Current Study

This research contributes to the knowledge of two literature streams. While an individual's emotional intelligence has been shown to be an important variable in their performance, it has not been assessed for its affect on the development of a team's climate. Conversely, this research contributes to the field of team emotional intelligence by providing a better understanding of the context in which the emotionally competent group norms emerge, as well as what influences their emergence. This research also further validates the findings of Druskat, Messer, Koman & Wolff (2003) that ECGNs are important variables in a team's performance. With the limited amount of research assessing this relationship, this study demonstrates the relationship between ECGNs and team performance is valid in multiple settings. It has been proposed that a team leader's emotional intelligence affects performance, however, this research shows how the team

leader's EI links to performance in teams through the ECGNs that are developed on a team.

The next section presents a theory proposing that specific individual emotional intelligence competencies foster the development of specific ECG norms. The results of this theory's field test are then presented in chapter three.

Chapter 2

Literature Review

This study focuses on the fundamental question of what makes teams effective. A central idea herein is the concept that team leaders' emotional intelligence affects group level emotional intelligence, which in turn affects group performance. Support for this argument is present in separate streams of literature. Each literature stream will be discussed in relation to the main tenant of this paper: individual EI affects group EI, and group EI affects group performance.

Chapter two begins by discussing why teams are important entities to study. I then present evidence that supports the two hypothesized predictors of group performance in this research, team emotional intelligence and individual emotional intelligence. The discussion on team emotional intelligence is presented first, followed by discussion of individual emotional intelligence as it has been treated in EI literature. The next sections focus on the impact of the team leader on their team, and how EI will be used and defined in this study. Lastly, hypotheses linking individual EI and group EI are presented.

The Importance of Teams in the Workplace

Teams are becoming increasingly important work units in a wide variety of organizations (Wageman, 1997; Wageman & Baker, 1997; Cohen & Bailey, 1997; Goleman, 1998) and are an integral component of organizational success (Appelbaum,

Abdallah & Shapiro, 1999). In the early 1990s, over 80% of companies with more than 100 employees regularly used work teams (Gordon, 1992), and subsequent research shows that the trend toward team-based work is only increasing (Lawler, 1998; Wageman, 1997). “The type of work carried out by teams is often … critical to the mission of the employing organization or even to its survival” (McIntrye & Salas, 1995).

The growing use of teams has prompted renewed interest in understanding what makes them effective. Leaders of over 100 companies surveyed by the Work in America Institute reported that their greatest need from academic research was information on creating and sustaining effective work teams (Farren, 1999). Yet, “There are few empirical studies that relate norms to the effectiveness of actual organizations” (Argote, 1989, p. 131). With teams being important units in the workplace, it is essential to understand what factors influence their performance. This research examines the influence of two factors on team performance: the emotional intelligence group level norms that are established on a team, and the team leader’s individual emotional intelligence. Past research on both group level emotional intelligence and individual level emotional intelligence is discussed below.

Emotional Intelligence and Teams

Although there is a breadth of literature on individual emotion and on emotional intelligence, there is a gap in the literature on the effects of emotion and emotional intelligence in teams and work groups (Kelly & Barsade, 2001). Many human emotions grow from social interactions (Kemper, 1978) making emotion a present force in the life

of groups (Barsade & Gibson, 1998). Thus, emotions are an important component of teams (Barsade & Gibson, 1998) and have been identified as having an influence on a group's success (Hirokawa, DeGooyer & Valde, 2000). However, emotionally-based behaviors have not historically been incorporated into theories about teams. Salovey and his colleagues (Salovey, Bedell, Detweiler, & Mayer, 2000) hold that social scientists have relied on "glorified analytic intelligence throughout much of Western history" (p.505) and have not sufficiently considered the role of emotion in the workplace. Despite the lack of research on emotion in teams and work groups, this is an important line of research because teams have become prominent work units, and because emotions are present in both the process and task aspects of groups (Barsade & Gibson, 1998).

Emotion also have a strong connection to behavior. Emotions are the source of motivation and action (Izard, 1991; Leeper, 1948). They shape individual decisions, judgments, and other behaviors (Schwarz, 1990; Schwarz & Clore, 1983). Multiple studies (e.g. Forgas, 1990; Holmer, 1994) demonstrate that emotion influences how individuals act toward others. The relationship between emotion and behavior leads to changes between the individual and the environment (i.e., the group and its members) (Folkman & Lazarus, 1988). Such changes lead to yet another layer of emotion and the emotion-change cycle continues.

In any situation, the expression of behavior is moderated by cultural norms (Ekman, 1984). Norms have been defined as the "ideas or expectations about appropriate behavior for system members" (Argote, 1989, p.132). The norms within a group can act as forces to control or constrain members' behaviors (Barsade & Gibson, 1989). This view is derived from the emotion management perspective (Hochschild (1979, 1983),

which was examined at the organizational level by Rafaeli and Sutton (1987, 1989), Van Maanen & Kunda (1989) and Kunda (1992). Emotion management theorists argue that individuals "actively assess and manage their feelings to comply with social "feelings" and "display" rules-sets of socially shared norms about how we should feel and how we should express those feelings in particular situations" (Barsade & Gibson, 1989, pg 85). Research has also suggested that these norms are present at the group level (Barsade & Gibson, 1989; Hackman, 1991; Van Maanen & Kunda, 1989). Wolff and Druskat (1999, 2003) suggest that cultural norms impact the cognitive processes for group members and play a central role in the group's emotional process. Thus, norms influence how group members interpret situations. They provide the means for group members to anticipate the behavior of others and to make appropriate responses that support group survival and success (Feldman, 1984; Levy, 1984; Solomon, 1984).

Group emotion operates at multiple levels (Druskat & Wolff, 1999). Barsade and Gibson (1998) refer to these as interpersonal, group, and intergroup relationship levels. Wolff and Druskat (1999) have identified the existence of group-level competencies (ECGNs), which reflect the group's ability to "generate group norms that influence and manage the emotional process in a way that builds emotional capacity and develops social capital and leads to effectiveness" (p. 9). These group norms help to determine if a group of individuals functions as a high-performing team (Goleman, Boyatzis, & McKee, 2002). Wolff and Druskat state that each of the ECG norms is related to the individual, group or cross boundary (external) group emotion level; These levels are consistent with those proposed by Arrow, McGrath, and Berdahl (2000). Within each of the three levels, there is at least one norm that is an awareness norm and one that is a regulation norm,

which is consistent with the cognitive appraisal theory of emotion (see table 2 for a diagram). The cognitive appraisal theory of emotion (Lazarus, 1991; Levy, 1984) states that there are two important stages of emotion: awareness and regulation of the behavior that results from the emotion. Both of these stages are captured at each level, the individual, group, and organizational, in the emotionally competent group norms (Druskat, Messer, Koman & Wolff, 2003; Hamme, 2003).

Table 2.

Wolff and Druskat's ECGN classification of norms.

Levels	**Dimensions**	**Norms**
Individual	Group Awareness of members	Interpersonal Understanding
	Group Management of members	Confronting Members who break norms
		Caring Behavior
Group	Group Self-Awareness	Team Self-Evaluation
	Group Self-Management	Creating Resources for working with emotion
		Creating an affirmative environment
		Proactive Problem Solving
Cross-Boundary (External)	Group Social Awareness	Organizational Understanding
	Group Management of External Relationships	Building External Relationships

As Table 2 depicts, the competencies presented by Druskat and Wolff at the individual level are interpersonal understanding, confronting members who break norms, and caring behavior. Team self-evaluation, creating resources for working with emotion, and creating an affirmative environment are norms that address the awareness and regulation of emotion at the team level. Lastly, the norms organizational understanding

and building external relationships are the cross boundary level norms. These norms deal with the emotion that is external to the team. Each of these norms is defined and explained below.

ECGN Individual Cluster

ECGN : Interpersonal Understanding

The ECG Norm, interpersonal understanding, is defined as group members' understanding the "spoken and unspoken feelings, interests, concerns, strengths and weakness of group members that allow members to predict and understand one another's day–to-day behavior" (Wolff & Druskat, 1999, p.18). Hamme (2003) also defines this norm as "understanding feelings, interests, concerns strengths and weaknesses of members" (pg 70). This level of emotional awareness and understanding between individuals enables an individual group member to read the needs and possible reactions of other group members in order to provide support, validation, or other relationship building behaviors.

ECGN: Confronting Members who break norms

Another interpersonal team norm under study is confronting members who break norms. Goleman (1995) found that when team members find it too difficult to be honest with one another, there is dissonance on the team. Litwin and Stringer (1974) discuss the organization addressing conflict openly vice avoiding it as important to the organizational climate. As a corollary, Druskat (1996) and Druskat, Messer, Koman and Wolff (2003)

found that members of high performing self-managing teams confronted members who broke norms more often than did members of lower performing teams. This group regulation norm enables group members to openly discuss issues that have arisen on the team. Teams that develop this norm would not let a person's inappropriate actions go unspoken. Instead, the team member would bring it to the individuals' attention in an acceptable fashion. Hirokawa, DeGooyer and Valde, (2000) found that groups that dealt with members emotions, such as providing feedback and engaging in positive communication, influenced the success of the group.

ECGN: Caring Behavior

The last individual level team norms is that of caring behavior. Caring behavior is a regulation norm and is defined by Hamme (2003) as "communicating affection, appreciation and respect for other members [of the group]" (pg. 70). Similarly, Litwin and Stringer (1974) identified "warmth" as one of nine organizational climate variables. They explained this variable as the caring between members. This norm addresses the underlying respect, appreciation and value members demonstrate to one another. Teams that possess this norm would demonstrate behaviors that would let other members know their opinions are valued, respected and appreciated. If a group member were to not understand a concept, the individual would be given assistance, not ridicule.

ECGN Team Cluster

ECGN: Team Self-Evaluation

Druskat (1996) found that high-performing teams were much more likely than average teams to engage in self-evaluation—to seek information about their performance and to compare themselves to other teams for the purpose of improving their performance. This was supported by Edmondson (1999), who found that members of effective teams engage in self diagnosis; as well as Wageman (1997) who found that teams that manage themselves both seek information about their performance as well as actively monitor their own performance. Stubbs and Messer (2002) and Druskat, Messer, Koman and Wolff (2003) also found that team self-evaluation was positively correlated (near significance) to team effectiveness. The norm team self-evaluation is the teams ability and engagement in the evaluation of themselves on interpersonal and tangible output. This includes assessing their strengths and weaknesses in interaction and operation (Hamme, 2003).

ECGN: Creating Resources for working with emotion ECGN

Wageman (1997) found that teams that had physical resources, such as tools, meeting space, and access to computer services, were able to work in timely, proactive, and effective manner (p. 56); a similar finding was found by Kanter (1993) when she studied individuals in the organization. While having the physical resources to complete a job are important, so are the resources to deal with the emotion on the team; including the knowledge, skills and abilities to work with emotion within the team. This is often

overlooked in the definition of a team's required resources (Steiner, 1972; Wageman, 1997; Kanter, 1993). Hamme (2003) addresses this need by proposing the team norm, creating resources for working with emotion. She defined the norm as the acceptance of emotions as part of the group work as well as the expression and examination of team member feelings.

ECGN: Creating an affirmative environment

It has been found that promoting an atmosphere for group discussion where members were allowed to express their ideas and opinions is indicative of high performing teams (Jehn, 1995). Affective reactions have also been found to be significantly linked to customer service behavior and absenteeism (George, 1990). The ECG norm, creating an affirmative environment, is presented by Wolff & Druskat, 2003, as the group's self-efficacy, which provides the group with the confidence to overcome challenges that arise. Similarly, Hamme (2003) defines the norm as positive group affect and group members having an optimistic outlook.

ECGN: Proactive Problem Solving

When groups take initiative to anticipate problems before they occur and take responsibility and ownership for getting their own problems resolved they are demonstrating the norm proactivity in problem solving (Hamme, 2003). Stubbs and Messer (2002) and Druskat, Messer, Koman and Wolff (2003) found that proactive problem solving was significantly related to a team's effectiveness. Wageman (1997)

found that teams that effectively manage themselves are able to adjust their strategies as needed in order to create suitable solutions to work problems that arise.

ECGN Cross Boundary Cluster

ECGN: Organizational Understanding

Both the individual EI literature as well as the team EI literature discuss the importance of having organizational awareness and understanding. At the individual level, this competence is described as an ability to "accurately read key power relationships, detect crucial social networks, understand the forces that shape views and actions of clients, customers, or competitors, accurately read organizational and external realities" (Goleman, 1998, p.27). At the team level, organizational understanding is defined as "understanding the organizational system of which [the group] is a part" (Wolff & Druskat, 2003, p.16). Hamme (2003) similarly defines this group awareness norm as: understanding the socio-political system of which the group is a part of, including the concerns and needs of other groups in the socio-political system. "An organizations work teams must balance the competing demands of accomplishing their own tasks and managing their interdependence with other teams, if the organization as a whole is to accomplish its goal" (Edmondson, 1999).

A team's ability to apply the knowledge the group has learned about the organization (organizational awareness) for the benefit of ones own team as well as other teams within the organization is crucial for the effectiveness of the team, as well as survival of the organization. Goleman (2001) discusses the importance of the ability to

read a group or organizations emotions and political realities. He states that this ability is "vital to the behind-the-scenes networking and coalition building that allows individuals to wield influence, no matter what their professional role" (p. 36).

ECGN: Building External Relationships

The norm building external relationships requires the ability to develop and manage social relationships. "Although members of a single group can ordinarily communicate directly and frequently with one another, people who are members of the same organization but of different groups generally cannot" (Steiner, 1972, p. 5). While building external relationships with other teams is often difficult and lacking in organizations, research suggests that effective group management of external boundaries is related to group effectiveness (Ancona & Caldwell, 1992; Druskat, 1996, Stubbs & Messer, 2002; Wageman, 1997). Hamme (2003) defined the ECGN norm, building external relationships, as a team's willingness to help other teams build positive contact with external constituents while obtaining external support and securing ones resources. Both cross-boundary norms require social skills that support the "awareness of the feelings, needs, and concerns of important individuals and groups outside the work group" (Wolff & Druskat, 1999, p.18).

Relationship between Individual EI and Team Level EI

An unanswered question in the literature is whether team leader EI affects group level emotional intelligence. The emotionally competent group norms discussed above

have been shown to be present in teams and to be important for a team's performance (Hamme, 2003; Druskat, Messer, Koman, & Wolff, 2003). Yet the variables that enable the ECGNs to be present in a team have never been examined. The literature has shown that a team leader who possesses emotional competence is a better performer than a leader who does not (Goleman, 1995, 1998; Watkin, 2000; George, 2000). The emotionally competent leader's effect on team performance, or on how their individual competence transfers to group level EI competences, has never been examined. The emotional intelligence literature stream and research supporting the influence of a team leader on a team is presented below.

Theories of Emotional Intelligence

EI theorists and researchers have proposed varying definitions and meanings of emotional intelligence. However, most theorists appear to include and focus on the same four main components of EI: perception of ones and others emotions, regulation of that emotion, and understanding and utilization of that knowledge (Ciarrochi, Chan & Caputi, 2000). These components are "generally accepted to be a combination of emotional and interpersonal competencies that influence our behavior, thinking, and interaction with others" (Macaleer & Shannon, 2002, p. 9).

The field of emotional intelligence is lead by two main teams of theorists, Peter Salovey and John Mayer and the team of Daniel Goleman and Richard Boyatzis (Matthews, Zeidner & Roberts, 2002). Salovey and Mayer proposed their theory of EI in 1990. Their theory is theoretically based and has recently begun to be tested using an

instrument they have developed called Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT). Goleman and Boyatzis have proposed an inductively based theory of EI which has been tested with the Emotional Competence Inventory (ECI). Both theories are similar in that they each propose that awareness and regulation of emotion at the individual and social level is important. Goleman and Boyatzis present competencies that can be developed within four separate clusters. Salovey and Mayer propose that the act of harnessing emotion to solve problems is an additional component of an individual's emotional intelligence. Each theoretical approach is discussed in detail below. Similarities and differences between the two theories are presented in Table 3.

Table 3. Theorist comparison

Cluster	Goleman (1995, 1998)	Salovey & Mayer (1990)
Internal Awareness	Accurately know own emotions	Knowing one's emotions
		Knowledge of causes of ones emotions
	Self confidence	Knowledge of consequences of emotion
		Knowledge of emotional progression over time
Internal Management of Emotion	Emotional self-control	Managing emotions
		Appropriate expression of emotion
	Motivation	Motivating oneself
	Delay gratification	
	Use feelings to make decisions	Use of emotion to influence decision making
	Initiative	
	Optimism	Positive mood maintenance
	Adaptability	Change negative mood to positive
	Transparency	
External Awareness	Empathy (sensing others feelings and emotional state)	Empathy (awareness of others feelings, builds on self awareness)
	Awareness of organizational surrounding	
	Service orientation	
External Management of Emotion	Handling emotional upsets of others	Managing emotions in others
	Social effectiveness	Accurately express others' emotions
	Developing others	
	Influence	Social competencies

	Inspirational leadership	
	Teamwork & collaboration	
	Change catalyst	
	Conflict management	Handling relationships

(Goleman, 1995, 1998; Salovey & Mayer, 1990; Dulewicz & Higgs, 2000, p.343; George, 2000, p.1035)

Salovey and Mayer

Salovey and Mayer view emotions as "organized responses, crossing the boundaries of many psychological subsystems, including the physiological, cognitive, motivational and experiential systems" (1990, p 186). They believe that the ability to assess others' emotions and to use that knowledge in the prediction of future behavior is an aspect of emotional intelligence. Salovey and Mayer view EI as the "recognition and use of one's own and others' emotional states to solve problems and regulate behavior" (1990, p. 189), not the "general sense of self and appraisal of others" (1990, p 189). They define emotional intelligence as "the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (1990, p. 189). Their definition is drawn from the definition of social intelligence posed by Gardner, which includes the knowledge about oneself and about others (Salovey & Mayer, 1990, p. 189; Gardner, 1983). In sum, Salovey and Mayer believe that "Emotional intelligence allows for the accurate appraisal and expression of feelings, and stable laws may govern them. These emotional appraisals, in turn, in part determine various expressions of emotion" (Salovey & Mayer, 1990, p. 191).

The model of emotional intelligence that Salovey and Mayer propose is composed of three main abilities. One component is the appraisal and expression of emotion within

the self and others. This includes both verbal and non-verbal behaviors in oneself, the non-verbal perception we interpret from others, and the empathy we feel towards others. Also, this component of their model addresses the need for humans to be able to address their own emotional states. The quicker an individual assesses their own emotional state, the more emotionally intelligent they are. The second component of their model is the regulation of emotion in oneself and in others. Salovey and Mayer believe the regulation of one's emotions occurs in real-time as well as when an individual reflects on a past experience. The act of reflecting on the experience demonstrates the individual's ability to access the emotions in a previous experience and their willingness and ability to try and evaluate the experience. Lastly, this emotion is utilized through the use of flexible planning, creative thinking, and redirecting their attention and motivation; this aspect of the Salovey and Mayer model addresses an individual's need to harness their intrapersonal emotions to solve problems. (Salovey & Mayer, 1990).

Goleman and Boyatzis

Goleman and Boyatzis have conducted research primarily in the management domain. Their theory proposes that an emotionally intelligent individual has learned and refined their skills in a series of emotional competencies (EC) that are part of an awareness or regulation of emotions within the self or others (Boyatzis, 1982, 1995; Goleman, 1998). Goleman's theory of emotional intelligence has grown from its introduction in 1998. His 1998 book, *Working with Emotional Intelligence*, defined emotional intelligence as "managing feelings so that they are expressed appropriately and effectively, enabling people to work together smoothly toward their common goals"

(Goleman, 1998, p 7). Goleman describes EI as the element that "determines our potential for learning the practical skills that are based on its five elements: self-awareness, motivation, self-regulation, empathy and adeptness in relationships. Our emotional competence shows how much of that potential we have translated in to on-the job capabilities" (Goleman, 1998, p. 24-25). He defines an emotional competence as "a learned capability based on emotional intelligence that results in outstanding performance at work" (Goleman, 1998, p 24).

Goleman's original introduction of EI competencies included both personal and social competencies. Personal competencies were identified as self-awareness, self-regulation, and motivation. The social competencies identified were an individual's empathy and social skills. Later, Goleman's theory evolved to four overarching clusters of EI skills: self-awareness, self-management, social awareness, and relationship management (Goleman, 2001; Boyatzis, Goleman & Rhee, 1999). The four clusters represent a recognition and regulation cluster for both the individual (self) and social competencies (other). The self-awareness cluster includes the competencies emotional self-awareness, accurate self-assessment, and self-confidence. Self-management is the individual regulation cluster and encompasses the competencies: emotional self-control, trustworthiness, conscientiousness, adaptability, achievement drive, and initiative. Moving into the social competence clusters, the awareness or recognition cluster is labeled social awareness. Empathy, service orientation, and organizational awareness are all social awareness competencies. Lastly, the social regulation cluster is comprised of the following norms: developing others, influence, communication, conflict management,

visionary leadership, change catalyst, teamwork and collaboration, and building bonds (Goleman, 2001).

Other Theories and Definitions of Emotional Intelligence

Definitions of EI are quite varied in their terminology but similar in their meaning. Martinez (1997) and Bar-on (1997) both define emotional intelligence similarly as "an array of non-cognitive capabilities, competencies, and skills that influence one's ability to succeed in coping with environmental demands and pressures" (Bar-on 1997, p 14; Martinez, 1997, p.72); whereas Saarni (1990) defines EI as the "demonstration of self-efficacy in the context of emotional eliciting social transactions" (p. 116). Sarrni's definition can be elaborated to "how people can respond emotionally yet simultaneously and strategically apply their knowledge about emotions and their expression to relationships with others so that they can negotiate interpersonal exchanges and regulate their emotional experiences as well" (p. 116).

While Salovey and Mayer, and Goleman and Boyatzis have emerged as the major theorists within the field of emotional intelligence, other theorists have proposed unique models of an individuals EI. For example, Saarni (1990) identified 11 components to emotional competence. The components are: awareness of one's emotional state; an individual's ability to discern other's emotions; express one's emotions; empathy; understand that there may be dissonance between one's inner and outer emotional states; understand and use of the knowledge about another individual's emotional state for benefit; understand how one's emotional state affects others; self-regulation; understand

how the foundation for relationships is emotional; and lastly, emotional self-efficacy. Alternatively, Davies, Stankov and Roberts (1998) believe that EI "encompasses a set of conceptually related psychological processes involving the processing of affective information. These processes include (a) the verbal and nonverbal appraisals and expression of emotion in oneself and others, (b) the regulation of emotion in oneself and others, and (c) the use of emotion to facilitate thought" (pg 990).

While Saarni's categorization of the components of emotional intelligence is broad, it is difficult to grasp and utilize. On the other hand, Davies, Stankov and Roberts' three components are compact and similar to those proposed by both Salovey and Mayer as well as Goleman. In 2002, Dulewics and Higgs introduced a theory of EI, that appears to be similar to that of Goleman and Boyatzis. Dulewics and Higgs propose seven main clusters of attributes in EI; these include an individual's self-awareness, emotional resilience, motivation, interpersonal sensitivity, influence, intuitiveness, and conscientiousness. These clusters are composed of the following competencies: perceptive listening, sensitivity, flexibility, achievement orientation, energy, stress tolerance, resilience, persuasiveness and influence, negotiating, adaptability, decisiveness, ascendancy, impact, integrity, motivating others, and leadership.

The seven clusters proposed by Dulewics and Higgs are roughly similar to those proposed by Goleman. Both theorists recognize the need for self-awareness. Goleman's construct for the self-management of one's emotions is labeled self-regulation, where Dulewicz and Higgs believe there are two separate elements in the regulation of emotions, emotional resilience and conscientiousness. Both theorists agree that an individual's motivation is an element of their EI, but Goleman labels the social regulation

of emotions as an individual's empathy and social skills, Dulewics and Higgs found that there are three elements present, interpersonal sensitivity, influence and intuitiveness.

Reuven Bar-on has authored another prominent EI theory (Matthews, Zeider & Roberts, 2002). The Bar-on theory of EI is the developmental basis of the Emotional Quotient Inventory (EQ-I). The EQ-I is a self-report instrument that assesses five overall concepts, each composed of multiple subcomponents similar to the competencies introduced by Goleman. The five subtypes of EI presented by Bar-on include intrapersonal intelligence, interpersonal intelligence, adaptability, stress management and general mood. Each subtype is in turn comprised of sub components. Intrapersonal intelligence is comprised of the sub-components emotional self-awareness, assertiveness, self-regard, self-actualization, and independence. Interpersonal intelligence is composed of empathy, interpersonal relationship and social responsibility. The EI subtype, adaptability, includes problem solving, reality testing, and flexibility. Stress Management includes both stress tolerance as well as impulse control. Lastly, the subtype general mood includes both happiness and optimism.

Emotional Intelligence and Team Leaders

Some of the first populations used in the examination of emotional intelligence were leaders and star performers; this was done by assessing their EI skills, also known as emotional competencies. In 1975, David McClelland proposed the use of individual competencies to assess the difference between outstanding and average performers. In 1998, he showed that EI competencies were a distinguishing factor between the star and

average performers. Later, emotional competencies were shown to be crucial for the success of those in leadership positions, especially those in positions to influence the effectiveness of others on the job (Goleman, 1998). Watkin (2000) stated that, "emotional intelligence is found to be the single most important factor for superior performance at every level from entry-level jobs to top executive positions. Over 25 years of empirical studies tell us with a previously unknown precision just how much emotional intelligence, not IQ matters for success" (p.91). It has also been stated that close to 90 percent of a leader's success can be attributed to emotional intelligence (Goleman, 98). The emotional aspects of leadership have been shown to be related to various types of performance (George, 2000; George & Bettenhausen, 1990; George, 1995; Gardner & Stoug, 2002). Cavallo and Brienza, 2002, found in a study of 358 managers around the world that the higher performing managers had more emotional intelligence than the average and low performing managers.

While emotional intelligence has been shown to be important for the success of managers and leaders, the role emotional intelligence plays in teams under the leaders supervision has yet to be examined. A team leader is not only responsible for their own emotions, but also for the emotions of the team they lead and the clients of the team. (Rafaeli & Worline, 2001). Rafaeli and Worline (2001) discuss how leaders are responsible for influencing and directing their subordinates, and one of the most powerful ways to accomplish this is through the use of emotional dynamics (also see, Bass, 1990; Bass & Avolio, 1993; Shamir, 1992; Yukl, 1989). In order to influence and move people, one must possess the knowledge and skills of emotional competencies (Boyatzis, Stubbs & Taylor, 2002). Boyatzis (1982) defines such competencies as "the underlying

characteristics of a person that lead to or cause effective and outstanding performance". The same concept of an individual affecting other individuals through the use of their EI competencies can be applied to the group level.

Scholars have argued that team leaders influence the processes, behaviors, norms, and climate of the team they lead (Kimberly 1980; Schein 1992; Dickson, et al., 2001; Druskat & Wheeler, 2003). This was supported in research by Dickson, et al. (2001, p.208), in that they found the most important factor in the ethical climate of an organization is the team leader. Similarly, Schein (1985) states that "the only thing of real importance that leaders do is to create and manage culture and that the unique talent of leaders is their ability to work with culture" (p. 2). There has been a limited amount of research linking team leadership to performance (Sivasubramaniam, Murry, Avolio, and Jung, 2002). The empirical work that has been conducted has found that leadership has effects on team motivation, efficacy, and performance (Sivasubramaniam et al., 2002). Through their research on students, they did not find a direct relationship between team leadership and performance, but found that the relationship between a team leader and the team's performance was mediated by the group's potency beliefs. Pirola-Merlo, Hartel, Mann, and Hirst (2002) had similar comments regarding the lack of research assessing team leadership, team climate, and team performance, and were able to find only one study that assessed this relationship; Smith-Jentsch, Salas, and Brannick (2001) who found that leaderships affect on the transfer of training in pilots was mediated by a teams climate (Piloa-Merlo et al., 2002). Pirola-Merlo et al. (2002) had similar findings in that they found "most of the effect of leadership on performance was via team climate" (p. 575).

Thus, research has both predicted and shown that a team leader affects the team (George, 2000; Schein, 1985; Dickson, et al., 2001). Goleman (2001) and Williams (1994) suggested that leaders who are emotionally intelligent are essential to developing a climate where employees are encouraged to perform to the best of their ability. When the leader is helping the group develop its norms, the climate that is developed maintains a consonance with the team leaders individual personality (Dickson, et al., 2001, p. 201). If the norms developed reflect the team leader's personality, it could be argued that the emotional intelligence norms developed on the team would reflect the emotional intelligence competencies of the team leader. The direct relationship between a team leader's emotional intelligence, and the emotionally competent group norms that they foster in their team, has never been examined.

Defining Emotional Intelligence for the Present Study

This study utilizes the emotional intelligence theory advanced by Boyatzis and Goleman. Although the items introduced by Bar-on and Salovey and Mayer are similar to those proposed by Goleman and Boyatzis, the Boyatzis and Goleman theory is more applicable to the workplace than the EI models proposed by other researchers. Thus, I chose to use the former for the present study.

Moreover, Goleman and Boyatzis's classification of EI competencies into clusters of self and social awareness as well as self and relationship management is consistent with other theorists. Self-awareness is a crucial component of emotional intelligence. "The emotions or patterns of emotions that a person experiences at a given time influence virtually everything the person does-work, study, play" (Izard, 1991 p. 22). The

components of the self-awareness cluster vary between theorists. Dulewicz and Higgs (2000) describe this cluster as the ability to know one's own feelings, be in touch with those feelings, and use those feelings to make decisions with confidence (p. 352). The skill of emotional self-awareness "builds upon basic or biologically predisposed patterns of emotional response, but in order for awareness of one's emotional response to occur, a sense of self must have developed" (Saarni, 1990, p. 147). Similarly, Watkin (2000) describes an individual's self-awareness as "knowing what we feel in the moment and using that to guide our decision making; having a realistic assessment of our own abilities and a well-grounded sense of self-confidence" (p 89). Most theorists would agree that self-awareness is the ability to recognize and understand ones own emotions. This cluster of competencies is essential for an individual to manage their emotions, or as Boyatzis, Goleman and Rhee (1999) state, "self-awareness cluster of competencies is needed for sustainable self-management, or more specifically, for the competencies in the self-management cluster to be demonstrated in sustainable ways" (p. 350).

The second cluster of emotional intelligence is self-management, which refers to the ability to manage one's emotions. More specifically, Watkin (2000) describes self-management as "handling our emotions so that they facilitate rather than interfere; delaying gratification to pursue goals; recovering well from emotional distress; deploying deepest preferences to take initiative, improve and persevere" (p. 90). Davies, Stankov and Roberts (1998) have a similar view as Goleman and Boyatzis in that they describe self-management as the "meta-experience of mood, or monitoring, evaluating, and acting to change one's mood" …"Regulation of emotion also includes the ability to alter the affective reactions of others" (p. 991). The competencies associated with self-

management have been broadly thought to be focusing on results and expression of feelings (Dulewicz & Higgs, 2000) to the specific competencies such as achievement orientation, adaptability, emotional self-control, initiative, optimism, and transparency (Boyatzis, 1982; Boyatzis, Stubbs & Taylor, 2002; Goleman, 1998; Sala 2002).

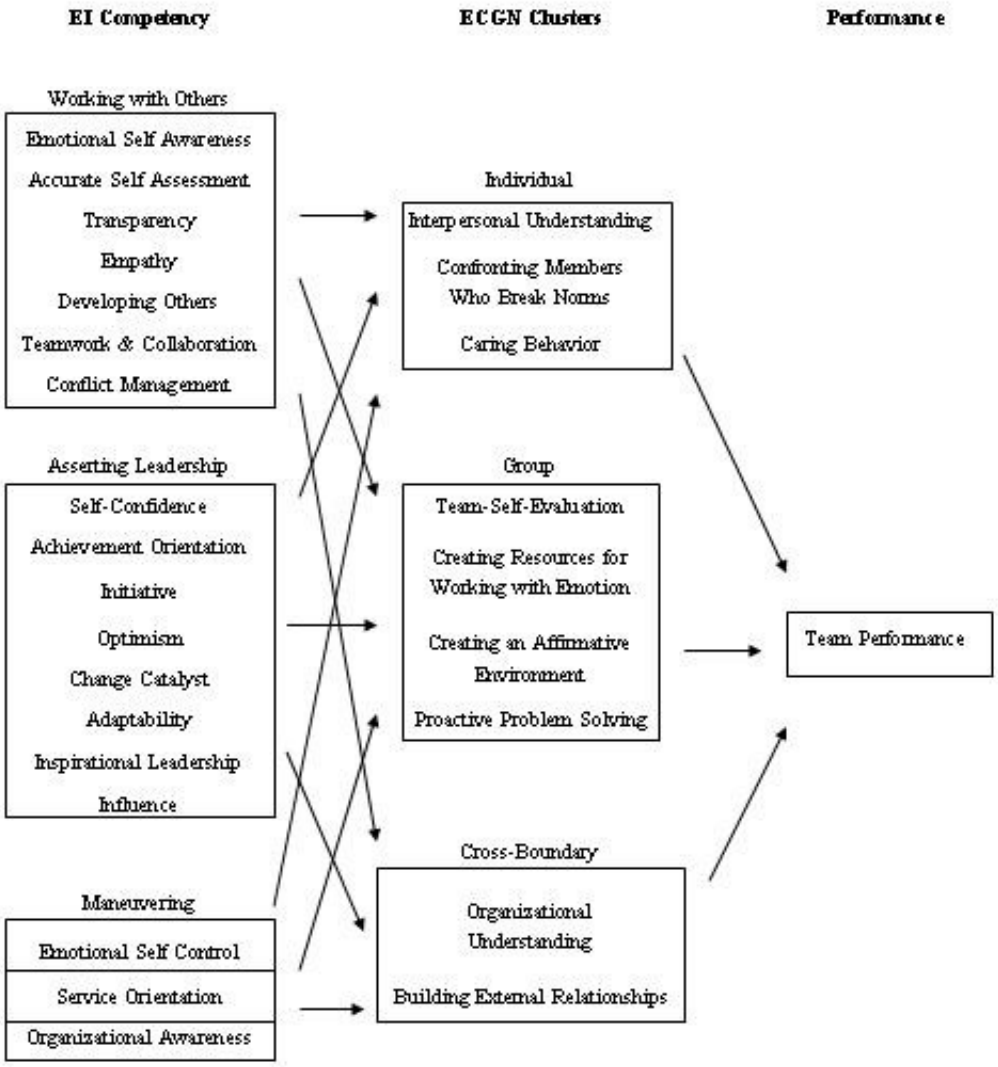
The third cluster of emotional intelligence, social awareness, involves an awareness that is external to the individual. Social awareness can be defined as " sensing what people are feeling, being able to take their perspective and cultivate rapport with a broad diversity of people-our social radar" (Watkin, 2000, p. 90). The competencies associated with this cluster are prevalent in our relationships with others and involve competencies such as, empathy, organizational awareness, and service orientation (Boyatzis, 1982; Boyatzis, Stubbs & Taylor, 2002; Goleman, 1998; Sala 2002).

The cluster, relationship management, captures the management aspect of our social interactions. Goleman (1998) refers to this ability as an individual's social skills; Where Watkin (2000) describes an individuals social skills as "handling emotions in relationships well and accurately reading social situations; interacting smoothly; using these skills to persuade, lead and negotiate" (p. 90). Competencies associated with relationship management include conflict management, being a change catalyst, developing others, influencing others, being an inspirational leader, and developing the ability to work and collaborate as a team (Boyatzis, 1982; Boyatzis, Stubbs & Taylor, 2002; Goleman, 1998; Sala 2002).

In order to examine the relationship between a team leaders emotional intelligence and the development of group level emotional intelligence, I will use the EI competencies developed by Goleman and Boyatzis. Goleman initially identified 25 EI

competencies, later research has shown that some of these competencies are captured by a similar competency, thus the EI model has been collapsed. The Hay Group now focuses on 18 EI competencies. The 18 competencies have recently been found to factor into two main clusters, “working with others” cluster, and “asserting leadership” cluster (Boyatzis & Sala, 2003). This research will examine the role that these 18 competencies play in the development of nine emotionally competent group norms. Specifically, the relationship between the working with others cluster, asserting leadership cluster, an additional maneuvering cluster of EI competencies, and the individual, team, and cross boundary levels of the ECGNs will be examined. These three clusters and the competencies within each cluster are discussed below. The impact these nine ECGNs have on team performance will also be examined (see Figure 1). Assessing the teams’ performance in relation to the norms it possesses is critical for the applicability of this research in the workplace.

Figure 1. Hypothesis



Each EI cluster is presented below along with a brief description of each competency in that cluster. The definition of each cluster links the EI competency clusters (team leader EI) to the ECGN clusters (team level EI norms). Lastly, hypotheses are presented to test the proposed relationships.

EI Working with Others Cluster

EI: Emotional Self-Awareness Competency

The EI competency, emotional self- awareness, is a general awareness of one's own emotional state, how those emotions are affecting themselves as well as others around them (Dulewicz & Higgs, 2000). This is one of the most important EI competencies as without an awareness of ones own emotional state, an individual is unable to regulate their emotions. Emotional self-awareness is the foundational building block of an individual's emotional intelligence. Individuals who are skilled in this competency "know which emotions they are feeling and why", they "realize the links between their feelings and what they think, do, and say" (Goleman, 1998, p 24). Watkin (2000) defines emotional self-awareness as "knowing what we feel in the moment and using that to guide our decision making; having a realistic assessment of our own abilities and a well-grounded sense of self-confidence" (p 89).

EI: Accurate Self-Assessment Competency

In order to accurately assess ones team, an individual should be good at assessing their own abilities, limits and resources. If the team leader were skilled at self-assessment, then it would reason they would be able to accurately assess their team as well. Kelly (1998) (as cited in Goleman, 1998) found that nearly every outstanding performer examined at multiple large corporations demonstrated a high level of accurate self-assessment. Boyatzis (1982) had similar findings; he found that superior managers demonstrated accurate self-assessment significantly more than did poor performers. According to Goleman (1998), individuals who are skilled at self-assessment are aware of their strengths and weaknesses; reflective, learn from their experiences, open to candid feedback, open to new perspectives, continuously learning, are constantly in a self- development process, and are able to show a sense of humor and perspective about themselves (p.61). These individuals are able to "describe and evaluate the effectiveness of their performance in a particular setting" and "usually identify and seek help or activities to remedy their weaknesses" (Boyatzis, 1982, p. 134). Thus, team leaders who are able to be aware of their own intrapersonal strengths, weaknesses and learn from their own experiences should be able to apply those same assessment techniques to the team they lead.

EI: Transparency Competency

Leadership literature, old and new, describes leaders as espousing values, being extraordinary, and having congruence with those they lead (Weber, 1947; Boyatzis &

Sala, 2003; Shamir, House & Arthur, 1993**)**. These qualities are captured in the competency transparency. Transparency has been defined as "maintaining standards of honesty and integrity" (Boyatzis & Sala, 2003). Charismatic leadership theory (Shamir, House & Arthur, 1993) similarly argues that leaders need to model and hold congruent values, beliefs and aspirations with those they lead. Leaders that are competent at transparency demonstrate righteousness, believe in what they are doing, and are followed because of their integrity.

EI: Empathy Competency

In order to display caring behavior, team members and in particular the team leader, need to be empathetic. Empathy has been described as a central characteristic of emotional intelligence (Salovey & Mayer, 1990). Nearly every EI theorist agrees that skill in empathy is required to be an emotionally intelligent individual. Goleman (2001) believes that empathy is not possible with out self-awareness; as well do Salovey and Mayer (1990). Goleman defines the empathy competency as "sensing what others feel without their saying so captures the essence of empathy" (Goleman, 1998, p 135). Dulewics and Higgs (2000) similarly described this competence as the ability to sense what others are feeling as well as building and feeling a rapport with others. Empathy has been shown to be important for individuals' performance as well as present in top performing individuals (Spencer & Spencer, 1993; Pilling & Eroglu, 1994). Empathy is essential in business because the nature of human beings is emotions. Being able to assess the emotional state of an individual in which one is interacting, will enhance the

business dealings in any organization. Empathy entails the art of displacing ones own emotions in order to assess the emotional state of another.

EI: Developing Others Competency

In order for a climate to emerge where individuals are able to express their feelings openly, team members respect others emotions, as well as, members assist others with their feelings, the team has to be invested in the development of the team members. This is more likely to occur if the team leader has the competence, developing others. The competence developing others is the sensing of another's development needs as well as the bolstering of their abilities (Goleman, 1998, p 27). This competency includes the mentoring, providing feedback and coaching of others. This is a skill that is important for individuals leading others and superior managers (Spencer & Spencer 1993). The competence, developing others, "involves sensing people's developmental needs and bolstering their abilities- a talent not just of excellent coaches and mentors but also outstanding leaders" (Goleman, 2001, p. 36).

EI: Conflict Management Competency

Conflict management was defined by Goleman (1998) as a skill in " negotiating and resolving disagreements" (p. 27). Goleman also described individuals who possess this competency as being able to **"**handle difficult people and tense situations with diplomacy and tact, spot potential conflict, bring disagreements into the open, and help de-escalate, encourage debate and open discussion, [and] orchestrate win-win solutions" (p.178). The art of conflict management requires an individual to be sensitive to the

underlying issues that are present as well as have the self-confidence and skill to address the issue tactfully.

EI: Teamwork & Collaboration Competency

Teamwork entails respecting, being helpful as well as cooperative with all members on the team (Goleman, 1998). Collaboration entails balancing a focus on task with attention to relationships, sharing plans, information and resources, as well as promoting a climate that encourages cooperation and sharing of knowledge (Goleman, 1998, p. 211). When members of a team work towards a common goal, they are collaborating. These individual level competencies can be generalized to the group level. When the team leader establishes the norms of teamwork and collaboration within the team, the team will have the abilities to collaborate with outside individuals and teams. These external relationships will be built partly because of the teamwork and collaboration norms that exist on the team. When a culture of collaboration and teamwork exists, that culture will not remain in effect only within the team, it will be generalized to outside entities, either within or external to the organization.

Relationship between EI Working with Others Cluster and ECGNs

All of the above competencies have been hypothesized and shown to cluster together (Boyatizis and Sala, 2003**,** Boyatzis, 1982; Boyatzis, 2000). While each of these competencies is a unique measurable construct, the competencies are important in the presence and emergence of one another. For example, an individual's emotional self-awareness and empathy would most likely foster the competency developing others. Developing others along with accurate self-assessment would make an individual be

stronger on the competency teamwork and collaboration. While these competencies do not necessarily build on one another, and are not pre-requisites for one another, it is easy to see how an individual with competence in a few of these competencies would lead to the development of the others. Therefore, these competencies will be clustered together in this study, and called “working with others”.

It can be reasoned that, an individual with competence in the competencies within the working with others cluster would develop emotional intelligence competencies in the group they lead. Paglis and Green (2002) found that subordinates performance was significantly correlated to the characteristics of their leaders. Therefore, a team leaders competence should influence the competence developed in the team they lead. The EI competencies in the working with others cluster can be theorized to have direct relationships with EI competencies at the group level.

At the individual level the development of the norm, interpersonal understanding can be thought to be stronger in a team that has an emotionally self-aware team leader. The awareness of oneself enables an individual to be in tune to others. An individual’s self-awareness, in turn, fosters the awareness one has of others, including the awareness of others within a team. If a team leader was unaware of his own emotional state and the effects of his emotions on others, it can be reasoned that he would not be able to understand the emotional state of other members of his team either. With the team leader setting the climate within the team, it also can be reasoned that the team leaders competence with their emotional self-awareness will lead to the presence of the team norm interpersonal understanding.

Hypothesis 1a: There is a positive linear relationship between the EI competency cluster working with others, and the individual ECGN cluster.

An example at the group level is the relationship between emotional self-awareness and team self-evaluation. An individual with emotional self-awareness "recognizes how their feelings affect their performance" (Goleman, 98, p 54). Similarly, both emotional self-awareness and interpersonal understanding have been shown to be important for performance (Goleman, 1998; Druskat, Messer, Koman & Wolff, 2003; Stubbs & Messer, 2002). In order to accurately assess ones team, an individual should be good at assessing their own abilities, limits and resources. If the team leader were skilled at self-assessment, then it is reasonable to assume that they would be able to accurately assess their team as well. Lastly, the relationship between the competencies in the working with others cluster can also be theorized to affect the development of the cross boundary level ECGNs.

Hypothesis 1b: There is a positive linear relationship between the EI competency cluster working with others, and the team ECGN cluster.

A factor that will affect the teams' competence at building external relationships will be the level of teamwork and collaboration that is present within the team. Teamwork entails respecting, being helpful as well as cooperative with all members on the team (Goleman, 1998). When members of a team work towards a common goal, they are collaborating. Collaboration entails balancing a focus on task with attention to relationships, sharing plans, information and resources, as well as promoting a climate that encourages cooperation and sharing of knowledge (Goleman, 1998, p. 211). These individual level competencies can be generalized to the group level. When the team

leader establishes the norms of teamwork and collaboration within the team, the team will have the abilities to collaborate with outside individuals and teams. These external relationships will be built partly because of the teamwork and collaborative norms that exist on the team. When a culture of collaboration and teamwork exists, that culture will not remain in effect only within the team, it will be generalized to outside entities, either within or external to the organization.

Hypothesis 1c: There is a positive linear relationship between the EI competency cluster working with others, and the cross boundary ECGN cluster.

The ability to work with others will influence every level of ECG norm development. If a leader were unable to work with others, then establishing the norms of understanding other members, confronting members when they break the norms of the group, as well as showing caring towards other team members would not be possible. The leader would also not be able to develop the group level norms, such as creating an environment that fosters affirmation or creating the space to work with emotions interpersonally. Lastly, an ability to work with others is essential in order to build relationships with others.

EI Asserting Leadership Cluster

EI: Self Confidence Competency

Goleman (1998) defines self-confidence as a “strong sense of one’s self worth and capabilities” (p. 26). One of the benefits of possessing self-confidence is the ability to stand behind ones convictions, beliefs and decisions. It also affords an individual the

ability to make tough decisions and stand behind them despite opposition. Individuals who possess a high level of self-confidence have been shown to perform better and be more successful in their careers than individuals who do not possess self confidence (Boyatzis, 1982; Saks, 1995; Cavallo & Brienza, 2002; Holahan & Sears, 1995).

EI: Achievement Orientation & Initiative Competency

The competence achievement orientation addresses an individuals internal drive to set high standards then maintaining the drive to meet and exceed those standards. Goleman (1998) describes individuals with this competence as being "results-oriented, with a high drive to meet their objectives and standards, set challenging goals and take calculated risks, pursue information to reduce uncertainty and find ways to do better, learn how to improve their performance" (p.113). It is obvious why individuals who have a high degree of achievement orientation are successful (Spencer & Spencer, 1993). These individuals want to succeed and are always trying to improve their performance. One could reason that someone with an achievement orientation will have initiative; it is nearly impossible to achieve goals without initiative. Initiative entails the effort of beginning a new process or project, as well as being comfortable with a new idea. People who take initiative "seize opportunities, pursue goals beyond what's required or expected of them, cut through red tape and bend the rules when necessary to get the job done, mobilize others through unusual, enterprising efforts" (Goleman, 1998, p. 122). In other words, people with initiative do what it takes to get the job done, and possibly take action before they have been asked to.

EI: Optimism Competency

The individual competency optimism entails more than it would first appear. The competence optimism not only encompasses an optimistic outlook, it is a "persistence in pursuing goals despite obstacles and setbacks" (Goleman, 1998, p 26). Even when an optimistic individual receives negative information or a product does not turn out in an acceptable fashion, they would assess the situation, calculate their role in the situation, and then begin the road to another outcome. Individuals like this, have an aura about them, which can be contagious. Individuals skilled in this competence generally "persist in seeking goals despite obstacles and setbacks, operate from hope of success rather than fear of failure; see setbacks as due to manageable circumstances rather than a personal flaw" (Goleman, 1998, p 122). Although there is not an abundance of literature on the construct of optimism, it has been found that leadership impacts feelings of optimism and those feelings of optimism influence performance (McColl-Kennedy & Anderson, 2002). Goleman (1998, 2001) has predicted that the competence optimism is indicative of achievement and star performance, and that individuals with this competence have an ability to focus on the possible outcomes of a project rather than the possible failures, thus creating an environment on the team they work with that is affirmative. Equally, George (2000) proposed that emotionally intelligent leaders can instill optimism in their organizations.

EI: Change Catalyst & Adaptability Competency

The role of leaders in organizations today is recognized as including the duty of being an agent for change (Capowski, 1994; Harari, 1995; Kotter, 1990; Paglis & Green,

2002). Paglis & Green (2002) discuss a leaders change agent role occurring at three levels, direction-setting, gaining followers' commitment, and overcoming obstacles to change. This ability was defined by Boyatzis and Sala (2003) as "initiating or managing change" (p. 45). With the ability to lead change comes the ability to be flexible and adaptable. One cannot be a change agent without adaptability. The EI competency adaptability entails being flexible when dealing with change (Boyatzis and Sala, 2003).

EI: Inspirational Leadership Competency

While there is no universal agreed upon definition of leadership, common themes do emerge from the literature. Many leadership researchers would agree that key components of leadership include the defining of a vision, creating a path to the vision as well as having followers voluntary acceptance of ones influence, vice forced compliance (Paglis & Green, p 216; Conger, 1999). Bass and Avolio (1993) identified the four behavioral components of an inspirational leader as charisma, inspiration, intellectual stimulation, and individualized consideration. The literature discusses this type of leadership as charismatic or transformational leadership. The traits have been captured in the EI competency, inspirational leadership; which has been defined by Boyatzis and Sala (2003) as "inspiring and guiding individuals and change" (p. 45). Being an inspirational leader is the ability to go above and beyond just managing transactions, it is leading people and having them follow willingly without force.

Relationship between the EI Asserting Leadership Cluster and ECGNs

The above competencies have been theorized and shown to cluster together (Boyatizis and Sala, 2003**,** Boyatzis, 1982; Boyatzis, 2000). As with the previous competency cluster, the above competencies do not build on one another, however, they share the commonality of being important in the assertion of leadership. Leadership theories are recognizing the importance of being charismatic and inspirational, being able to be adaptable to changing situations, as well as possessing the internal drive, achievement orientation, and self-confidence to take initiative and lead a group of individuals. These competencies have been shown to be important in an individual's performance; research has also shown that a leader influences a subordinate (Pagis & Green, 2002). Therefore, a team should be influenced by the emotional intelligence of its leader.

It can be reasoned that an individual with competence in the competencies within the asserting leadership cluster would develop emotional intelligence competencies in the group they lead. Paglis & Green (2002) found that subordinates performance was significantly correlated to the characteristics of their leaders. Therefore, a team leader's competence should influence the competence developed in the team they lead. The EI competencies in the asserting leadership cluster can by theorized to have direct relationships with EI competencies at the individual, group, and cross boundary level.

At the individual level, the norm confronting members who break norms is one of the most difficult norms to establish in a group. The individuals within the group have to be willing to give and accept feedback from their fellow teammates. While hearing and accepting feedback is often difficult, it is sometimes more difficult for the presenter of

feedback than it is the receiver. The presenter must have self-confidence in their judgments in order to provide others with feedback. The asserting leadership cluster's competencies will develop ECG norms at the group level as well. The behavior present of individuals with initiative and achievement orientation can translate into individuals being proactive. When an individual is proactive, it would reason that they would establish the norm of proactivity in their team. Both of the team leader competence, achievement orientation and initiative, are precursors to being proactive. Therefore, the team norm proactivity in problem solving will be present on teams whose team leader has the competencies achievement orientation and initiative.

An individual's leadership will affect the norms that are established on the team they lead. Part of a leaders' job is to confront members who are breaking the norms of the group. Leaders are responsible for establishing the climate of a group, and have the option to develop an affirmative environment; an environment where emotions are addressed and individuals are proactive in their behavior. Team leaders are also responsible for networking and working with others. The behaviors the team leader exudes will directly impact the norms that are developed on the team.

Hypothesis 2a: There is a positive linear relationship between the EI competency cluster asserting leadership, and the individual ECGN cluster.

Hypothesis 2b: There is a positive linear relationship between the EI competency cluster asserting leadership, and the team ECGN cluster.

Hypothesis 2c: There is a positive linear relationship between the EI competency cluster asserting leadership, and the cross boundary ECGN cluster.

EI Maneuvering Competencies

The following competencies have not been shown to cluster with other competencies. Because of their importance in an individual's performance, and their importance in an individuals maneuvering within an organization they will be examined in this study.

EI: Emotional Self Control Competency

Emotional self-control is the ability to monitor and regulate ones emotional states and emotional impulses. People with this competence "Manage their impulsive feelings and distressing emotions well; stay composed, positive, and unflappable even in trying moments; think clearly and stay focused under pressure" (Goleman, 1998, p. 82). An individual who possesses this competency will be able to control their emotions in both positive and negative circumstances, as well as know when to use emotions to their advantage.

EI: Service Orientation Competency

Gabriel and Griffiths, (2002) state that customer service is "relying on emotional rapport and friendly smiles as much as on professional competence and expertise" (p. 214). Goleman (2001) holds a similar stance, in that he describes the competence service orientation as " the ability to identify a client's or customer's often unstated needs and concerns and then match them to products or services" (p. 36). While other members or teams within an organization are not typical customers, if someone asks for a team's service, that team is then providing a service, which creates a customer/provider relationship. Individuals or teams outside of the organization clearly fit the customer/provider relationship model. Therefore, team leaders who have competence at service orientation will develop this norm on their teams, which will lead to the teams having stronger relationships with other teams.

EI: Organizational Awareness Competency

This competency and its importance were previously discussed at the group level. At the individual level, this competence is described as an ability to "accurately read key power relationships, detect crucial social networks, understand the forces that shape views and actions of clients, customers, or competitors, [and] accurately read organizational and external realities" (Goleman, 1998, p.27). Boyatzis and Sala (2003) define it as "reading a group's emotional currents and power relationships" (p. 45). Organizational awareness is a critical competency for both individuals and groups. This competency enables an individual to understand the culture, politics and policies that surround them; this knowledge can then be used to strategically maneuver in the

organization. A team leader that possesses competence in organizational awareness will be able to foster the development of organizational understanding in the team they lead.

Relationship between the EI Maneuvering Cluster and ECGNs

The maneuvering competency with direct links to ECGNs is service orientation. In order for a team to build external relationships within the organization, team members must understand the needs of other teams. This knowledge will enable them to better understand a problem or need that might arise with that team. While other teams within an organization are not customers per se, they do rely on one another, and will need each other's assistance. If this assistance can be anticipated and recognized, the help can come faster and with higher quality. This type of behavior is consistent with the individual competence of service orientation as defined by Goleman (1998).

A leader without emotional self-control would not be able to develop the norms confronting members who break norms, creating resources for working with emotion or an affirmative environment. A team would not be able to develop resources to work with emotions if their leader displayed regular emotional outbursts. The maneuvering competencies are key competencies for a leader to possess as well as key for the development of the ECG norms.

Hypothesis 3a: There is a positive linear relationship between the EI competencies, emotional self-control, service orientation, and organizational awareness, and the individual ECGN cluster.

Hypothesis 3b: There is a positive linear relationship between the EI competencies, emotional self-control, service orientation, and organizational awareness, and the team ECGN cluster.

Hypothesis 3c: There is a positive linear relationship between the EI competencies, emotional self-control, service orientation, and organizational awareness, and the cross boundary ECGN cluster.

Team Performance

As previously discussed, Both EI competencies as well as ECGNs have been shown to be significantly related to performance (Hirokawa, DeGooyer, & Valde, 2000; Boyatzis, 1982; Goleman, 1998; Goleman 2001; Dulewics & Higgs, 2002; Stubbs & Messer, 2002; Druskat, Messer, Koman & Wolff, 2003). The applicability of this research comes by testing the outcome the ECG norms produce for teams. This research will further validate the findings that team climate effects team performance through the testing of the relationship between the ECGNs and team performance (Stubbs & Messer, 2002; Druskat, Messer, Koman & Wolff, 2003; Stetzer, Morgeson, & Anderson, 1997; Bain, Mann, Pirola-Merlo, 2001; Argote, 1989).

Hypothesis 4a: There is a positive linear relationship between individual level ECGN presence and team effectiveness.

Hypothesis 4b: There is a positive linear relationship between group level ECGN presence and team effectiveness.

Hypothesis 4c: There is a positive linear relationship between cross boundary level ECGN presence and team effectiveness.

Chapter 3

Method

Introduction

The objective of this research was to assess the relationship between individual emotional intelligence competencies, team level emotional intelligence, and team effectiveness. This field study was a cross sectional examination of the EI and ECG norms that were present in teams and team leaders in a military organization.

Sample

A military sample was utilized because there is a prevalence of teamwork in the military, and each team's performance is of utmost importance to the organization. Two commands participated; in both commands both aircrew teams and maintenance teams participated. The maintenance teams served as direct support for the aircrew teams. A total of 104 aircrew members participated representing 21 aircrew teams, a total of 245 maintenance team members participated representing 60 maintenance teams, and 73 managers rated team leaders' emotional intelligence.

In total, 600[1] team members were asked to participate with 349 (58%) completing surveys. All participation was voluntary and everyone was given the opportunity to

[1] Exact number is not known as not all individuals were present when I visited the squadron, others were assigned temporary duty at other locations, and additional surveys were left with the squadrons for possible completion at a later time

decline participation[2]. Two individuals declined to participate and six participants turned in blank surveys. Seventeen surveys were partially completed and therefore were eliminated from the sample. These 17 participants indicated that they had not been a member of their team long enough to properly rate the team or team leader, and/or that the survey was too long. On average, participants completed the survey instrument within 30 minutes. Lastly, informed consent was attained from each participant (see appendix 2).

Final team level data analysis was completed on a sample of 275 men and 50[3] women with the majority being between 18-45 years old (50.4%). There were 55 officers and 294 enlisted personnel who participated. On average, participants had been members of their teams for 14.6 months, and a member of the military for 74.8 (6.2 years) months. Each team had a mean of 6.8 team members (Range = 3-11; Median = 6.5). Of the team members, 2 (0.6%) participants highest education level was grade school. 28.9% of participants had completed high school degrees, most (40.7%) had attended some college or technical school, 18.1% had college degrees, and 1.7% had graduate work or degrees.

A total of 70 team leaders and 73 team leaders' superiors participated in the study. 12.9% of the team leaders were women and 70%were men[4]. Age was fairly evenly distributed, with no participants under 25 years of age, 35.7 between 26 and 35, 31.4% between 36 and 45, 15.7% between 46 and 55, and none over 56 years of age.

---

[2] Due to the nature of a military sample, I wanted to ensure that participants felt no pressure to participate. Each individual had the option of declining a survey, returning a blank survey with the other participants, or taking the survey home and never returning it to the researcher. Approximately 40 surveys were returned to the researcher via U.S. mail.

[3] Not all participants indicated their gender

Aircrew team leaders were officers (n = 9)[5] and maintenance team leaders were senior enlisted personnel (n= 49). Team leaders had been involved with their teams for 1-24 months, with the average being 10.6 months. Average company tenure was 210 months (17.5 yrs) (Range of 60-300 months). Of the team leaders, 5.7% had graduate training, 14.3% had earned college degrees, 31.4% had attended some college or technical school, and 31.4% highest level of education was a high school diploma.

All participants in this study were either a team leader or member on a functioning military team. This population was used because the nature of military work requires the use of teams (Prapavessis & Albert, 1997; Orasanu & Backer, 1996; Zaccaro, Gualtieri, & Minionis, 1995). The teams that participated in this study were direct mission support teams as well as teams that support the direct mission support teams. Participant's lives depend on their team members, and their support teams. All teams that participated have a direct role in mission accomplishment, and are able to see the results of their teamwork.

Data collection:

I contacted senior leadership within the military and invited them and their commands to participate in the study. I met with the senior leadership as well as representatives of each command to discuss the terms and requirements of participation.

---

[4] Twelve participants did not indicated their gender

[5] Not all participants indicated their rank

Following the meeting, participating commands submitted documentation to the Military Institutional Review Board to ensure agreement to participate.

Data collection occurred over a one-week period in August of 2003. The researcher attended regularly scheduled all-hands meetings for each of the participating commands to present and distribute the survey material. It was at this time that participants were informed that participation was voluntary and that their withdrawal from the study would not affect their performance appraisals. In addition, participants were informed that no individual or team level data would be shared with the command. The command would only receive information regarding all of the teams, thus no single team could be identified.

In order to assess team leader emotional intelligence, the emotional competence inventory (ECI) was administered. The ECI uses 360 degree feedback methodology to assess the emotional competencies of individuals (Sala, 2002). The ECI was developed by the Hay Group and grows out of the research of David McClelland, Richard Boyatzis and Daniel Goleman (McClelland, 1973; Boyatzis, 1982; Goleman, 1998). The ECI has an overall average internal consistency coefficient of 0.85 and the self-ratings have an overall average internal consistency coefficient of 0.75 (Sala, 2002). The ECI has been used in various venues, in particular, in assessing the relationship between an individual's emotional intelligence and their leadership behaviors (McClelland & Boyatzis, 1982; Cavallo & Brienza, 2002; Sala, 2002).

The ECI consists of 72 questions, which assess 18 EI competencies. Each competency represents one of four EI clusters: self-awareness, self-management, social awareness and social skills (awareness). Participants rated each item on a one-to-five

Likert scale ranging from never (1) to consistently (5). If an item was not applicable or the respondent did not feel they could accurately assess the ratee on a particular item, there was a space marked “don’t know” so participants were not forced into an answer. The competencies assessed were: accurate self-assessment, emotional self-awareness, self-confidence, achievement orientation, adaptability, emotional self-control, initiative, optimism, transparency, empathy, organizational awareness, service orientation, change catalyst, conflict management, developing others, influence, teamwork and collaboration, and inspirational leadership. For specific items or scales please see the Hay Group as the ECI is a proprietary instrument.

Team leaders completed a self-assessment as well as received data from their superior and their subordinates from the team they managed. Each team leader had 1-14 raters rate their behaviors, with an average of 4.34 ratings completed for every team leader, excluding the self-rating.

Team level emotional intelligence, was assessed using the emotionally competent group norm scales (Hamme, 2003). Team member participants self rated their team’s behavior according to each of the nine ECG norms. The ECGN scales are comprised of 57 questions, representing nine team norms. Each competency represents one of three ECGN clusters. Each cluster has an awareness and regulation competency on the individual, group and cross-boundary (external) levels (see table 2 for diagram).

Emotionally competent group norm scales were first tested by Druskat, Wolff, Koman and Messer, 2003, and later validated and refined by Hamme, (2003). This research will represent the first field test of the validated scales put forth by Christina Hamme (2003).

The nine scales were comprised of 5-8 questions, with one to three items in each scale reversed scored. Respondents rated each item on a one-to-seven Likert scale ranging from very inaccurate (1) to very accurate (7). Interpersonal understanding was measured with six items, e.g., "On our team we make an effort to understand one another's attitudes and views." Confronting members who break norms was measured with six items, e.g., "In our group, we let members know if they do something considered unacceptable." Caring behavior was measured with eight items, e.g., "We let members know that we value their contributions". Team self-evaluation was measured with seven items, e.g., "On our team we often discuss what is helping or hurting our performance." Creating resources for working with emotion was measured by six items, e.g., "When there is tension in our group, we acknowledge or talk about it". Creating an affirmative environment was measured with five items, e.g., "When something goes wrong, we look at it as a challenge rather than an obstacle". Proactive problem solving was measured with six items, e.g., "In our team we work hard to anticipate problems that might occur." Organizational understanding was measured with seven items, e.g., "We understand how our work contributes to the company's goals." Building external relationships was measured with six items, e.g., "We build relationships with teams that can help make a difference in our performance."

As previously discussed, team effectiveness is defined as multidimensional; therefore, to assess team effectiveness, both objective and subjective measures were used. The subjective and objective performance scores were standardized, and then combined to form one performance measure.

Subjective performance measures were gathered from upper level managers who had observed multiple teams within the organization over time. This typically was an individual at least two levels above the team, and in two instances was the commanding officer of the command. Managers are generally better able to assess group performance than team members (Langfred, 2000) or team leaders, who may focus more on individual performance. The managers in the study had multiple teams reporting to them.

Managers were asked to evaluate each of the teams under their management using a 7-point Likert scale. The subjective performance measure consisted of a 5-item questionnaire developed and tested by Druskat, Messer, Koman and Wolff, 2003 (see appendix 3 for questions). The following criteria were evaluated: efficiency in getting things done, quality of work, ability to be self-directed, performance against other teams that perform similar work, and ability to continue working together in the future. The responses to each question were totaled to produce a subjective rating of each team's effectiveness.

Each organization provided the researchers with metrics used in their management process to measure team performance. A criterion for participation in the study was that effectiveness measures were recorded monthly and measured multiple criteria, thus each team had performance metrics calculated on multiple dimensions. Examples of the measures include: percentage of raw material waste; number of accidents; and percentage of flight objectives met. The objective performance rating was calculated from the percentage of goals attained by each team on each measure. The researchers collected objective performance data for the period preceding and following

data collection. The length of time that performance measures were calculated on varied from 2-8 months depending on availability of data. This variation was due to departments being on deployment, data being lost, and time the team had been formed.

Chapter 4
Results

Introduction

Results indicate support for the relationships hypothesized between the emotional intelligence competencies and emotionally competent group norms. Data analyses did not support the hypothesized relationship between the team ECG norms and team performance. Secondary analysis performed did show support for the relationship of individual ECGNs and performance.

ECGN descriptive statistics, validity, and reliability.

Confirmatory factor analyses were performed to verify the scales used to assess the ECG norms. Due to the number of items involved, the scales were analyzed at each level (individual, group and cross boundary). The individual level consisted of the ECGNs interpersonal understanding, confronting members who break norms, and caring behavior. The group level analysis consisted of the norms, team self-evaluation, creating resources for working with emotion, creating an affirmative environment, and proactive problem solving. Lastly, the cross boundary level analysis consisted of the norms organizational understanding and building external relationships. All levels indicate good fitting models. See table 4 for fit statistics.

Table 4.

ECGN Fit Statistics.

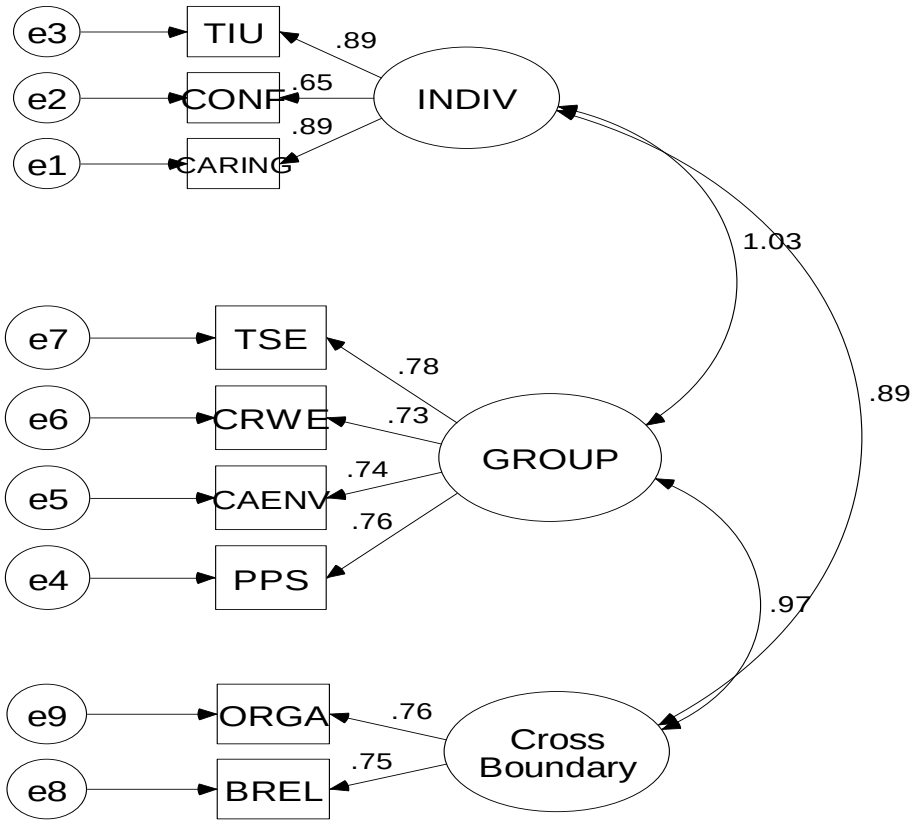
Level	NFI	RFI	RMSEA	χ^2	Df	n	prob
Individual	.96	.96	.094	685.2	167	349	.000
Group	.98	.97	.064	357.4	146	349	.000
Cross Boundary	.98	.97	.090	243.4	64	349	.000

All models were good fitting models, with NFI and RFI indices approaching 1.0 and all RMSEA indices being below .10.

Chronbach alpha internal consistency reliabilities were assessed for each scale. All scales had acceptable reliabilities, with their alphas close to or above 0.70 (see Vogt, 1999): interpersonal understanding, $\alpha = .83$; confronting members who break norms, $\alpha = .67$; caring behavior, $\alpha = .82$; team self-evaluation, $\alpha = .75$; creating resources for working with emotion, $\alpha = .75$; creating an affirmative environment, $\alpha = .70$; proactive problem solving, $\alpha = .75$; organizational understanding, $\alpha = .73$; building external relationships, $\alpha = .71$.

A secondary confirmatory factor analysis was performed to verify the clustering of the ECGNs as proposed by Wolff and Druskat (2003) and Hamme (2003). The model did not support the clustering of the competencies in three separate clusters as predicted. The implied covariance matrix for the variables in the model was not positive definite, and therefore would not run. See Figure 2.

Figure 2. ECGN Clustering



The model in figure 2 was not supported by the confirmatory factor analysis; however, in order to test the proposed hypothesis the ECGN clusters were developed according to the theory. The individual level cluster consisted of the ECGNs, interpersonal understanding, confronting members who break norms, and caring behavior. The team level cluster consisted of the ECGNs, team self-evaluation, creating resources for working with emotion, creating an affirmative environment and proactive

problem solving. Lastly, the cross boundary level cluster consisted of the norms, organizational understanding and building external relationships.

Individual participant responses were aggregated to create a mean score for the entire team. The questions were written at the group level in order to capture group-level constructs, not individual attributes (Earley, 1999; Rousseau, 1985). This enabled me to aggregate the data and assess the norms present at the group level (Earley, 1999; Langfred, 2000). For all norms, intraclass correlations (James, 1982) indicated that within group variance was greater than the between group variance, this difference was not significantly greater for the building external relationships and proactivity in problem solving. See table 5.

Table 5.

ANOVA with Intraclass Correlation for ECG Norms (n = 343)

Norm	Sum of Squares	Df	Mean Square	F	Sig	ICC1	ICC2
Interpersonal Understanding				1.39	0.03	0.09	0.28
Between	116.08	80	1.45				
Within	273.77	263	1.04				
Confronting Members who break norms				1.71	0.00	0.15	0.41
Between	104.76	80	1.31				
Within	201.91	263	0.77				
Caring Behavior				1.27	0.08	0.06	0.21
Between	104.26	80	1.30				
Within	269.94	263	1.03				
Team Self-Evaluation				1.66	0.00	0.14	0.40
Between	148.40	80	1.85				
Within	294.35	263	1.12				
Creating resources for working with emotion				1.32	0.05	0.07	0.24
Between	132.25	80	1.65				
Within	327.06	262	1.25				
Creating an affirmative environment				1.87	0.00	0.18	0.46
Between	122.21	80	1.53				
Within	215.27	263	0.82				
Proactive Problem Solving				1.06	0.36	0.01	0.06
Between	68.66	80	0.86				
Within	211.17	261	0.81				
Organizational Understanding				1.32	0.06	0.07	0.24
Between	84.42	80	1.06				
Within	210.95	263	0.80				
Building external relationships				1.22	0.13	0.05	0.18
Between	75.32	80	0.94				
Within	203.00	262	0.77				

EI descriptive statistics, validity, and reliability.

A confirmatory factor analysis was run with all 72 items in the ECI 2. Because of the size of a SEM model associated with 72 questions and 18 scales, this analysis was computed by running four separate analyses. The analyses were computed at the self-awareness, self-management, social awareness and relationship management levels. Consistent with the antecedent theoretical model advanced by Goleman and Boyatzis (Goleman, 1995, 1998; Boyatzis, 1982), analyses were conducted at these four levels because it was not possible to put all 72 items into a SEM at one time.

The self-awareness model initially was run with the accurate self-assessment and self-confidence competencies, and emotional self-awareness (ESA). Because the model was unstable and would not run with ESA included the model ultimately was run with accurate self-assessment and self-confidence. The self-management model was run with the achievement orientation, adaptability, emotional self-control, optimism, initiative, and transparency competencies. This model also was unstable and would not run when initiative and transparency were included. In order to assess the uniqueness of the remaining four competencies the model was run with achievement orientation, adaptability, emotional self-control and optimism. Social awareness was run with empathy, organizational awareness and service orientation. Lastly, relationship management was run with conflict management, influence, inspirational leadership and teamwork and collaboration. Thus, the confirmatory factor analysis supports the theorized EI competencies. See table 6 for fit indices.

Table 6.

EI Competency Fit Statistics.

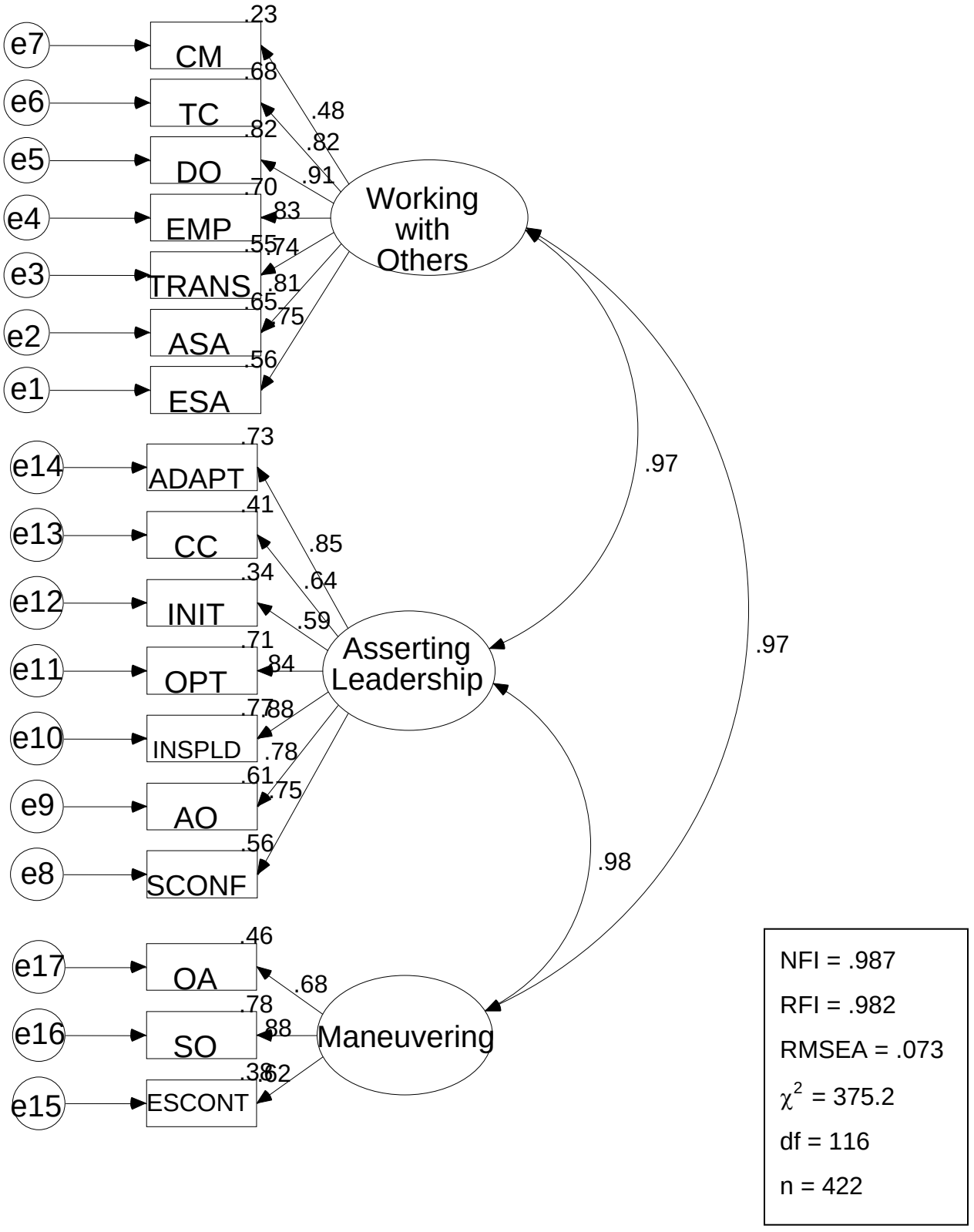
Level	NFI	RFI	RMSEA	χ^2	Df	n	Prob
Self-awareness	.99	.99	.071	59.5	19	422	.000
Self-management	.98	.98	.08	360.3	98	422	.000
Social Awareness	.99	.98	.073	165.4	51	422	.000
Relationship Management	.98	.98	.069	291.8	98	422	.000

Chronbach alpha internal reliabilities were assessed for each scale. Most scales had acceptable reliabilities, with their alphas close to or above 0.70 (see Vogt, 1999), with the exceptions of emotional self-control, initiative, and conflict management. Reliabilities were: accurate self assessment, $\alpha = .75$; emotional self awareness, $\alpha = .75$; self-confidence, $\alpha = .73$; achievement orientation, $\alpha = .69$; adaptability, $\alpha = .77$; emotional self-control, $\alpha = .42$; initiative, $\alpha = .16$; optimism, $\alpha = .78$; transparency, $\alpha = .70$; empathy, $\alpha = .83$; organizational awareness, $\alpha = .63$; service orientation, $\alpha = .83$; change catalyst, $\alpha = .60$; conflict management, $\alpha = .33$; developing others, $\alpha = .83$; influence, $\alpha = .74$; inspirational leadership, $\alpha = .87$; teamwork and collaboration, $\alpha = .67$. The majority of the theorized scales were found to factor separately and have acceptable reliabilities. Thus, while a few scales were not supported by this research, the EI competency scales were developed for hypothesis testing according to theory and previous research (Boyatzis, 1982; Boyatzis, 2000; Boyatzis & Sala, 2003).

A secondary confirmatory factor analysis was performed to verify the clustering of the EI Competencies as proposed by Boyatzis and Sala (2003). The model supported the clustering of the competencies in three separate clusters as predicted. See Figure 3.

Figure 3.

EI competency clustering model.



The data supported the clustering theory as presented by Boyatzis and Sala (2003). The model is a good fitting model with the RMSEA being below .10 and the NFI and RFI approaching 1.0. The data were clustered into the three validated EI competency clusters, working with others, asserting leadership, and maneuvering for hypothesis testing.

Performance

As previously discussed, team effectiveness is defined as multidimensional; therefore, to assess team effectiveness, both objective and subjective measures were used. Subjective and objective performance scores were standardized to minimize variations in reporting. The measures were moderately positively correlated with one another, $r = .079$, $p = .241$. In order to capture both the subjective and objective performance scores both measures were combined. Hypotheses were initially tested using both subjective and objective measures. The structural equation models did not run with the measures independently in the model. The performance scores were combined and the combined performance score was used for hypothesis testing.

Test of Hypothesis.

Individual hypotheses were tested using correlation and regression analyses. The overall model was also tested using structural equation modeling.

Hypothesis 1. Hypotheses 1a through 1c predicted a relationship between the working with others EI competency cluster and the ECG norms. The hypotheses stated: (1a) There is a positive linear relationship between the EI Competency cluster working with others, and the individual ECGN cluster; (1b) There is a positive linear relationship between the EI competency cluster working with others, and the team ECGN cluster; (1c) There is a positive linear relationship between the EI competency cluster working with others, and the cross boundary ECGN cluster.

Hypothesis 1 was supported. The EI competency cluster, working with others, was found to be positively and significantly correlated with the individual level ECGN cluster ($r = .393$, $p < .000$); positively and significantly correlated with the group level ECGN cluster ($r = .356$, $p < .001$); as well as positively and significantly correlated with the cross boundary level ECGN cluster ($r = .477$, $p < .000$).

Hypothesis 2. Hypothesis 2 predicted the relationship between the asserting leadership EI competency cluster and the ECGNs. The hypothesis stated: (2a) There is a positive linear relationship between the EI competency cluster asserting leadership, and the individual ECGN cluster; (2b) There is a positive linear relationship between the EI competency cluster asserting leadership, and the team ECGN cluster; (2c) There is a positive linear relationship between the EI competency cluster asserting leadership, and the cross boundary ECGN cluster.

Hypothesis 2 was supported. The EI competency cluster, asserting leadership, was found to be positively and significantly correlated with the individual level ECGN Cluster ($r = .433$, $p < .000$); positively and significantly correlated with the group level

ECGN Cluster ($r = .416$, $p < .000$); as well as, positively and significantly correlated with the cross boundary level ECGN Cluster ($r = .509$, $p < .000$).

Hypothesis 3. Hypothesis 3 predicted the relationship between the maneuvering EI competency cluster and the ECGNs. The hypothesis stated: (3a) There is a positive linear relationship between the maneuvering EI competencies and the Individual ECGN cluster; (3b) There is a positive linear relationship between the maneuvering EI competencies and the Team ECGN cluster; (3c) There is a positive linear relationship between the maneuvering EI competencies and the cross boundary ECGN cluster.

Hypothesis 3 was supported. The EI maneuvering competency cluster, consisting of emotional self-control, service orientation, and organizational awareness, was positively and significantly correlated to all three levels of ECG norms; individual level ECGN ($r = .530$, $p < .000$); group level ($r = .524$, $p < .000$); cross boundary level ($r = .552$, $p < .000$).

Hypothesis 4. Hypothesis 4 predicted that there was a positive linear relationship between ECGN presence and team effectiveness. The hypothesis stated: (4a) There is a positive linear relationship between individual level ECGN presence and team effectiveness; (4b) There is a positive linear relationship between group level ECGN presence and team effectiveness; (4c) There is a positive linear relationship between cross boundary level ECGN presence and team effectiveness.

This hypothesis was only partially supported. Each level of ECGN was correlated with the standardized subjective and objective ratings as well as with a combined

effectiveness rating. The cross boundary level was significantly correlated with objective performance scores as well as the combined effectiveness scores. See table 7 for the results.

Table 7.

ECGN and Performance Correlations (n = 81 teams)

ECGN Level	Subjective Performance		Objective Performance		Combined Sub/Obj Performance	
	r	p	r	p	r	p
Individual	.112	.160	.128	.128	.167	.068
Group	.137	.111	.056	.311	.151	.089
Cross-Boundary	.068	.274	.204	.034*	.199	.038*

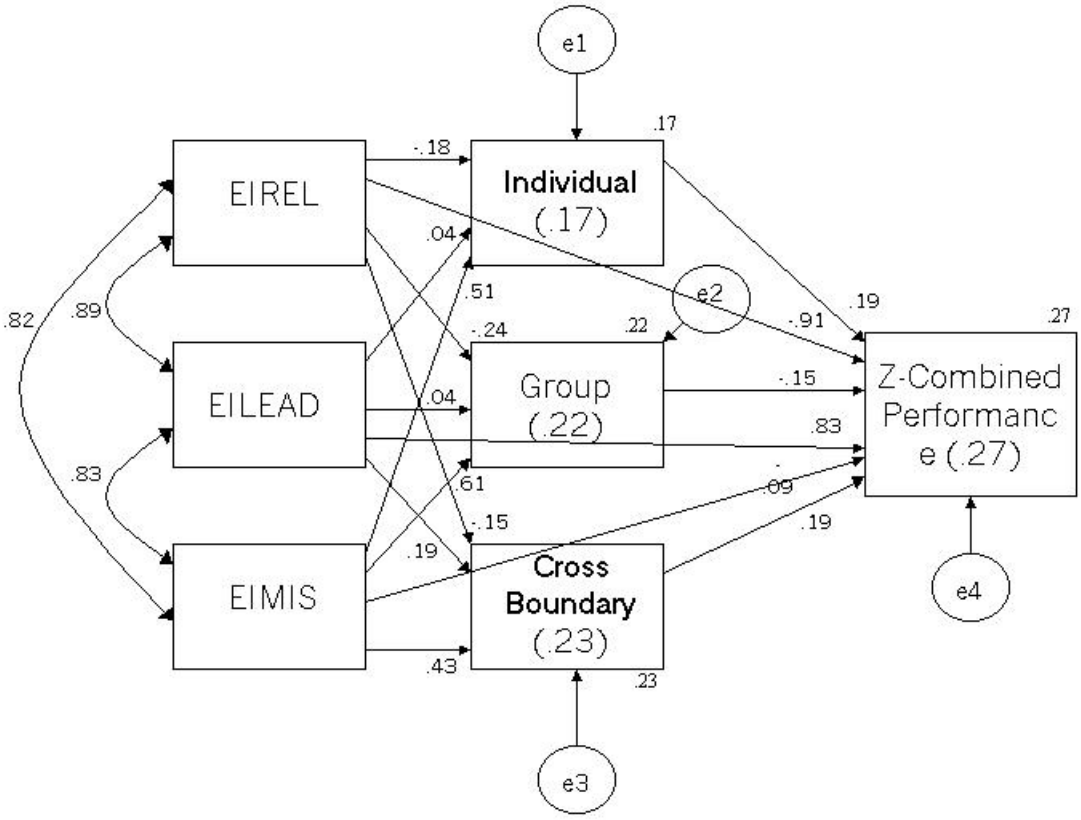
*Correlation is significant at the .05 level (1-tailed)

Structural Equation Model Results.

In order to test the model presented in Figure 1, a structural equation model (SEM) was used. See Figure 4.

Figure 4.

Results of Full Model



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

Chi-squared = 154

df = 3

p=.000

NFI = .66

RFI = -1.36

RMSEA = .79

To assess the model shown in the Figure 4, chi-squared, normed fit index (NFI) and relative fit index (RFI) were examined. The NFI =.66 and the RFI = -.1.36, should both be above .9 to be considered acceptable (Arbuckle, 1999). Additionally, the Root mean square error of approximation (RMSEA) should not be above .10 in a good fitting model (Tabachnick & Fidell, 2001). Figure 4 has a RMSEA of .79. Thus, Figure 4 is not a good fitting model.

Because the hypothesized model was not a good fitting model, the model was revised to eliminate co-linearity problems (See table 8). One EI factor and one ECGN factor were created. The indicators of this factor were the clusters. These variables were used to examine the relationship between team leader overall emotional intelligence, overall emotionally competent group norms, and team effectiveness. The model is presented in Figure 5**.**

Table 8.

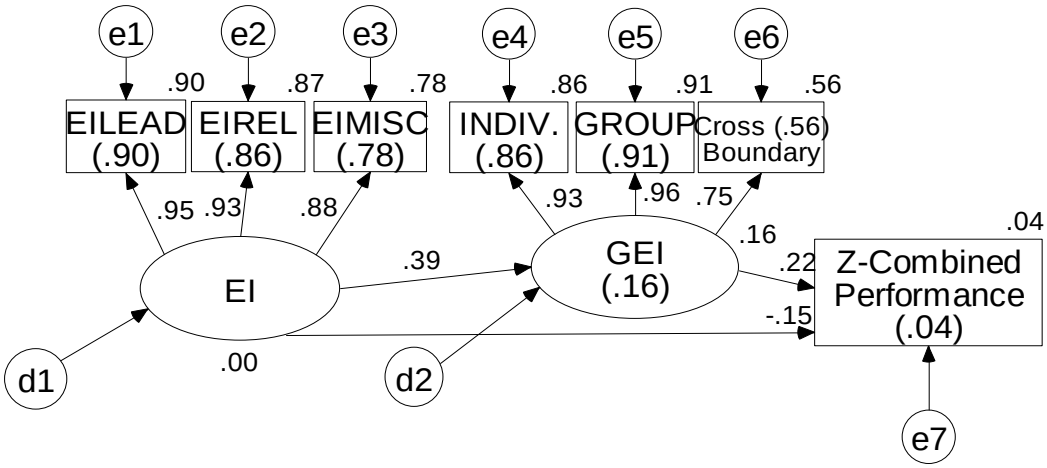
Correlations between variables (n = 81 teams)

	Working w/ others	Asserting Leadership	Maneuvering	Individual	Group	Cross Boundary
EI Clusters						
Working with others	1	.885***	.816***	.275*	.293**	.372**
Asserting Leadership	.885***	1	.835***	.309**	.337**	.420***
Maneuvering	.816***	.835***	1	.400***	.447***	.470***
ECGN Clusters						
Individual	.275*	.309**	.400***	1	.888***	.685***
Group	.293**	.337**	.447***	.888***	1	.710***
Cross Boundary	.372**	.420***	.470***	.685***	.710***	1

* Sig at the .05 level; ** sig at .01 level; *** sig at .000 level (2-tailed)

Figure 5.

Results of overall constructs



*** p<.001

Chi-squared = 33.12

df = 12

p=.001

NFI = .93

RFI = .87

RMSEA = .149

(Numbers in parentheses are squared multiple correlations)

The model presented in Figure 5 is not a good fitting model, but it is approaching the boundaries of a good fitting model; NFI = .93, RFI= .87 and RMSEA = .149. The relationship between team leader emotional intelligence is significantly related to the presence of the emotionally competent group norms on the teams they lead. This means that overall, a team leader's emotional intelligence does affect the presence of ECGNs on the team they lead. The direct relationship between team leader EI and performance is not significant, meaning that team leader EI does not directly affect team performance, the relationship is mediated by ECGNs. In this sample, the relationship between ECGNs and performance was approaching significance ($p = .086$) but was not statistically significant at the .05 level.

Secondary Analyses

Post hoc analyses were performed to explore the root causes of the ECGN and team effectiveness relationship not being significant. A relationship between ECGNs and team effectiveness has been found in past research (Druskat, Wolff, Koman & Messer, 2003) therefore, the non-significant results found in this research were surprising. Past research has examined each ECGN in relation to team effectiveness, not in clusters as this research attempted to do. Because the ECGN clusters did not significantly relate to team effectiveness, I examined each ECGNs independent relationship to effectiveness. The sample used in this study was comprised of two types of teams, aircrews and maintenance teams. To control for a team type effect, I assessed the relationship of each ECGN to team effectiveness while controlling for team type. The results of these analyses are presented in Table 9.

Table 9.

Correlations between ECGN and team effectiveness measures

	IU	CMBN	CB	TSE	CRWE	CAE	PPS	OU	BER
Whole Sample (n = 81)									
Subjective Performance	.050	.104	.154+	.052	.109	.160+	.156+	.026	.092
Objective Performance	.104	.168+	.070	-.084	-.154+	.259**	.256*	.083	.272**
Combined Performance	.112	.183+	.156+	-.003	-.005	.301**	.281**	.081	.266**
Aircrews Only (n = 21)									
Subjective Performance	-.053	.253+	.260+	.214	-.023	.340+	.082	-.163	-.147
Objective Performance	.271+	.055	.347+	.237+	-.001	.494*	.264+	-.238+	.321+
Combined Performance	.085	.097	.301+	.206	-.006	.453*	.199	-.211	.124
Maintenance teams Only (n = 60)									
Subjective Performance	.075	.084	.152+	.028	.146+	.154+	.182+	.078	.169+
Objective Performance	.084	.208+	.017	-.157+	-.200+	.260*	.278*	.173+	.282*
Combined Performance	.112	.209+	.109	-.090	-.029	.297*	.322**	.177+	.326**

IU = Interpersonal understanding; CMBN= Confronting members who break norms; CB = caring behavior; TSE = team self-evaluation; CRWE= creating resources for working with emotion; PPS = proactive problem solving; OU = organizational understanding; BER = building external relationships.

+ = Sig at .10; * = Sig at .05; ** = Sig at .01; *** = Sig at .000 level (1-tailed)

The results presented in Table 9 indicate that when the ECGNs are not clustered, ECGNs are related to team performance. Every ECGN was shown to be related to an aspect of performance with at least one subset of the sample. The norms, creating an

affirmative environment, proactive problem solving, and building external relationships were found to be significantly related to objective performance measures at the .05 level in every subset of the sample.

Another post hoc analysis examined the relationship clustering of the ECGN scales. The confirmatory factor analysis (figure 2) did not support the clustering of the ECGNs as theorized. In order to assess why this was occurring an exploratory factor analysis was run. The results are presented in table 10.

Table 10. ECGN Cluster factor loadings (n = 349)

ECGN	Factor 1	Factor 2
Interpersonal Understanding	.783	
Confronting Members	.409	.474
Caring Behavior	.578	.442
Team Self-Evaluation	.941	
Creating Resources	1.009	
Creating an Affirmative Env.	.477	.509
Proactive Problem Solving		.814
Organizational Understanding	.561	.319
Building External Rel.		.941

Exploratory factor analyses revealed that when all nine norms were factor analyzed together only two factors emerged. The individual level norms factored together, with confronting members who break norms factoring similarly on both factors. The team level norms were divided between the first and second factor. Team self-

evaluation and creating resources for working with emotion factored with the individual level norms, where creating an affirmative environment and proactive problem solving factored with the cross boundary level norms. The cross boundary level norm organizational understanding primarily factored on factor one but did have a strong similarity with the norms in factor two. The ECGNs were developed at three levels, individual, team and cross-boundary. To assess the clustering of the norms at three levels, an exploratory factor analysis was run with three factor forced. The results are presented in Table 11.

Table 11. ECGN Clusters, 3 factors forced (n = 349)

ECGN	Factor 1	Factor 2	Factor 3
Interpersonal Understanding	.695		
Confronting Members	.210		-.725
Caring Behavior	.532	.392	
Team Self-Evaluation	.927		
Creating Resources	.970		
Creating an Affirmative Env.	.456	.485	
Proactive Problem Solving		.714	
Organizational Understanding	.665	.461	.329
Building External Rel.		.945	

When three factors were forced, the individual level norms factored with the team level norms, with the exception of proactive problem solving. Proactive problem solving clustered with the cross boundary norm building external relationships, which has also happened in previous research (Druskat, 1996). It is my belief that the sample used in this research varies from the industry samples that these items were developed and validated on and is therefore affecting the data.

Since the data used in this research only partially supports the ECGN clustering theory and the relationship between ECGN clusters and performance was not found to be significant, secondary analyses were performed to assess if the relationship would be significant using the clusters found above. ECGN clusters were developed according to the results presented in table 10. Factor one consisted of the norms: interpersonal understanding, caring behavior, team self-evaluation, creating resources for working with emotion and organizational understanding. Factor two consisted of the norms: confronting members who break norms, creating an affirmative environment, proactive problem solving and building external relationships. Factor one was not found to be significantly related to subjective performance ($r = -.007$, $p = .269$), objective performance ($r = -.095$, $p = .200$) or the combined performance score ($r = -.069$, $p = .269$). Similarly, the second factor was not found to be significantly related to subjective performance ($r = .078$, $p = .243$), objective performance ($r= -.026$, $p = .409$), or the combined performance score ($r = .036$, $p = .376$).

A final post hoc analysis was run on the EI competencies and ECG norms to assess similarity between competencies and clusters. Until now both constructs were examined independently. In order to examine if both constructs were mutually exclusive

all competencies and norms were analyzed together. See Table 12 for the results of the exploratory factor analysis.

Table 12. Comparison of EI Competencies and ECGN Norms (n = 492)

Competency/Norm	Factor 1	Factor 2	Factor 3	Factor 4
EI-Accurate self-assessment	.578			
EI-Emotional self-assessment	.790			
EI-Self-confidence	.512			
EI-Achievement orientation	.812			
EI-Adaptability	.977			
EI-Optimism	.840			
EI-Transparency	.790			
EI-Empathy	.976			
EI-Organizational awareness	.627			
EI-Service orientation	.852			
EI-Developing others	.993			
EI-Influence	.795			
EI-Inspirational leadership	.943			
EI-Teamwork & collaboration	.419			
EI-Emotional self-control		.682		
EI-Initiation		.662		
EI-Change catalyst		.540		
EI-Conflict management		.403		
GRP-Confronting members who break norms			.798	
GRP-Caring Behavior			.655	
GRP- Creating an affirmative env.			.605	
GRP- Proactive problem solving			.712	
GRP- Building external relationships			.659	
GRP- Interpersonal Understanding				.625
GRP- Team self-evaluation				.549
GRP- Creating resources for working with emotion				.771
GRP- Organizational Understanding				.652

When the EI competencies and ECG norms were factor analyzed together four clusters emerged. Fourteen of the 18 EI competencies clustered together. The ECGNs were present in two factors. These factors consisted of similar norms that were found in the exploratory factor analysis presented in table 10 with the exception of the norm caring behavior. Caring behavior was weighed had a strong weighting on both factors in table 10, and when analyzed with the EI competencies factored with the other norms. This analysis indicates that the EI competencies and ECG norms are two distinct constructs. The constructs emerge as distinct constructs, however, they are all significantly related to one another. See table 13.

Table 13. Correlations between EI and ECGN clusters

Factor	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	1.00	.543***	.370***	.431***
Factor 2	.543***	1.0	.204***	.298***
Factor 3	.370***	.204***	1.0	.634***
Factor 4	.431***	.298***	.634***	1.0

Factor 1: n= 421; Factor 2: n = 419; Factor 3: n = 344; Factor 4: n = 344

+ = Sig at .10; * = Sig at .05; ** = Sig at .01; *** = Sig at .000 level (1-tailed)

Discussion

Chapter 5

Introduction

Empirical analyses supported the relationship between a team leader's EI and a team's EI norms. This analyses also supported the EI cluster theory presented by Boyatzis and Sala and partially supported the Druskat and Wolff ECGN theory. Additionally, this study confirmed that a team leader's emotional intelligence affects team level emotional competence. Lastly, this study supported that the emotionally competent group norms affect team performance when they were examined in their individual relationships to performance measures.

Emotional Intelligence Competencies

The EI competencies proposed by Goleman and Boyatzis have been repeatedly validated in research (Boyatzis, 1982; Boyatzis, Stubbs & Taylor, 2002; Boyatzis & Sala, 2003). Support for the competencies was also demonstrated by this research. Most of the competencies were found to factor independently of one another and 83% of the scales had alphas close to or above .70. Confirmatory factor analysis indicated that the competencies clustered according to the Boyatzis and Sala (2003) cluster theory.

Emotionally Competent Group Norms

Support was found for all nine of the ECGNs. Each norm had an acceptable reliability and factored independently, however, this research did not support the norm clusters. Six of the nine norms tested in this research have been previously validated (Druskat, Koman, Messer, Wolff, 2003). This research was the first empirical examination of the three additional norms (creating resources for working with emotion, creating an affirmative environment, and caring behavior) proposed by Hamme (2003). With the addition of the three norms proposed by Hamme, the ECGNs did not cluster as theorized by Wolff and Druskat (forthcoming) (figure 2). In order to assess the reason for the confirmatory factor analysis not supporting the tri-level clusters an exploratory factor analysis was run. The exploratory factor analysis indicated the norms clustering into two factors rather than three (table 10). Two of the team level norms factored with the individual level norms and two factored with the cross boundary level norms. In previous research the team level norm, proactivity in problem solving, has clustered with the cross boundary level norms (Druskat, 1996). Two team level norms, creating resources for working with emotion and creating and affirmative environment, were developed by Hamme (2003) and have not been validated beyond Hamme's original work. With the uniqueness of the sample used in this research, caution must be used in generalizing the findings or interpreting the findings as indicating that the norms will not cluster in three levels in future research. Further examination into the clustering of ECGNs is needed in subsequent research with diverse samples.

Hypotheses

Hypotheses 1-3 predicted there would be a positive linear relationship between the EI competencies and ECGNs. This relationship was supported at every level of EI competency and ECGN. The working with others, asserting leadership and maneuvering EI clusters were all positively and significantly related to the individual, group, and cross boundary levels of the ECGNs.

Hypothesis four predicted that the presence of ECGNs on a team would significantly affect team performance. When this hypothesis was tested using the ECGN clusters it was not supported. However, this research did not support the theorized ECGN clusters, therefore, the relationship between each norm and performance was assessed. When the nine ECGNs were examined independently, they were all found to be significantly related to performance. Therefore indicating that teams that develop emotionally competent group norms are more effective than teams that do not develop ECGNs.

In order to examine the overall relationship between team leader EI, team ECG norms and team performance, a structural equation was used (figure 3). When examining the relationship between EI competencies, ECG norms, and performance, significant results were not found when multiple levels of each construct was included. I believe that significance was not found with this model because of the co-linearity between variables, as well as, because this data did not support the three levels of the ECGNs. When the constructs EI and ECGN were collapsed from three subparts each into one overall construct, significant relationships were found. The overall model was close to being a good fitting model and indicated a significant relationship between team leader

EI and ECGN presence. Therefore, this data supported the notion that team leader emotional intelligence influences the development of emotionally competent group norms on the teams they lead.

This research was the first study to examine individual EI competencies and ECGNs within the same sample. In order to examine if both constructs were mutually exclusive, all competencies were factor analyzed together. Four factors emerged, all EI competencies factored on two factors and all ECGNs factored on two separate factors. Results indicated that EI competencies and ECG norms are two distinct constructs.

While individual level emotional intelligence and group level emotional intelligence are two distinct constructs, they are correlated. Correlation analyses (table 13) indicate that all four factors are significantly correlated with one another. This analysis supports the findings of this paper; individual emotional intelligence affects group level emotional intelligence.

Key Contributions

This study adds to the body of literature in what is considered a relatively new area of study. The four key contributions of this research are: (1) this research shows that leader's behaviors are important at the team level, (2) the Boyatzis and Sala (2003) EI competency cluster theory was supported in another sample, (3) this research further validates Wolff and Druskat (forthcoming) ECGN theory, and lastly (4) this research extends the knowledge base about emotions in groups.

Previous research has shown that leaders who are emotionally competent are better performers, more successful, are able to handle relationships successfully, and demonstrate a myriad of other traits (George, 2000; Goleman, 1998; Gabriel & Griffiths, 2002). The influence a leader has on the development of team climate is mixed. Schein (1985) stated that the primary responsibility of a leader is to develop and manage a climate; where Wageman (1997) believed that a team's climate develops naturally, regardless of the leader's intervention. With leaders having direct influence over their subordinates (Rafaeli & Worline, 2001), it is easy to see how a team leader's EI influences the development of ECG norms in the team they lead. While earlier research established that an individual's EI effects their performance, the present research now shows that a team leader's EI effects team performance through the ECGNs that are established on the team they lead.

Another contribution of this research is the validation it provides to both the Boyatzis and Sala EI clustering theory as well as to the Wolff and Druskat ECGN theory. While two of the four initial EI confirmatory factor analyses (Table 6) were altered in order to produce good fitting models, the model testing the EI clustering theory (Figure 3) was a good fitting model; and included all of the EI competencies in the three levels of clusters. In addition to validating the Boyatzis and Sala EI clustering theory, this research further validated the ECGNs. Confirmatory factor analyses validated the nine proposed ECGNs by Hamme (2003). Results also partially supported the relationship between ECGN presence and team effectiveness. When the relationship between each ECGN was examined individually, the norms, creating an affirmative environment, proactive problem solving and building external relationships were found to be significantly related

to performance. While it is surprising that additional norms were not related to performance, as was shown in previous research (Stubbs & Messer, 2002; Druskat, Messer, Koman & Wolff, 2003), I believe this could be because of the sample used in this study, and will be further discussed in the limitations section.

Another contribution of this research is that it extends our knowledge about emotions in groups and in the workplace. It also further validates the findings that team climate effects team performance (Stubbs & Messer, 2002; Druskat, Messer, Koman & Wolff, 2003; Stetzer, Morgeson, & Anderson, 1997; Bain, Mann, & Pirola-Merlo, 2001; Argote, 1989).

Limitations

While the sample in this research provided a unique insight into military teams, the sample might have produced different results than industry teams would have. Teams in private industry might not have the same consequences attached to their work as military teams. Wageman (1997) stated that "in many U.S. companies, teamwork is an "unnatural act."…."given this culture and context, team members will balk at the idea of relying on one another to get work done" (p. 50). Thus, the effects assessed with this research might be stronger than can be found in private industry teams, as the work that is performed by the teams studied requires members to rely on one another.

The sample used in this research consisted of two types of teams, aircrews and maintenance teams. These types of teams are very different, and neither are highly interdependent. The Wolff and Druskat ECGN theory is based on interdependent teams.

While Stubbs and Messer (2002) found that task interdependence was not a moderating factor for ECGNs, the lack of interdependence on the teams in this study could have been a contributing factor to them not being significantly related to performance. Because of the variation in team type, analyses were performed three ways. Initially analyses were performed with the entire sample, then I examined the results with just aircrew data, then with just maintenance team data to assess the affect team type. Team type did not appear to have any affect on the results.

Lastly, the objective performance data varied by team type. All teams were asked to provide objective performance measures that were a "percentage of goal met". While this is a common method for collecting performance data, if the data collected by the organization is not truly representative of team effectiveness then the data would skew the research results. All data received was standardized to account for these variations; however, the reporting measures used by the teams may not have been fully accurate. In follow-up investigation of this issue, I was informed that the squadron was aware of variations in team effectiveness reporting and was working to resolve the issue.

Implications for future theory and research

This research provided an initial examination of the relationship between individual and group level emotional intelligence and their effects on group effectiveness. This research has sparked numerous additional questions to be addressed by future research.

This was the first study on the predictors of ECGNs. As with any phenomenon, there are multiple factors involved; it can be reasoned that the same is true with a groups norms. While the team leader clearly has an effect on the presence of ECGNs, additional predictors of norm development should be examined.

One area for future research to examine is that of the organizational culture and organizational climate. I would suspect that an organization's climate would greatly influence the presence of ECGNs; the climate might directly affect the development of the norms, or the climate might influence the leaders EI behaviors which in turn would affect the team ECGNs. The context in which a leader and a team are placed have been theorized and found to impact their success (Wageman, 1999 (as cited by Hackman, 1999); Hackman, 1999). Similarly, Ashkanasy, Wilderom and Peterson's (2000) meta analysis on organizational culture and climate indicates that organizational climate does impact work processes. With context having an effect on groups and organizational climate affecting various work processes, it is reasonable to assume that organizational climate would affect ECGN development and sustainment.

Current research is focusing on examining the presence and effects of ECGNs, research should also examine the prerequisites and conditions that are necessary for ECGN development. The development of team norms takes time; the amount of time necessary for a team to develop ECGNs has never been examined. Nor has the individual level traits necessary for ECGN development. When team members have worked together over time, they begin to develop relationships with one another and build trust in one another. Time on team might be an important component on the development of

ECGNs, but it should be examined in conjunction with relationship and trust scales in order to assess the amount of variance each of these items account for.

These norms have been shown to be important for team performance (Druskat, Messer, Koman, & Wolff, 2003), but the question of "why" remains. Wolff and Druskat (forthcoming), theorize that the ECGNs develop social capital among members, which in turn affects the task processes on the team, which untimely effects performance. Research should examine ECGNs in conjunction with social capital and task processes in order to assess why ECGNs are important for team performance.

With results indicating that team leader's EI affects ECGN development, it could be reasoned that individual group member EI would also effect ECGN development. Conversely, since team leader EI affects ECGN development, research should examine if leader/mentor EI affects individual EI development.

Lastly, this research was conducted on a military sample. While the military has been utilized in research for centuries, the teams in the military cannot be assumed to be representative of teams in industry. Future research should examine the relationship between team leader EI, group ECGNs, and group effectiveness with a sample comprised of industry teams.

Implications for practice

The implications of the findings presented in this study are important for future research as well as for practice. Information that will help corporations improve performance is always desired. This research provides implications for practice in three

primary areas: 1) development and sustainment of emotionally intelligent managers and leaders, 2) development and sustainment of emotionally intelligent work groups, and 3) establishment of organizational leaders at all levels to foster and support emotional competence throughout the organization.

Development of emotionally competent managers

Up to now, it has been widely known that individual EI affected individual performance, this research has shown that individual EI also affects team performance through the development of emotionally competent group norms. In light of these findings, corporations should be actively developing the emotional intelligence of their managers and leaders. This can be accomplished through multiple modalities including 360 degree feedback and executive coaching. Thus, this research as well as previous research would suggest that employing leaders with developed emotional competence will increase both their own personal performance (Boyatzis, 1982; George, 2000; Goleman, 1998) as well as that of the teams they lead.

Development of emotionally competent work groups

With corporations always keeping a mindful watch on the bottom line, strategies to keep and sustain effective work teams are desired (Farren, 1999). This research supports the strategy of developing emotionally competent group norms throughout an organization to attain and sustain high performing work teams. Additionally, this research suggests that one means through which organizations can develop emotionally competent groups is to develop or hire emotionally competent managers who

purposefully focus on developing ECGNs. Other precursors to ECGNs should be assessed in future research and incorporated into practice.

Establishment of organizational leaders to foster an emotionally competent environment throughout the organization

Lastly, this research has indicated that managers affect the norms that are developed on the teams they lead. The relationship of a manager or leader affecting the group they lead was also found in previous research (Schein, 1992; Dickson, et al., 2001). The present research supported the notion of a manager affecting the team they lead by examining one level of an organization. One could conclude that the same relationship would be present at all levels of the organization. If the president of an organization was emotionally competent then they would develop emotionally competent group norms on the team of executive managers they lead. In turn, each individual on the executive management team would influence the development of ECGNs on the teams they lead. The cycle would continue. Thus, in addition to developing emotionally competent first line leaders, organizations should develop emotionally competent executive leaders. In sum, this research indicates that industry should work towards developing both, emotionally competent leaders as well as emotionally competent norms in their teams.

References

Ancona, D.G., & Caldwell, D. F. (1992). Bridging the boundary: External activity and performance in organizational teams. *Administrative Science Quarterly, 37*, 634-665.

Appelbaum, S.H., Abdallah, C., Shapiro, B.T. (1999). The self-directed team, A Conflict Resolution Analysis. *Team Performance Management*, 5, 2, 60-77.

Arbuckle, J., & Wothke, W. (1999). Amos 4.0 User's Guide. Chicago: Smallwaters Inc.

Argote, L., (1989). Agreement About Norms and Work-Unit Effectiveness: Evidence From the Field. *Basic and Applied Social Psychology*, 10 (2), 131-140.

Arrow, H., McGrath, J. E., & Berdahl, J. L. (2000). Small groups as complex systems: Formation, coordination, development, and adaptation. Thousand Oaks, CA: Sage.

Ashkanasy, N.M., Wilderom, C.P.M., & Peterson, M.F (2000). Handbook of Organizational Culture and Climate. Thousand Oaks, CA: Sage.

Bain, P.G., Mann, L., Pirola-Merlo, A. (2001). The innovation imperative, The Relationships Between Team Climate, Innovation, and Performance in Research and Development Teams, *Small Group Research*, 32, 1, 55-73.

Bar-on, R. (1997). The Emotional Intelligence Inventory (EQ-I): Technical manual. Toronto: Multi-Health Systems.

Bar-on, R., & Parker, J.D.A. (eds.) (2000). Handbook of emotional intelligence. San Francisco: Jossey-Bass.

Barsade, S.G., & Gibson, D.E. (1998). Group Emotion: A View from Top and Bottom. In D.H. Gruenfeld (Ed.), *Research on Managing Groups and Teams* (pp. 81-102). Stanford, CT: Jai Press.

Bass, B.M. (1990) Handbook of Leadership: Theory, Research, and Managerial Applications, 3rd edn. New York: The Free Press.

Bass, B.M. & Avolio, B.J. (1993). Transformational Leadership: A Response to Critiques, in M.M. Chemers and R. Ayman (eds) Leadership Theory and Research: Perspectives and Directions, p. 49-79. New York: Academic Press.

Boyatzis, R.E. (1982). The Competent Manager, A model for Effective Performance. New York: John Wiley & Sons.

Boyatzis, R.E., Goleman, D., & Rhee, K.S. (2000). Clustering Competence in Emotional Intelligence, In. Bar-on & Parker (Eds.) Handbook of Emotional Intelligence, San Francisco: Jossey-Bass.

Boyatzis, R., Stubbs, E.C., Taylor, S.N., (2002) Competency development through an integrated MBA program, a longitudinal examination. *Academy of Management Learning and Education Journal*, (1 (1), 150-162

Capowski, G. (1994). Anatomy of a leader: where are the leaders tomorrow?. *Management Review*, 83, 10-17.

Cavallo, K. & Brienza, D. (2002). Emotional Competence and leadership excellence at Johnson & Johnson: The emotional intelligence and leadership study. *Paper downloaded from* http://www.eiconsortium.org/ .

Chatman, J.A., Polzer, J.T., Barsade, S.G., Neale, M.A. (1998). Being different Yet feeling Similar: The influence of demographic composition and organizational culture on work processes and outcomes. *Administrative Science Quarterly*, 43, 749-780.

Cohen, S.G., & Bailey, D.W. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management, 23*(3), 239-290.

Cohen, S.G., Chang, L., & Ledford, G.E. (1997). A hierarchical construct of self-management leadership and its relationship to quality of work life and perceived group effectiveness. *Personnel Psychology*, 50, 275-308.

Conger, J.A. (1999). Charismatic and transformational leadership in organizations: An insider's perspective on these developing streams of research. *Leadership Quarterly*, 10 (2), 145-179

Ciarrochi, J.V., Chan, A.Y.C., Caputi, P. (2000). A Critical evaluation of the Emotional Intelligence Construct, Personality and Individual Differences, 28, 539-561.

Davies, M., Stankov, L., Roberts, R.D. (1998). Emotional Intelligence: In Search of an Elusive Construct, *Journal of Personality and Social Psychology*, 75, 4, 989-1015.

Dickson, M.W., Smith, D.B., Grojean, M.W., Ehrhart, M. (2001). An organizational climate regarding ethics: the outcome of leader values and the practices that reflect them. *The Leadership Quarterly*, 12, 197-217

Druskat, V. U. (1996). A team competency study of self-managed manufacturing teams. Unpublished Dissertation, Boston University.

Druskat, V.U. (1996). Team-level competencies in superior self-managing manufacturing teams. Paper presented at the Annual Meeting of the Academy of Management, Cincinnati.

Druskat, V.U., Wheeler, J.V. (2001). Managing from the boundary: The effective leadership of self-managing work teams, Academy of Management Proceedings, Paper presented at the annual Academy of Management Meeting, Washington D.C.

Druskat, V.U., & Wolff, S.B. (1999). The link between emotions and team effectiveness: How teams engage and build effective task processes. Paper appeared in the 1999 Academy of Management Best Paper Proceedings, Organizational Behavior Division.

Druskat, V.U., & Wolff, S.B. (2001a). Building the emotional intelligence of groups. *Harvard Business Review, 79*(3), 81-90.

Druskat, V.U., & Wolff, S.B. (2001b). Group Emotional Competence and its influence on group effectiveness. In C. Cherniss & E. Goleman (Eds.) *Emotional Competence in Organizations* (pp. 132-155). San Francisco: Jossey-Bass.

Druskat, V. U., Wolff, S. B., Koman, E. C.S., & Messer, T.E. (2003, August) Emotionally competent group norms and group effectiveness. Paper presented at the Annual Academy of Management Conference, Seattle, Wa.

Dulewicz, V., Higgs, M. (2000). Emotional Intelligence, A review and evaluation study. *Journal of Managerial Psychology*, 15, 4, 341-372.

Dulewicz, V., Higgs, M. (2002). Emotional Intelligence: Can it be measured reliably and validly using competency data?, In, Higgs, M. and Dulewicz, V. Making sense of emotional intelligence. London: ASE

Earley, P.C. (1999). Playing follow the leader: Status-determining traits in relation to collective efficacy across cultures. *Organizational Behavior and Human Decision Processes, 80*, 192-212.

Edmondson, A. (1999). A Safe Harbor: Social Psychological conditions enabling boundary spanning in work teams. In, Wageman, R. (Ed) Research on Managing Groups and Teams: Groups in context, 2, 179-199, JAI Press.

Ekman, P. (1984). Expression and the nature of emotion. In K. Scherer & P. Ekman (Eds.), *Approaches to emotion* (pp. 319-344). Hillsdale, NJ: Earlbam.

Farnham, A. (1996). Are you smart enough to keep your job?, Fortune Magazine, January 15, 1996.

Farren, C. (1999). A smart team makes the difference. *The Human Resource Professional, 12* (1).

Feldman, D.C. (1984). The development and enforcement of group norms. *Academy of Management Review, 9*, 47-53.

Fisher, S.G., Hunter, T.A., Macosson, W.D.K. (1997) Team or Group: Managers' Perceptions of the differences. *Journal of Managerial Psychology*, 12, 4, 232-242

Folkman, S., & Lazarus, R.S. (1988). Coping as a mediator of emotion. Journal of *Personality and Social Psychology*, 54, 466-475.

Forgas, J.P. (1990). Affective influences on individual and group judgements. *European Journal of Social Psychology, 20*, 441-453.

Gabriel, Y., Griffiths, D.S. (2002). Emotion, learning and organizing, *The learning organization*, 9, 5, 214-221

Gardner, H. (1983). Frames of mind: The theory of multiple intelligences. New York: Basic Books.

Gardner, L., Stough, C. (2002). Examining the relationship between leadership and emotional intelligence in senior level managers, *Leadership and Organizational Development Journal*, 23, 2, 68-78.

George, J.M. (1990). Personality, affect, and behavior in groups. *Journal of Applied Psychology, 75*(2), 107-116.

George, J.M. (1995). Leader positive mood and group performance: The case of customer service. *Journal of Applied Social Psychology*, 1995, 25, 778-94.

George, J.M. (2000). Emotions and leadership: The role of emotional intelligence, *Human Relations*, 53, 8, 1027-1055.

George, J.M. & Bettenhausen, K. (1990). Understanding prosocial behavior, sales performance, and turnover: A group level analysis in a service context. *Journal of Applied Psychology*, 75, 698-709.

Goleman, D. (1995). Emotional Intelligence, Why it can matter more than IQ. New York: Bantam Books.

Goleman, D. (1998). Working with Emotional Intelligence, New York: Bantam Books.

Goleman, D. (2001). An EI-Based Theory of Performance, In. Cherniss, C. and Goleman, D. The Emotionally Intelligent Workplace, San Francisco: Jossey-Bass

Goleman, D. (1995). *Emotional Intelligence: Why it can matter more than IQ*. New York: Bantam Books.

Goleman, D., Boyatzis, R., & McKee, A. (Winter, 2002). The Emotional Reality of Teams. *Journal of Organizational Excellence,* 55-65.

Goodman, P.S. (1979). *Assessing organizational change: The Rushton quality of work experiment.* New York: Wiley.

Hackman, J.R.(1987). The design of work teams. In J.W. Lorsch (Ed.), *Handbook of organizational behavior* (pp. 315-342). Englewood Cliffs: NJ: Prentice-Hall.

Hackman, J, R. (1999). Thinking differently about context. In, Wageman, R. (Ed) Research on Managing Groups and Teams: Groups in context, 2, 233-247, JAI Press.

Hamme, C. (2003). Group Emotional Intelligence, The Research and Development of an Assessment Instrument. Unpublished dissertation, Rutgers State University of New Jersey.

Harari, O. (1995). The successful manager in the new business world. *Management Review*, 84, 10-12.

Hiokawa, R.Y., DeGooyer, D., Valde, K. (2000). Using Narratives to Study Task Group Effectiveness. *Small Group Research*, 31, 5, 573-591.

Hochschild, A.R. (1979). Emotion work, feeling rules, and social structure. *American Journal of Sociology*, 85, 551-575

Hochschild, A.R. (1983). *The managed heart: Commercialization of human feelings.* Berkeley: University of California Press.

Holahan, C.K., & Sears, R.R. (1995). The gifted group in later maturity. Stanford, CA: Stanford University Press.

Holmer, L.L. (1994). Developing Emotional Capacity and Organizational Health, In, Kilmann, R.H., and I. Kilmann, I. and Associates (Eds.) Managing Ego Energy (p. 47-72) San Francisco: Jossey-Bass

Humphrey, R.H. (2002). The many faces of emotional leadership, *The leadership quarterly*, 13, 493-504.

Izard, C.E., Buechler, S, (1980) Aspects of Consciousness and Personality in Terms of Differential Emotions Theory, : Pluchik, R. and Kellerman, H. (Eds). *Emotion: Theory, Research and Experience*, V1, Academic Press, New York, 165-187.

Izard, C.E. (1991). The Psychology of Emotions, New York: Plenum Press

Jehn, K. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly*, 40 (2): 245-282.

Kanter, R.M. (1993). *Men and Women of the Corporation*. Basic Books, New York.

Kelly, J.R., & Barsade, S.G. (2001). Mood and Emotions in Small Groups and Work Teams. *Organizational Behavior and Human Decision Process, 86*(1), 99-130.

Kemper, T. D. (1978). *A social interactional theory of emotions*. New York: John Wiley and Sons.

Kimberly, J.R. (1980). The life cycle analogy and the study of organization: introduction. In : J.R. Komberly, & R.H. Miles (Eds.), *The organizational life cycle* (pp.1-17). San Francisco: Jossey-Bass.

Kirkman, B.L., Shapiro, D.L. (2001). The impact of team members' cultural values on productivity, cooperation, and empowerment in self-managing work teams. *Journal of cross-cultural psychology*, 32 (5), 597-617.

Koene, B.A.S., Vogelaar, A.L.W., Soeters, J.L. (2002). Leadership effects on organizational climate and financial performance: Local leadership effect in chain organizations. *The Leadership Quarterly*, 13, 193-215.

Kotter, J.P. (1990). A force for change: How leadership differs from management. Free Press: New York.

Kunda, G. (1992). *Engineering culture: Control and commitment in a high-tech corporation*. Philadelphia: Temple University Press.

Langfred, C.W. (2000). Work-Group Design and Autonomy. A Field Study of the Interaction Between Task Interdependence and Group Autonomy. *Small Group Research 3*(1), 54-70.

Lawler, E. E. (1998). *Strategies for high performance organizations*. San Francisco: Jossey-Bass.

Lazarus, R.S. (1999). *Stress and emotions: A new synthesis*. New York: Springer.

Leeper, R.W. (1948). A motivational Theory of Emotions to Replace "Emotions as Disorganized Response" Psychological Review, 55, 5-21.

Levy, R. I. (1984) Emotion, knowing, and culture. In R. A. Sweder & R.A. LeVine (Eds.), *Culture theory: Essays on mind, self, and emotion* (pp. 214-237). Cambridge: Cambridge University Press.

Litwin, G.H. & Stringer, R.A. (1974). *Motivation and Organizational Climate, 3rd Ed.* Harvard University Press, Boston.

Macaleer, W.D., Shannon, J.B. (2002). Emotional Intelligence: How does it affect Leadership?, Published online in Wiley InterScience (ww.interscience.wiley.com). DOI 10.1002/ert.10047, Wiley Periodicals, Inc.

Mandler, G. (1975) Mind and Emotion, Wiley, New York, New York

Manz, C.C., & Sims, H.P., Jr. (1987). Leading workers to lead themselves: The external leadership of self-managing work teams. Administrative Science Quarterly, 32, 106-128.

Matthews, G., Zeidner, M., Roberts, R.D. (2002). Emotional Intelligence, Science and Myth, Cambridge, MIT Press.

McColl-Kennedy, J.R. & Anderson, R.D (2002). Impact of leadership style and emotions on subordinate performance.*The leadership Quarterly*, 13, 5, 545-559

McClelland, D.C. (1973). Testing for competence rather than for "intelligence" *American Psychologist*, 28, 1-14.

McClelland, D.C. (1975). *Power: The inner experience*. New York: Irvington

McClelland, D.C. (1998). Identifying competencies with behavioral-event interviews. *Psychological Sciences*, 9 (5), 331-340

McClelland, D.C. , & Boyatzis, R.E. (1982). Leadership Motive Pattern and Long-Term Success in Management. Journal of Applied Psychology, 67 (6Z), 737-743.

Morgan, B.B., Jr., Glickman, A.S., Woodard, E.A., Blaiwes, A., & Salas, E. (1986). Measurement of team behaviors in a Navy Environment (NTSC Report, NO. 86-014). Orlando, FL: Naval Training Systems Center.

Orasanu, J. M. & Backer, P. (1996). Stress and military performance. In, Driskell, James E. (Ed); Salas, Eduardo (Ed). (1996). Stress and human performance. Series in applied psychology. (pp. 89-125). Hillsdale, NJ, US: Lawrence Erlbaum Associates.

Paglis, L.L., & Green, S.G. (2002). Leadership self-efficacy and managers' motivation for leading change, *Journal of Organizational Behavior,* 23, 215-235.

Pilling, B. K., & Eroglu, S. (1994). An empirical examination of the impact of salesperson empathy and professionalism and merchandise salability on retail buyers' evaluations. Journal of Personal Selling and Sales Management, 14 (1), 55-58.

Pirola-Merlo, A., Hartel, C., Mann, L., Hirst, G. (2002). How leaders influence the impact of affective events on team climate and performance in R&D teams, *The leadership quarterly,* 13, 561-581.

Plutchik, R. (1980). A general Psychoevolutionary Theory of Emotion, in: Pluchik, R. and Kellerman, H. (Eds). *Emotion: Theory, Research and Experience,* V1, Academic Press, New York, pp 3-33.

Rafaeli, A., & Sutton, R.I. (1987). Expression of emotion as part of the work role. *Academy of Management Review*, 12, 23-37

Rafaeli, A., & Sutton, R.I. (1989). The expression of emotion in organizational life. In B.M. Staw & L. Cummings (Eds.), *Research in organizational Behavior* (Vol. 11, pp. 1-42). Greenwich, CT: JAI Press.

Rafaeli, A., Worline, M. (2001). Individual emotion in work organizations, *Social Science Information,* 40 (1), 95-123

Rousseau, D.M. (1985). Issues of level in organizational research: Multilevel and cross-level perspectives. In L.L. Cummings, B Straw (Eds.), *Research in organizational behavior* (Vol. 7, pp. 1-38). Greenwich, CT: JAI Press.

Saarni, C. (1990). Emotional Competence: How emotions and relationships become integrated, Nebraska Symposium on Motivation 1998, 36, Lincoln and London, University of Nebraska Press.

Saks, A.M. (1995). Longitudinal field investigation of the moderating and mediating effects of self-efficacy on the relationship between training and newcomer adjustment. *Journal of Applied Psychology*, 80, 211-225.

Sala, F. (2002). Emotional Competence Inventory (ECI), Technical Manual. Hay Group, McCLelland Center for Research and Innovation.

Salovey, P., Mayer, J.D. (1990). Emotional Intelligence. *Imagination, Cognition and Personality*, 9, 3, 185-211

Salovey, P., Bedell, P.T., Detweiler, J.B., & Mayer, J.E. (2000). Current Directions in Emotional Intelligence Research. In M. Lewis & J.M. Haviland-Jones (Eds.), *Handbook of Emotions* (pp. 504-517). New York: The Guildford Press.

Schaffer, L.F., Gilmer, B., Schoen, M. (1940). *Psychology*, Harper & Brothers, New York, pp. xii, 521

Schein, E. (1985). *Organizational culture and leadership*. San Francisco: Jossey-Bass.

Schein, E. (1992). *Organizational culture and leadership* (2md ed.). San Francisco: Jossey-Bass.

Schwartz, T. (2000). How do you feel? *FastCompany*, 35, June

Shamir, B. (1992) Attribution of Influence and Charisma to the Leader: The Romance of Leadership Revisited, *Journal of Applied Social Psychology*, 22, 5, 386-407.

Shamir, B., House, R., & Arthur, M.B. (1993). The motivation effects of charismatic leadership: A self-concept based theory. *Organizational Science*, 4, 584.

Simon, H.A., (1982) Comments, in Affect and Cognition, M.S. Clark and S.T. Fiske (Eds), Erlbaum, Hillsdale, New Jersey, 333-342.

Sivasubramaniam, N., Murry, W.D., Avolio, B.J., Jung, D.I. (2002). A longitudinal model of the effects of team leadership and group potency on group performance, *Group and Organizational Management*, 27, 1, 66-96.

Smith-Jentsch, K., Salas, E., & Brannick, M.T. (2001). To transfer or not to transfer? Investigating the combined effects of trainee characteristics, team leader support and team climate. *Journal of Applied Psychology*, 86, 2, 279-292.

Solomon, R. C. (1984). *Getting Angry: The Jamesian theory of emotion in anthropology.* In R. A. Sweder & R.A. LeVine (Eds.), *Culture theory: Essays on mind, self, and emotion* (pp. 238-254). Cambridge: Cambridge University Press.

Spencer, L.M. & Spencer, S.M. (1993). Competence at work: Models for superior performance. New York: Wiley.

Steiner, I.D. (1972). Group Process and Productivity. Academic Press, New York

Stetzer, A., Morgeson, F.P., Anderson, E.L. (1997). Organizational Climate and Ineffectiveness: Evidence from 25 Outdoor Work Crew Divisions, *Journal of Quality Management*, 2, 2, 251-265.

Stubbs, E.C. & Messer, T.E. (August, 2002). Team Effectiveness: Assessing the Impact of Group Emotional Competency Norms and the Moderating Role of Task Interdependence, Unpublished Manuscript, Case Western Reserve University.

Sundstrom, E., DeMeuse, K.P., & Futrell, D. (1990). Work Teams: Applications and effectiveness. *American Psychologist, 45*(2), 120-133.

Tabachnick, B. G., & Fidell, L. S. (2001). Using Multivariate Statistics (4th ed.). Boston: Allyn and Bacon.

Thorndike, E.L. (1920). Intelligence and its uses. *Harper's Magazine*, 140, 227-235.

Tomkins, S.S. (1962) Affect, Imagery, and Consciousness, Vol. 1: The Positive Affects, Springer, New York.

Van Maanen, J., & Kunda, G. (1989). Real feelings: Emotional expression and organizational culture. In B.M. Staw & L.L. Cummings (Eds), *Research in organizational behavior* (Vol. 11, pp. 43-103). Greenwich, CT: JAI Press Inc.

Vogt, W.P. (1999). *Dictionary of Statistics and Methodology*. Thousand Oaks, CA: Sage.

Wageman, R. (1997). Critical Success Factors for Creating Superb Self-Managing Teams. *American Management Association, Organizational Dynamics,* 26, 1, 49-61

Wageman, R., & Baker, G. (1997). Incentives and cooperation: the joint effects of task and reward interdependence on group performance. *Journal of organizational behavior, 18*, 139-158.

Wageman, R. (1999). How leaders foster self-managing team effectiveness: Design choices vs. hands-on coaching. Unpublished manuscript, Graduate School of Business, Columbia University.

Watkin, C. (2000). Developing Emotional Intelligence, *International Journal of Selection and Assessmen*t, 8, 2, 89-92.

Weber, M. (1947). *The theory of social and economic organizations*, New York: Free Press.

Williams, D. (1994). Leadership for the 21st century: Life insurance leadership study. Boston: Hay Group.

Wolff, S.B., & Druskat, V.U. (1999). Toward a Socio-Emotional Theory of Work Group Effectiveness. Paper appeared in the 1999 Academy of Management Best Paper Proceedings, Organizational Behavior Division.

Wolff, S. B., & Druskat, V. U. (2003). Toward a socioemotional theory of work group effectiveness. Manuscript submitted for publication.

Wolff, S.B., Druskat, V.U., Koman, E. C.S., & Messer, T.E. (2005). The link between group emotional competence and group effectiveness. In, Druskat, V. U., Sala, F. & Mount, G. (forthcoming in 2005). Linking emotional intelligence and performance at work: Current research evidence with individuals and groups. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Young, P.T., (1936) *Motivation of Behavior*, John Wiley & Sons, New York, New York.

Yukl, G.A. (1989). *Leadership in Organizations*, 2nd edn. Englewood Cliffs, NJ: Prentice-Hall.

Zaccaro, S. J., Gualtieri, J., & Minionis, D. (1995). Task cohesion as a facilitator of team decision making under temporal urgency. *Military Psychology*, 7(2), 77-93.

Appendix 1.

ECGN Scales (sample questions only)

Norm	Questions
Interpersonal Understanding	On our team we make an effort to understand one another's attitudes and views
	We know which tasks are best suited to the skills and interests of which members
Confronting members who break norms	
	If a member behaves in a way that makes the rest of us uncomfortable, we confront him or her directly
	If someone isn't pulling his or her weight in our group, we ignore it **(R)**
Caring Behavior	
	In our group we express our appreciation for team member effort
	We let members know that we value their contributions

Team Self Evaluation	In our group, we often discuss what is helping or hurting our performance
	We try to be aware of our group's mood and how it is affecting our work
Creating resources for working with emotion	In our meetings, we try to save time and talk about frustrations or other feelings in the group
	When there is tension in our group, we acknowledge or talk about it
Creating an affirmative environment	When something goes wrong, we look at it as a challenge rather than an obstacle
	A positive outlook is encouraged in our group
Proactive problem	

solving	
	Our group comes up with ways to solve problems that others might say are out of our control
	We take responsibility for getting our problems solved
Organizational Understanding	
	We take the time to figure out why our boss makes certain decisions
	We understand how our work contributes to the company's goals
Building External Relationships	Helping other teams often slows us down so we try not to get involved in their problems **(R)**
	We build relationships with groups that can help make a difference in our performance

Appendix 2.

Case Western Reserve University Individual Consent

You are being asked to be in a research study of team and leader effectiveness conducted by Case Western Reserve University. The purpose of this study is to learn about the factors that support effective team functioning. You have been selected to participate because you are a member of an aircrew or maintenance team at (Squadron name).

If you agree to be in this study, we ask that you complete a survey. The survey consists of questions about team and leader behavior and will take approximately 20 minutes to complete.

Responses to the questions and any records of the study will be kept completely confidential. In any sort of report we might publish, we will not include any information that will make it possible to identify a participant. Research records will be kept in a locked file and only the researchers will have access to the records.

Your participation in the study is voluntary and may be withdrawn at any time without any negative consequences. Participation in the study does not carry any risks or benefits to you.

The researchers conducting this study are Elizabeth Stubbs Koman and Dr. Richard Boyatzis. You may ask any questions you have now. If you have questions later, you may contact them at 757-482-9735. If you would like to talk with someone other than the researchers about the study or related concerns, please contact Case Western Reserve University's Office of Research Administration at 216-368-4150.

You will receive a copy of this consent from for your records.

Thank you for participating!

Statement of Consent

I have read the above information. I have received answers to questions I have asked. I consent to participate in this study.

(Name) (Signature) (Date)

Appendix 3.

TEAM SURVEY

This survey is part of a study being conducted by Case Western Reserve University to examine the team competencies that impact team effectiveness. Completing this form will give us information about the effectiveness of the teams with which you are familiar.

Please complete a set of the following items for each of the teams you know well enough to rate. Write the name of the team in the space provided.

Feel free to jot comments in the margin. Your response to the survey will be kept completely confidential.

Thank you for your participation.

Aircrew/ Maintenance team: _____

		Poor			**Average**			**Outstanding**
1.	Efficiency in getting things done.	1	2	3	4	5	6	7
2.	Quality of their work.	1	2	3	4	5	6	7
3.	Ability to be self directed.	1	2	3	4	5	6	7
4.	Performance against all other teams in the division that perform similar work.	1	2	3	4	5	6	7
5.	Ability to continue working together effectively in the future.	1	2	3	4	5	6	7