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# AN EXAMINATION OF THE RELATIONSHIP BETWEEN EMOTIONAL INTELLIGENCE, LEADERSHIP STYLE AND PERCEIVED LEADERSHIP EFFECTIVENESS

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# INTRODUCTION

Many organizations today need to change rapidly to maintain their competitive edge. Rapid change requires that an organization has employees and leaders, who are adaptive, work effectively, constantly improve systems and processes, are customer focused, and who share the need to make a profit. The continuous environment of turmoil and change has been coined the "permanent white waters" of modern life (Vaill, 1996). Leadership is a key element in driving and managing these "white waters". One only needs to look at the recent corporate scandals such as Enron and WorldCom and a corporate success such as Dell Computer to see that leadership makes a difference. Effective leaders are those that get results within timeframes that are considered appropriate for their industries and stakeholders (Goleman, 2000). Examples include Chrysler Corporation and their recovery under Lee Iacocca, Gillette under the leadership of Colman Mockler and Kimberly-Clark during the years of Darwin Smith's tenure (Collins, J., 2001).

> Great leaders move us. They ignite our passion and inspire the best in us. When we try to explain why they are so effective, we speak of strategy, vision, or powerful ideas. But the reality is much more primal: Great leadership works through the emotions (Goleman, Boyatzis, McKee, 2002, p. 3).

Emotional Intelligence has been identified, through the popular press and some researchers as that critical element needed for effective leadership. Goleman (1998b, p. 94) has said that, "the most effective leaders are alike in one crucial way; they all have a

high degree of what has come to be known as emotional intelligence." He goes on to say that emotional intelligence is the "sine qua non" (1998a, p. 94) of leadership. Others have said, "By now, most executives have accepted that emotional intelligence is as critical as IQ to an individual's effectiveness" (Druskat & Wolff, 2001, p.81). The challenge with these statements is twofold, (1) the study of leadership and what makes leaders effective has been found to be much more complicated than a single dimension like emotional intelligence; and (2) organizations have incorporated many of these emotional intelligence beliefs into their work systems and performance expectations without it being shown that it truly can accomplish what proponents are claiming. The study of leadership, its effectiveness and its impact on organizational performance is a key interest to Human Resource Development (HRD) scholars (Hamlin, 2003; Holton & Lynham, 2000; Kuchinke, 2000; Zehner & Holton III, 2003).

HRD has been defined multiple ways, but when looking at it through an organizational performance lens, one would define it as "a process of developing and or unleashing human expertise through organization development and personnel training and development for the purpose of improving performance" (Swanson, 1995, p. 208). The development or unleashing of expertise is a critical component for HRD. Expertise has been defined as "displayed behavior within a specialized domain and/or related domain in the form of consistently demonstrated actions of an individual that are both optimally efficient in their execution and effective in their results" (Herling, 2000, p. 20). Emotional intelligence and its relationship to leadership expertise is an area needing further research in the field of HRD.

### *Background and Purpose of the Study*

The intention of this study is to broaden the knowledge base of HRD through the investigation of emotional intelligence, leadership style and the effectiveness of that leadership. "One of the most universal cravings of our time is a hunger for compelling and creative leadership" (Burns, 1978, p.1). Even so, leadership is not easily defined. In fact, "there are almost as many different definitions of leadership as there are persons who have attempted to define the concept" (Stogdill, 1974, p. 259). The scientific study of leadership did not begin until the twentieth century. Much of its focus has been on the determinants of leadership effectiveness (Yukl, 1998). The social sciences have looked at leadership through behaviors, traits, abilities, situational influences and sources of power. Many questions have been asked about why some people emerge as leaders and others don't, and how these leaders act, with a key concern around leadership effectiveness (Yukl, 1998).

Beginning in the 1980's, many of the conceptions of leadership recognized the importance of emotions as a basis of influence (Yukl, 1998). It is those emotional, value-based aspects of leadership that are believed to influence the achievements of groups and organizations. Much of this leadership research, with its recognition on the importance of emotion, concentrated on the characteristics and effects of charismatic and transformational leadership (Bass, 1985; Kanungo, 1998; Tichy & Devanna, 1990).

Burns (1978) developed the original idea of transformational leadership. He defined it as a process in which "leaders and followers raise one another to higher levels of morality and motivation" (p. 20). This definition was further refined by Bass (1985)

who looked at the theory as two distinct types of leadership processes, the first being transactional leadership and the second being transformational leadership. Though he defined these leadership processes as distinct, Bass did recognize that the same leader might use both types of leadership at different times in different situations. It was transformational leaders however, who would influence followers by arousing strong emotions and identification with the leader (Yukl, 1998).

Numerous studies have examined the correlation between transformational and transactional leadership styles and various criteria of leadership effectiveness (e.g., Avolio & Howell, 1992; Yammarino & Bass, 1990). A meta-analysis of results from 39 studies found that three transformational leadership behaviors (charisma, individualized consideration, intellectual stimulation) were related to leadership effectiveness in most studies (Lowe, Kroeck & Sivasubramaniam, 1996). The transformational leadership behaviors correlated more strongly with leadership effectiveness than did the transactional leadership behaviors. Utilizing the connection of emotion and leadership, Sosik and Megerian (1999) studied the relationship between transformational leadership behavior, emotional intelligence and leader effectiveness. They collected data from 63 managers who responded about their transformational leadership behavior and emotional intelligence, 192 subordinates who rated their manager's transformational leadership behavior and performance outcomes and 63 superiors who rated managerial performance. They found that categorizations of self-awareness were correlated between emotional intelligence of leadership and leadership behavior. Subordinate ratings of transformational leadership behavior were positively

related to those leaders categorized as self-aware. They concluded "managers who maintain self-awareness (self-other rating agreement) possess more aspects of emotional intelligence and are rated as more effective by both superiors and subordinates than those who are not self-aware" (Sosik & Megerian, 1999, p. 386). This study explained the influence of several aspects of emotional intelligence on leader effectiveness.

The topic of emotional intelligence and its impact on organizations and its leaders, grew largely through the popular publications of Goleman's (1995) book titled *Emotional Intelligence* and his subsequent book *Working with Emotional Intelligence* (Goleman, 1998b). The interest in emotional intelligence continues today. The scholarly study of emotional intelligence began in the early 1990's when Salovey and Mayer (1990) first defined it. Since that early inception, there continues to be refinement, debate and dialogue around the topic of emotional intelligence in the research community. Practitioners have incorporated the concept of emotional intelligence into performance management systems and training and development programs as the result of the influence of the popular press and consultants. At this point in time, practices related to embracing emotional intelligence appear to be far ahead of what is actually known from the research and theory.

Researchers in the field of HRD have also looked at the role of emotions and emotional intelligence (Bryant, 2000; Callahan Fabian, 1999; Callahan & McCollum, 2002; Drodge & Murphy, 2002; Jordan & Troth, 2002; Landen, 2002; Leeamornsiri & Schwindt, 2002;Opengart, 2003; Opengart & Bierma, 2002; Short & Yorks, 2002;

Turnball, 2002; Weinberger, 2002a, 2002b; Wells & Callahan, 2002). The question asked by many of these authors is what role is emotions and/or emotional intelligence playing in the organization through change efforts, leadership effectiveness, training and organizational performance. Studies of leadership, its effectiveness and overall impact on improving performance are important to advancing the understanding in the field of HRD and its role in advancing the strategic capability of organizations.

### *Statement of the Problem*

The purpose of this study is to investigate the relationship between emotional intelligence, leadership style and leadership effectiveness. The problem is the recognition that while a significant amount of research on leadership exists (see Stogdill, 1974; Yukl, 1998; Yukl & VanFleet, 1992), the emotional intelligence research is comparatively thin and the relationship between leadership and emotional intelligence is smaller yet. What is most troubling is the notion is seen by many as critically important for leaders to be emotionally intelligent for organizational success without the scholarly support behind it. The major research questions are briefly stated as follows:

1. What is the relationship between the emotional intelligence of leaders and their leadership style?
2. What is the relationship between the emotional intelligence of leaders and their leadership effectiveness?

### *Significance of the Study*

The development of effective leaders is recognized as a high priority for business organizations. One only needs to look at some of the more popular recent publications in the areas of leadership and organizational success such as *Good to Great* (Collins, J., 2001) which speaks to those critical components for an organization to be "great", as defined in cumulative stock return as compared to the general market. The foundation of their model is that the right leadership is in place. *First, Break all the Rules* (Buckingham & Coffman, 1999), is a summary of a Gallup survey on what effective managers did differently and finally, *Results Based Leadership* (Ulrich, Zenger & Smallwood, 1999), which speaks to the importance of connecting leadership skills with real business results. All of these business books use "unconventional wisdom" as their foundation. They are challenging the status quo, and reinforce the notion that "leadership ranks among the most researched and debated topics in the organizational sciences" (George, 2000, p. 1028).

Goleman (1995; 1998a; 1998b; 2000) has made the case through his many writings that the key to a leader's effectiveness and success in an organization is his/her emotional intelligence. His premise also challenged conventional thinking, in that the emotions are important to consider in relation to one's effectiveness. Emotions and emotional intelligence are no longer considered taboo in the workplace today. And it is that, that provides the foundation for performance. Since the publication of *Emotional Intelligence* (Goleman, 1995), the business writings in this area have exploded. The scholarly support of the claims made in these books however is behind the business

leader's perceptions of the impact of high emotional intelligence on their effectiveness and success. The issue of leadership effectiveness is core to the field of HRD.

A better understanding of emotional intelligence and its relationship to leadership style and effectiveness can address the gaps currently existing in the literature today and provide a more informed link between theory and practice. This understanding can also better inform practitioners, and hence their leadership development programs, and staffing within their organizations. This study will contribute to these areas.

### *Limitations*

Leadership is a broad concept, with a wide variety of definitions and perspectives. There exist over 200 models of leadership with a wide variety of boundaries, concepts, construct validities, etc. (Bass & Stogdill, 1990). Though little agreement exists to what constitutes "leadership", it is a core area of interest for developers of human resources. This author believes that the limitation of using a broad construct like leadership is outweighed by the possibility of acquiring additional knowledge in this domain.

Utilizing the emotional intelligence construct is a second limitation of this study. A wide variety of definitions of this construct exist ranging from a very broad perspective inclusive of many personality characteristics, to a very narrow restrictive perspective. This area of research is relatively new (since the early 1990's), with most of the work to date, definitional in nature. Only very recently has the research moved into how the construct of emotional intelligence impacts individuals and their

performance. Within the area of emotional intelligence research, there exist few instruments to study it.

The Mayer Salovey Caruso Emotional Intelligence Test v2 (MSCEIT) is a third limitation of this study. This newly published instrument (2002) has not had wide testing in the research community. Consequently, its reported validities and reliabilities require ongoing investigation. It is however, the only emotional intelligence instrument that is performance based (Mayer, Salovey & Caruso, 2002). All other emotional intelligence tests are self-assessment inventories. Although this instrument is not yet widely researched, it is a promising tool for research into the area of emotional intelligence and by itself will add to the body of knowledge in this area.

To measure managers' leadership style and their leadership effectiveness, the Multifactor Leadership Questionnaire, MLQ5x (Bass & Avolio, 1995; 2000) was chosen. The MLQ5x (Bass & Avolio, 1995; 2000) has had its share of criticism and support, but is a widely used instrument in the area of leadership styles and leadership effectiveness. And this instrument has face validity within the organization studied, which provided critical support for this research to occur.

An additional limitation to this study is the use of a single organization. Though there are advantages to using a single organization due to its homogeneity and minimizing the impact of external validity concerns, there are disadvantages in that the results are not generalizable.

### *Background of the Field Setting*

A single international manufacturing organization headquartered in the Midwest was selected for this study. This organization is on the Fortune 1000 and has evolved over a hundred-year period. For confidentiality purposes, this organization will be referred to as CSW in this report. The author focused the study on the North American side of this organization. CSW has five manufacturing facilities in the Midwest, an extensive field sales and service network across the United States, along with various service centers in key cities. This organization had recently reorganized with a new executive team and had installed the first C.E.O. who was not a direct descendant (or spouse) of the founder within the past five years. CSW has recently undergone a transition. Historically, the CSW management team did not tolerate questioning of processes, policies, etc. from individual team members and they paid their employees on a merit-based pay system. The current CSW management team is attempting to create a culture where employees challenge the status quo, and look to outside market influences as part of their decision making process. In addition, the organization has moved to a performance based pay system. The executive team had selected leadership skills and emotional intelligence as two of their key competencies for performance measurement for their professional employees. CSW defined leadership skills to include: a) visionary, sees the bigger picture and longer-term impact of current initiatives; b) strategic, planner, creates a sense of common purpose; c) international, customer-focused business acumen; d) establishes a balanced set of measures for performance outcomes and marketplace successes; e) has the confidence, presence and

ability to inspire and motivate people; f) leads by example; g) coaches for growth and development. Emotional Intelligence was defined as: a) self-confident, understands own strengths and weaknesses and leverages them effectively; b) able to build credibility with people; c) is comfortable with ambiguity and changing environments; d) treats people fairly and with respect; e) has the ability to build and lead teams; f) actively engages in the process of learning for self and others. The investigation into the relationships between emotional intelligence and leadership style, therefore, was of keen interest to them. CSW employs about 2000 people in North America, with over 600 employees in various field sales and service positions.

Approximately 60% of CSW's North American employees were invited to participate in the study. The additional details of the selection process are located in Chapter 3. The study was restricted to the North American employees of CSW, who must use English in their day-to-day communications in order to minimize language barriers, or potential conflicts with instruments not in the native or primary language of the participant.

CSW had an interest in more clearly defining the performance and attributes of their leaders. Through work with an external consultant, the management team selected emotional intelligence as one of their leadership competencies and incorporated this concept into their performance management system. They believed this would be a key contributor to their leadership's success. The author was interested in evaluating the relationship between leadership style, effectiveness and emotional intelligence. These

dual interests provided the partnership for this study. The primary focus of this report is the results of the authors' area of interest.

### *Definition of Terms*

The following terms are generally defined to guide the reader through the literature review and the research methods section. More exact operational definitions of the core constructs and other dimensions of this study are provided in Chapters 2 and 3.

Manager. In this study, managers at various levels of the organization are involved. Although within this organization, some managers have no direct reports, for purposes of this study, managers are defined as those individuals who have direct supervisory responsibility. This ranges from front line supervisors to executive team members.

Emotional Intelligence. There are a wide variety of emotional intelligence definitions as Chapter 2 will provide, but the foundation of this study utilizes the Mayer and Salovey (1997) more restrictive definition. Emotional intelligence involves the ability to understand emotions in oneself and others, relate to others, and adapt emotionally to a changing environment and changing demands.

Transactional Leadership. Transactional leaders apply influence by setting clear goals, clarifying desired outcomes, providing feedback and exchanging rewards for accomplishments (Dvir, Eden, Avolio, Shamir, 2002). This is the basic, day-to-day leadership.

Transformational Leadership. Transformational leaders "exert additional influence by broadening and elevating followers' goals and providing them with confidence to perform beyond expectations specified in the implicit or explicit exchange agreement" (Dvir, Eden, Avolio, Shamir, 2002, p. 735). Transformational leaders exhibit charismatic behaviors, arouse dormant needs in their followers and motivate them to perform beyond baseline expectations.

Leadership Effectiveness. With no consistent performance criteria that could be applied to all managers in this study, the managers' effectiveness is evaluated through the eyes of the follower with a consistent set of questions from the MLQ5x.

## *Summary*

This chapter developed the rationale and the importance for the study of leadership and emotional intelligence, outlined the research questions, and addressed the significance of the study. Additionally, the field setting was described, the limitations of the study stated, and a high level list of definitions were provided that are used throughout the remainder of this report.

Chapter 2

# REVIEW OF LITERATURE AND HYPOTHESES

This chapter explores the relevant emotion and leadership literature to lay the foundation for this study. The general question under investigation is 'what is the relationship between emotional intelligence, leadership style, and leadership effectiveness?' This chapter reviews the research in emotional intelligence and its significance to human resource development (HRD). Secondly, the area of leadership and its associated literature is wide and deep. The literature that is more closely linked to the study at hand is reviewed, specifically the areas of charismatic leadership and transformational leadership.

## *Historical Perspective – Emotion and Intelligence*

Weinberger (2002b) provided a summary of the current state of research in the area of emotion work including emotional intelligence. This summary broke down the study of emotion from three disciplines; a) sociological domain; b) psychological domain and c) HRD. See Table 2-1.

The foundation of the study of emotional intelligence began in the early workings of the study of emotion and the study of intelligence. The initial research around the topic of emotion was in the sociological and psychological domains. Sociologically, the early researchers looked at such areas as emotional labor

Table 2-1

Study of Emotion from Three Disciplines

| | Sociological Domain | Psychological Domain | Human Resource Development |
|---|---|---|---|
| Research Interests | **Emotional Labor**<br>Hochshild (1979; 1983)<br>Van Maanen and Kunda (1989)<br>Rafaeli and Sutton (1987; 1990)<br>Morris and Feldman (1996)<br>Wharton (1993)<br><br>**Emotional Contagion**<br>Rafaeli and Sutton (1987)<br>Hatfield, Cacioppo, and Rapson (1994)<br>Verbeke (1997)<br>Doherty (1998)<br>Domagalski (1999)<br><br>**Feeling rules/emotion of work setting**<br>Goffman (1969)<br>Hochschild (1983)<br>Rafaeli and Sutton (1987)<br>Scheff (1990)<br><br>**Emotion and Rationality**<br>Fineman (1993; 1999)<br>Hearn (1993)<br>Putnam and Mumby (1993)<br>Ashforth and Humphrey (1995) | **Emotion and Motivation**<br>Pinder (1998)<br><br>**Empathy**<br>Mehrabian and Epstein (1972)<br><br>**Mood**<br>Mayer and Bremer (1985)<br>Mayer and Gaschke (1988)<br>Mayer, Mamby, and Volarth (1988)<br>George and Brief (1992)<br>**Affect and Mood**<br>Estrada, Isen and Young (1997)<br>Weiss and Cropanzao (1996)<br><br>**Emotion**<br>Plutchik (1984)<br>Mayer, DiPaolo, and Salovey (1990)<br>Damasio (1994)<br>Mayer and Geher (1996)<br><br>**Emotional Intelligence**<br>Mayer and Salovey (1993; 1997)<br>Mayer and Geher (1996)<br>Mayer and Salovey (1997)<br>Mayer, Salovey, and Caruso (1999)<br>Goleman (1995; 1998)<br>Bar-On (1995)<br>Cooper and Sawaf (1997)<br>Weisinger (1998) | **Various topics in emotion work**<br>Callahan Fabian (1999)<br>Callahan and McCollum (2002)<br>Turnball (2002)<br>Short and Yorks (2002)<br>Wells and Callahan (2002)<br><br>**Emotional Intelligence**<br>Jordan and Troth (2002)<br>Bryant (2000)<br>Weinberger (2002)<br>Opengart and Bierema (2002)<br>Leeamornsiri and Schwindt (2002) |

Source: Adapted from Weinberger, L. (2002)

(Hochschild 1979; 1983), emotional contagion (Rafaeli & Sutton, 1987), feeling rules (Goffman, 1969), and emotion and rationality (Fineman, 1993; 1999). Additionally, within the psychological realm, the areas of emotion and motivation (Pinder, 1998), empathy (Mehrabian & Epstein, 1972), mood (Mayer & Bremer, 1985), and emotion (Plutchik, 1984) were all researched.

The research around intelligence was also rich and diverse. Numerous definitions of intelligence emerged. Thorndike (1920) divided intelligent activity into three components: social intelligence, concrete intelligence, and abstract intelligence. Others defined intelligence as " the aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment" (Weschler, 1958, p. 10) or as a "finite set of independent abilities operating as a complex system" (Detterman, 1986, p. 57).

These two topics (intelligence and emotion) of research were undertaken independently until the early 1990's when 'emotional intelligence' was first defined (Salovey & Mayer, 1990). This was initially described as a "type of social intelligence that involves the ability to monitor one's own and others emotions, to discriminate among them, and to use the information to guide one's thinking and actions" (Salovey & Mayer, 1990, p. 189). The connection of emotion to intelligence was made through the social intelligence construct.

Social intelligence was first defined as "the ability to understand and manage men and women, boys and girls – to act wisely in human relations" (Thorndike, 1920, p. 228). A slightly different approach viewed social intelligence within the more

general theory of intelligence as "the mental processes and structures used to attain contextual success" (Sternberg, 1985, p. 330). The definition of multiple intelligences however (Gardner, 1983), provided the connection for Salovey and Mayer. Gardner defined the interpersonal and intrapersonal intelligences as:

> Interpersonal intelligence is the ability to understand other people: what motivates them, how they work, how to work cooperatively with them…..Intrapersonal Intelligence….is a correlative ability turned inward. It is a capacity to form an accurate, veridical model of oneself and to be able to use that model to operate effectively in life (p. 25).

Emotional intelligence is described as involving abilities that may be categorized into five domains: (a) self-awareness, (b) managing emotions, (c) motivating oneself, (d) empathy, and (e) handling relationships. It was this foundation that provided the impetus for the emotional intelligence work throughout the 1990's (Salovey & Mayer, 1990).

***Does Emotional Intelligence Exist?***

In 1990, Salovey and Mayer proposed the first framework of emotional intelligence. In 1993, they attempted to support their choice of the word "intelligence". Emotional intelligence as conceptualized by these authors included the verbal and nonverbal appraisal and expression of emotion, the regulation of emotion in the self and others, and the utilization of emotional content in problem solving. Although they could have labeled this construct emotional competence, they chose the word

intelligence to link their framework to the historical literature on intelligence. Mayer and Salovey (1993) argued that emotional intelligence is an ability and as such is probably related to general intelligence. It may have differences however, in terms of its mechanisms, such as emotionality and emotion management and its manifestations, such as greater verbal fluency in emotional domains. The Trait-Meta-Mood-Scale (TMMS) was devised to provide a reasonable operationalization of the aspects of the earlier definition (1990) of emotional intelligence (Salovey, Mayer, Goldman, Turvey and Palfai, 1995). This tool measured a three phase process: 1) attention to feelings; 2) clarity of feelings; and 3) mood repair. These three scales were created based on a factor analysis. Intercorrelations among the three factors were $\alpha = .86$, $\alpha = .88$ and $\alpha = .82$ respectively (Cronbach alpha). The theoretical structure of the TMMS was tested and correlations among other measures were evaluated. Salovey et al. concluded that the trait meta mood construct was helpful in understanding individual differences in people's reactions to changes in their feeling states and hence was a reasonable operationalizations of aspects of emotional intelligence.

The TMMS was used to survey 108 adults to assess their emotional intelligence, goal orientation, life satisfaction, and depression symptomatology (Martinez-Pons, 1997-98). The data was analyzed to test the construct validity of emotional intelligence as the three-component process assessed by the TMMS. In addition, it tested a hypothetical model regarding emotional intelligence and other aspects of personal functioning. Path analysis was used to test the sequential dependency among the attention, clarity and repair components of emotional intelligence and their hypothetical

model. Their findings provided further evidence of the construct validity of emotional intelligence as the three-phase process assessed by the TMMS. This study provided further support for the emotional intelligence construct (Martinez-Pons, 1997-98). Others however, stipulated that the emotional intelligence construct is narrower than was postulated (Davies, Stankov & Roberts, 1998). It was stated that in order for emotional intelligence to be a unique type of human ability it must: 1) have an adequate methodology for its assessment; 2) demonstrate partial (or complete) independence from other, seemingly analogous, concepts. Using three studies (total N = 530), the view that emotional intelligence should be included within the traditional cognitive abilities framework was explored. Each of the correlation coefficients, including a series of variables describing emotional intelligence, social intelligence, personality and cognitive ability variables was used. The magnitude of the correlation coefficients suggested that emotional intelligence might not be entirely distinct from personality constructs. The authors concluded that their correlations obtained failed to support Mayer and Salovey's (1990) hypothesis of the components of emotional intelligence as a set of conceptually interrelated skills. The emotion perception component, however, showed some promise and appeared to constitute an ability, but the balance of emotional intelligence, as postulated at this time, was not unique nor psychometrically sound. Fox and Spector (2000) also found that that the TMMS was a weak instrument, and that one of the serious weaknesses of the emotional construct was the lack of specific, measurable and operationalizations of its various components.

Further development occurred around the emotional intelligence construct and a different measure of emotional intelligence was created and tested on 346 participants (Schutte, Malouff, Hall, Haggert, Cooper, Golden & Dornheim, 1998). (218 women and 111 men, average age of 29.27, S.D. = 10.23) rated themselves on each of the 62 items using a five-point response scale. In addition, a number of participants completed other established scales assessing constructs theoretically related to emotional intelligence (Alexithymia, Affective Communications, Life Orientation). Their 33-item scale developed through factor analysis found good internal reliability with two different samples (Cronbach alpha $\alpha = .90$). In addition, the scale showed evidence of validity as the scores were related to eight of the nine measures predicted to be related to emotional intelligence. Using the Toronto Alexithymia Scale, they found that higher scores on the 33-item emotional intelligence scale were associated with less alexithymia ( $r(24) = -0.65$, $p<0.0001$). Utilizing the TMMS, they found that higher scores on the emotional intelligence scale were associated with greater attention to feelings ( $r(48) = 0.63$, $p <.0001$), greater clarity of feeling ( $r(47) = 0.52$, $p<.0001$), and more mood repair ( $r(47) = 0.68$, $p<.0001$). The Life Orientation Test measured the associations reported with optimism and pessimism. Higher scores on the emotional intelligence scale were associated with greater optimism ( $r(26) =0.52$, $p<.0006$), and less pessimism ( $r(26) = -.43$, $p<.025$). Finally, higher scores on the emotional intelligence scale were associated with less depression as measured by the Zung Depression Scale ( $r(37) = -0.37$, $p<.021$). The authors concluded that the self-reporting instrument was a validated measure of emotional intelligence.

Petrides and Furnham (2000a) however, scrutinized this measure of emotional intelligence developed by Schutte et al and identified several weaknesses with it. They primarily found psychometric problems and cautioned widespread use of the instrument, suggesting instead that it could be used only as a tentative, face-valid measure of emotional intelligence. They stressed that the existence of a coherent domain of emotional intelligence has not yet been demonstrated, however, the recent differentiation by Mayer and Salovey (1997) to a revised ability model of emotional intelligence showed promise. This strongly cognitive definition of emotional intelligence, and their measurement of it through the Multifactor Emotional Intelligence Scale (MEIS) have provided promising evidence that emotional intelligence might be embodied in the overall psychometric intelligence structure (Petrides & Furnham).

In order to answer the question, "Is it an intelligence?", Mayer, Caruso and Salovey (1999) again positioned emotional intelligence as meeting the traditional standards for an intelligence. These authors postulated that for something to be an intelligence it must: 1) be capable of being operationalized as a set of abilities; 2) meet certain correlational criteria; and 3) be able to be developed with age. With the revised 1997 definition of emotional intelligence by Mayer and Salovey, these authors developed a new instrument called the Multifactor Emotional Intelligence Scale (MEIS) and operationalized it on twelve ability tests of emotional intelligence. They stipulated that emotional intelligence is broader than social intelligence including not only "reasoning about emotions in social relationships, but also reasoning about internal emotions that are important for personal growth" (p. 11). In addition, emotional

intelligence is more focused than social intelligence in that it pertains primarily to the emotional problems embedded in personal and social problems. Consequently, this increased focus makes this more distinct from traditional verbal intelligence than social intelligence is.

The emotional intelligence test was scored through consensus, and expert scoring on all four branches. The ratings were fairly highly associated ($r = .61$ to $r = .80$, $p<.001$) suggesting a close relationship between the two criteria. Since the MEIS had better answers that can be distinguished from worse answers (contrary to the TMMS) the authors were able to show support for emotional intelligence as a new domain of intelligence based on their above criteria. They found additional support for their concepualization of emotional intelligence. Ciaarrochi, Chan, and Caputi (2000) completed a study that critically evaluated the emotional intelligence construct also using the MEIS instrument and in general found support for the reliability and validity of the MEIS, though they had some limitations. The strengths of this measure were that it was based on actual performance, the test samples a wide range of behaviors, the subscales were generally reliable and the MEIS has been shown to correlate with a number of criterion measures including intelligence and empathy. They found that the emotional intelligence factors were reliable, and therefore it makes a case for the distinctiveness and usefulness of emotional intelligence. This construct showed a great deal of promise in predicting important outcomes.

As the literature describes, there is still an intellectual argument on the true existence of this construct as an intelligence, and a unique construct. In fact, Fineman (2000b) views the area of emotional intelligence as a

> commodifiable emotion funnel, profitable to sell, which promises a fast route to organizational success, even individual fame…..Emotional intelligence is imprisoned in sales gloss that makes extravagant claims and promises…..and is highly contingent upon a certain sociocultural frame of organizational success (p. 112).

Though disagreement does exist in the literature, there is a fair amount of peer-reviewed research in the emotion and emotional intelligence domains to lay the foundation for further research in this often disputed construct.

### *Emotion and Human Resource Development*

The topic of emotion research has also been a topic of interest and exploration within the discipline of HRD. The significant impact of emotions and emotional management in an organizational setting has driven this research. The concepts of emotion and emotion management have recently been brought to the forefront of HRD scholars through interests in emotion management and organizational functions (Callahan Fabian, 1999) and a collection of articles titled *Perspectives of Emotion and Organizational Change* (Callahan, 2002). This collection brought forward the importance of studying emotion within the organizational context for both HRD scholars and practitioners. The authors in this journal (Callahan & McCollum, 2002; Turnball, 2002; Kiefer, 2002; Jordan & Troth, 2002; and Short & Yorks, 2002) all

wrote on various derivations of emotion in research, ranging from its role in organizational change efforts, training and conflict resolution.

Dialogue continues in HRD through studies on the impact of emotion on organizational learning (Vince, 2002), the evaluation of the roles of gender and emotion management as evidence of a community of practice (Tomaszewski & Callahan, 2003) and emotion saturation as a theory of emotion in organizations (Callahan, 2003). The last topic further refined various perspectives on the importance of the role of emotion within the organization (Callahan, 2003).

Emotion work has also lent to discussions about the role of emotional intelligence within the field of HRD. An argument of the importance of the topic for study and implications outlined for further research for HRD scholars to include leadership, management and individual and team performance has been made (Weinberger, 2002b). Emotions have been conceptualized holistically and that relationship may interact with the process of leadership (Drodge & Murphy, 2002). This is one premise that lends support for further study of emotions in HRD. These areas of study provide a foundation of the emotion work discussion and suggest that emotional intelligence might be an aid to leadership development.

The literature has expanded through an evaluation of emotion work and emotional intelligence through a workforce development model (Opengart, 2003). It was argued that these bodies of work should be viewed as an area of overlap. One needs to not only look at the cognitive aspects of emotional intelligence, but also the contextual ones. Emotional intelligence is having the ability, whereas emotion work is

acting on that ability (Fabian, 1999). Finally, a word of caution and concern arises from Landen (2002). It's contended that emotional intelligence is closely linked to issues of power and control and that if emotional intelligence is a construct, the question of whose interests are furthered by determining whether certain emotions are considered intelligent and others aren't should be considered. The inclusion of context, however, in the exploration of emotional intelligence has not been explicitly addressed in the empirical research to date. Various authors have argued for the importance of the study of emotion and emotional intelligence within HRD, interestingly, most have evaluated emotional intelligence from a more limited perspective, which is not the case in all bodies of writing on the topic.

### *Emotional Intelligence*

Goleman (1995) popularized the notion of emotional intelligence through his book *Emotional Intelligence*. *Working with Emotional Intelligence* (1998) and *Primal Leadership* (Goleman, Boyatzis & McKee, 2002) has recently followed. Primarily two diverging perspectives have emerged through the emotional intelligence definitional work occurring in the 1990's: A more trait focused perspective of emotional intelligence, incorporating personality characteristics and self-perceived abilities and a more cognitively focused perspective, narrowly confined to abilities that can be measured through performance components (Petrides & Furnham, 2001).

### *Trait Emotional Intelligence*

The socioemotional approach of emotional intelligence has been described as a "mixed model" (Mayer, Caruso & Salovey, 2000). This perspective of emotional intelligence includes not only abilities, but also a set of traits, competencies, skills and key personality components. Most of the popular writings and many of the scholarly contributions in the area of emotional intelligence would fall under this category. Within this trait perspective, or "mixed model", there are a number of variations. Goleman, the primary contributor in this domain, defines emotional intelligence as one's ability to "motivate oneself and persist in the face of frustrations; to control impulses and delay gratification; to regulate one's moods and keep distress from swamping the ability to think; to empathize and to hope" (1995, p. 34). A variety of definitions of emotional intelligence are put forth, including a description of it as a set of traits that could be referred to as one's "character" (Goleman, 1995) and as "how leaders handle themselves and their relationships" (Goleman, Boyatzis & McKee, 2002, p. 6).

Goleman's (1995; 1998a; 1998b) writings struck a nerve in the business community. His books were tailored to the non-academician, with lots of examples, statements of success and the feeling that one had found the elixir of life. It was as if the corporate world had found a new magic pill. One felt 'good' after reading his books and that you could really accomplish something in life through having a high emotional intelligence. A higher emotionally intelligence individual was equated as more successful. And it was achievable for anyone through proper focus and even training.

One of the most recent books on the topic of emotional intelligence is now on the New York Times bestseller list (Goleman, Boyatis, & McKee, 2002) pointing to the continued popularity of this topic in the general community.

Some other foundational contributions in trait emotional intelligence were Bar-On (1995), Cooper and Sawaf (1997) and Weisinger (1998). All defined emotional intelligence within a trait perspective, with degrees of difference. Cooper and Sawaf and Weisinger made the connection from an individual's emotional intelligence, to evaluating it within an organizational context and its impact on an organizations success. The literature related to trait emotional intelligence is presented under the following three headings:

- Individual Performance and Success
- Relationships to Personality Measures
- Leadership, Management & Management Development

***Individual performance and success***

Within the trait model of emotional intelligence, a variety of studies have recently been published. Boyatzis (2001) presented a model of individual change that he would now characterize as emotional intelligence. This model was based on the work of McClelland & Winter on achievement and power motivation, Kolb's work on self-directed behavior change and some work on competency development. A review of this research is provided as evidence of a model or theory of individual change. That model is called emotional intelligence. Another study looked at whether emotional intelligence competencies can be developed in MBA students (Boyatzis, Stubbs, &

Taylor, 2002). This longitudinal study focused on the impact of an MBA program on the development of cognitive and emotional intelligence competencies. The article presented results from the 1988 – 2001 cohorts. The 1987-1989 cohort represented the baseline, as this was prior to the revisions in the MBA curriculum. Beginning in 1990, the Weatherhead School of Management at Case Western University started entering data collected from a required course titled Leadership Assessment and Development. Following the course, students pursue the learning plan through the remainder of their program. The students completed a series of instruments, including the Learning Skills Profile, a critical incident interview, a group discussion exercise, a presentation exercise, a self-assessment questionnaire and an external assessment questionnaire. All cohorts showed a dramatic improvement over the impact of the baseline MBA program. They concluded that, with a non-typical MBA curriculum, those emotional intelligence competencies could be developed.

Schutte, Malouff, Simunek, McKenley and Hollander (2002) expanded on a study earlier completed by Ciarocchi, Chan and Caputi (2000). These authors broadened their scope of emotional intelligence to be more inclusive, hence trait focused and suggested a link between emotional intelligence and ones emotional well being. The emotion recognition component of emotional intelligence and its impact on organizational outcomes has also been explored (Elfenbein & Ambady, 2002). These emotions can be expressed through a number of different channels of the body, via body movements, vocal tones, facial expressions or combinations of them (DePaulo & Friedman, 1998; Rosenthal et al., 1979). These channels can communicate both

positive and negative emotions. Therefore, skillfully applying emotion recognition may not only depend on the non-verbal channel, but the specific emotion being expressed. Elfenbein and Ambady (2002) found a generally positive relationship between workplace outcomes and emotion recognition ability, but not all types (positive and negative) of emotion recognition skill were equally appreciated and valued across all organizational settings. They recommended the necessity to develop a deeper understanding of the relationships between emotional intelligence skills and the organizations unique contexts, roles and demands.

The role of emotion recognition through nonverbal channels was also studied (Morand, 2001). This focused on the appraisal of emotion in others through non-verbal perception and empathy through the expression of emotion through faces. It was argued that emotional intelligence is at the heart, a nonverbal, activity. Through this framework, one was looking at a better understanding of the emotional intelligence of managers and the applications to leadership, human relations skills and communication. Results indicated that "one facet of emotional intelligence, here operationalized as the accurate discernment of other's emotional states, can be reliably measured at the nonverbal level in a laboratory setting" (Morand, 2001, p. 30).

Sims, Sims & Veres (1999) makes the argument that emotional intelligence is a critical skill for employee success. The emotionally intelligent skills of controlling one's own emotions, and perceiving others are required for today's employees to work effectively in groups or teams. The skills of persuasion, listening, patience, restraint, and offering sympathy are essential to harmoniously working with others and

navigating one's career. Building on Golemans (1995; 1998) work and referring to him as the guru of emotional intelligence, the need for high emotional intelligence of salespeople is applied (Sexton, 2001). In this popular article, he states "once you know how to apply it, you can jump from average performer to sales superstar" (p. 25). Speaking to the importance of understanding your customers so that you can more effectively sell them the items that they need.

***Relationships to personality measures***

Several authors have evaluated the emotional intelligence construct along with the Myers-Briggs type indicator (MBTI). One study looked at a relationship between the MBTI and emotional intelligence (Higgs, 2001). The dominant function of intuition in the MBTI was found to be significantly and positively correlated with higher levels of emotional intelligence, as defined in a broader, more trait-focused perspective. Sjoberg (2001) devised a test battery for use in the selection process in business and business education. This test battery was based on the notions of emotional intelligence and social competence. In this selection process, emotional intelligence contributed variance above and beyond the standard scales of personality.

Others examined the relationship of self and other ratings of emotional intelligence with academic intelligence and personality (Van Der Zee, Thijs, & Schakel, 2002). The study was based on prior literature that showed a relationship between trait based emotional intelligence and the Big Five personality components. Additionally, they were interested in developing a non-self reporting measure of emotional intelligence. Little relationship between emotional and academic intelligence was

found. They utilized a stepwise regression of the combined ratings of emotional intelligence on academic intelligence. Academic intelligence was only modestly related to emotional intelligence with an explained variance of 9% or less. And, in most cases negative, significant correlations were found between indicators of academic and emotional intelligence ($r = -.24$ to $r = -.30$, $p < .01$). Strong relationships, however, were identified between emotional intelligence and the Big Five, personality components, particularly, extraversion and respect as a combination for empathy ($r = .39$, $r = .32$, $p < .01$). These personality components were far more predictive of emotional intelligence. It was concluded that the emotional intelligence dimensions were able to predict both academic and social success above traditional indicators of academic intelligence and personality (Van Der Zee, Thijs, & Schakel, 2002).

***Leadership, management & management development***

In addition to evaluating emotional intelligence and its relationships to personality, several researchers were interested in the impact of emotional intelligence on leadership skills, management skills and management development. Johnson and Indvik (1999) argued for the organizational benefits to having emotionally intelligent managers and employees. They point to contemporary business cartoons that highlight situations where emotional intelligence is lacking in organizations. Huy (1999) presented a multilevel theory of emotion and change, which focused on the attributes of emotional intelligence at the individual level. He stated that emotional intelligence facilitates ones ability for adaptation and change, which is helpful through an organizational change effort.

Other contributions in the area of emotional intelligence and management consist of Langley (2000), who explored the idea of whether emotional intelligence is a useful concept in determining a manager's promotional readiness in global organizations. It was argued that a better understanding and assessment of these emotional intelligence attributes and abilities would provide the foundation for their further development and an opportunity to enhance their potential (Langley, 2000). A sample of 295 undergraduate business majors was used to evaluate the links of emotional intelligence and management development. Student demographics revealed that higher emotional intelligence scores were associated with self-selected membership in Greek organizations and involvement in sports organizations (Rozell, Pettijohn & Parker, 2002).

Leadership experiences and how they related to social and emotional intelligence has also been explored (Kobe, Reiter-Palmon & Rickers, 2001). In this study, a broader definition of emotional intelligence was used. 192 undergraduate students participated in the study. Participants were asked to complete a questionnaire containing a measure of social intelligence, emotional intelligence and a measure of leadership. Correlation analysis assessed the relationships between the emotional intelligence and social intelligence dimensions. The relationship between each type of intelligence and self-reported leadership experiences was also assessed. Measures of emotional intelligence, social intelligence and leadership were all positively correlated with one another ($r = .35$ to $r = .55$, $p < .01$). Two hierarchical regression analyses were completed. In the first, emotional intelligence was entered first and in the second,

social intelligence was entered first. In the first analysis, emotional intelligence was found to account for a significant amount of variance in leadership ($R^2$ = .12, F(1, 190) = 26.55, p< .001), and social intelligence accounted for an additional 17% of the variance in leadership experiences after controlling for emotional intelligence ($\Delta R^2$ = .17, F(2, 189) = 45.23, p <. 001). In the second hierarchical regression analysis, where social intelligence was entered first, it accounted for 29% of the variance in leadership when entered by itself ($R^2$ = .29, F(1,190) = 77.39, p<.001). The addition of emotional intelligence in step two was not significant ($\Delta R^2$ = .003, ns). Through these analyses, both social and emotional intelligence accounted for the variance in leadership experiences, but emotional intelligence did not add unique variance beyond that of social intelligence. In fact there was significant overlap between these two constructs. It was concluded that social intelligence appears to play a primary role in leadership (Kobe, Reiter-Palmon, & Rickers, 2001). This study found that both emotional and social intelligence were components of leadership experiences. This study supported the assertion of Salovey and Mayer (1993) that social intelligence is a broader construct that subsumes emotional intelligence. But, since 1993, Salovey and Mayer have refined their original trait conceptualization of emotional intelligence. As shown here, a broader definition of emotional intelligence and social intelligence significantly overlap, and may in some cases measure the same thing. With this broader, more trait focused perspective, it becomes more challenging to determine if emotional intelligence adds anything unique to the understanding of leadership and management.

This broadening of the concept of emotional intelligence, to be more trait focused and to include many personality characteristics, has not only put it within a social intelligence umbrella (Kobe, Reiter-Palmon, & Rickers, 2001), but has generated the following comment: "Virtually any link between personality and good school outcomes could be attributed to this broad conception of emotional intelligence….the collection of character attributes now labeled as emotional intelligence was no longer one definable entity…"(Mayer & Cobb, 2000, p. 170). But even with this broader definition, there are still measurement tools that have been developed to aid in identifying whether one has a higher or lower emotional intelligence.

***Measurements of Trait Based Emotional Intelligence***

The commonly used tests to measure emotional intelligence have been previous outlined (Weinberger, 2002b). The self-reporting measures within trait emotional intelligence were the Emotional Quotient Inventory (EQi)(Bar-On, 1995), the Trait-Meta-Mood-Scale (TMMS) (Salovey, Mayer, Goldman, Turvey & Palfai, 1995) and the Emotional Competence Inventory (ECI) (Boyatzis, Goleman & Rhee, 2000; Goleman, 1998). See Table 2-2. A brief summary of the additional literature related to the measurements of emotional intelligence are presented under the following three headings:

- Emotional Quotient Inventory (EQi)
- Trait-Meta-Mood-Scale (TMMS)
- Emotional Competence Inventory (ECI)

***Emotional quotient inventory (EQi)***

The EQi developed by Bar-On (1995) assesses a person's potential to succeed in life, in general, through using components of effective emotional and social functioning that lead to psychological well-being. Five areas are examined that pertain to one's success: (a) interpersonal skills, (b) intrapersonal skills (to include emotional self-awareness, assertiveness, self-regard, self-actualization and independence [self-directed and self controlled in one's thinking and actions]), (c) adaptability, (d) stress management, and (e) general

Table 2-2

Summary of Key Features of Trait Based Emotional Intelligence Measures

| EQi | TMMS | ECI |
|---|---|---|
| Factors | Factors | Factors |
| Interpersonal skills | Attention to feelings | Self-awareness |
| Intrapersonal skills | Clarity of feelings | Self-management |
| Adaptability | Mood Repair | Social awareness |
| Stress management | | Social skills |
| General mood | | |
| | | Subfactors |
| Subfactors | | Achievement orientation |
| Self-regard | | Initiative |
| Happiness | | |
| Self-Actualization | | |

Source: Adapted from Weinberger, L. (2002)

mood. It is asserted that the focus of emotional intelligence is on the personal, emotional and social competencies and not on the cognitive dimensions of intelligence.

This is a distinct difference between this perspective of emotional intelligence and Mayer and Salovey (1997).

The reliability and validity of the EQi with university students has been examined (Dawda & Hart, 2000). In addition to the EQi, a variety of other criterion measures including alexithymia, personality, psychological distress, intensity of individual reactions to common life events, and stress related symptoms were used. Generally speaking, the authors found that people with high emotional intelligence scores had high levels of positive affectivity and low levels of negative affectivity, they were conscientious and agreeable and had fewer difficulties identifying and describing feelings. They found average correlations approaching 0.5 between measures of the Big Five Personality Factors (i.e., neuroticism, extroversion, openness, agreeableness, and conscientiousness) and the EQi measure. It was suggested that the emotional intelligence total score and the associated subscales might be a good overall index of emotional intelligence (Dawda & Hart, 2000). Or, one could make the argument that the EQi is a proxy measure of a composite of Big Five Personality Factors (Zeidner, Roberts & Matthews, 2002). The relationships among emotional intelligence, personality, leadership and managerial effectiveness utilizing the EQi were also examined (Buford, 2001). He examined the relationships between self-reported emotional intelligence, leadership and managerial effectiveness and that evaluated by self, subordinates and superiors. Numerous significant relationships were confirmed between all Big Five personality variables, emotional intelligence, transformational leadership and management effectiveness. It was summarized, that similar to other

studies, emotional intelligence as described by the EQi, more broadly constructed, likely reflects well-researched, already defined personality traits (Buford, 2001).

Thingujam (2002) cited a personal communication with Bar-On where Bar-On argued that the EQi is now not considered a measure of emotional intelligence, but as a way of describing emotionally and socially intelligent behavior. The EQi, until very recently, was one of the only published and commercially available measures of emotional intelligence. Consequently, it has been in very high demand by numerous corporations and consultants.

***Trait-meta-mood-scale (TMMS)***

The TMMS (Salovey, Mayer, Goldman, Turvey & Palfai, 1995) was devised to operationalize the aspects of emotional intelligence as originally defined by Salovey and Mayer's 1990 mixed model definition. It measured a three factor structure: (a) attention to feelings, (b) clarity of feelings, which is an understanding of one's feelings, and (c) mood repair, which are the attempts to maintain pleasant moods or repair unpleasant ones.

Utilizing the TMMS (Salovey, Mayer, Goldman, Turvey & Palfai, 1995), it was found that the emotional intelligence measures of empathy, self-regulation of mood and self-presentation, positive and negative affective traits and general and practical intelligence were related to one's performance on a job interview (Fox & Spector, 2000). The overall results were mixed in regards to the specific role of emotional intelligence in interview outcomes and the TMMS was identified as the weakest measure. "The most serious weakness in such research is the lack of specific,

measurable operationalizations of the various components of this rather vaguely defined notion (emotional intelligence)" (Fox & Spector, 2000, p. 218).

### *Emotional competence inventory (ECI)*

The ECI (Boyatzis, Goleman & Rhee, 2000; Goleman, 1998) is a 360-degree assessment that includes components of Goleman's (1998) 25 competencies of emotional intelligence and Boyatzis's (1994) competency questionnaire. The ECI (after several revisions since 1998) consists of four competency clusters: (a) self-awareness, (b) self-management, (c) social awareness, and (d) social skills. The ECI has been found to have a strong overlap with the Big Five personality domains (Murensky, 2000).

Reading articles today, eight years after Goleman wrote his first book on the topic, but thirteen years after Salovey and Mayer (1990) coined the term, Goleman receives the preponderance of citations. This is not only the case in the popular writings, but many of the scholarly contributions as well. If Salovey and Mayer are mentioned as a starting point, it is in passing and then the article builds upon Goleman's work. When evaluating the literature in emotional intelligence there is a distinct divergence into the trait focused perspective, most associated with Goleman, and the majority of the writing and research in this area and the ability focused perspective, with not only fewer contributions within the public domain, but also fewer research pursuits. In the trait focused emotional intelligence based research, the instruments have been found to be weak (TMMS) or the construct, along with related instrumentation (EQi, ECI), has shown significant overlap with the Big Five personality

traits. "Goleman's construct for emotional intelligence reaches too far to be confined by the emotional intelligence framework…..he fails to make the crucial connection between cognitive processing and the emotions….from this work, the Mayer and Salovey (1997) construct appears to be the framework most likely to produce a construct of emotional intelligence as it addresses emotion and intelligence criteria" (Jordan, 2000, p.123). This study adds to the understanding of emotional intelligence from an ability-defined perspective.

### *Ability Emotional Intelligence*

Mayer and Salovey (1997) revised their original definition to delimit it to a more cognitive perspective. This revised definition is:

> Emotional intelligence involves the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth (p. 10).

The key assumptions underlying this definition are the cognitive link between emotions and intelligence. It is the ability to think intelligently about emotions as well as the ability to use emotions to think intelligently and make informed decisions (Graves, 1999). As compared to the multitude of definitions in the literature around the trait perspective, this is the only definition of emotional intelligence that is narrowly confined to a cognitive ability perspective. The trait perspectives of emotional intelligence are generally inclusive of many personality components as well as an

empathy factor. This ability perspective does not include either. It could be this strict limitation that has also limited this view from the practitioner and general reader. The literature related to ability emotional intelligence is presented under the following three headings:

- Emotions and Organizational Research
- Ability Emotional Intelligence and Personality
- Emotions and Leadership

### *Emotions and organizational research*

Within a more limited perspective of emotional intelligence, there have been some contributions to the scholarly dialogue. A model linking perceptions of job insecurity to emotional reactions and negative coping behaviors has been presented (Jordan, Ashkanasy, & Hartel, 2002). Using the ability definition of emotional intelligence (Mayer & Salovey, 1997) as the foundation, they proposed that emotional intelligence moderates employees' reactions to job insecurity and their ability to cope with stress. The authors provided this study to help advance the role of emotion in organizational research that has been asked for (Ashforth and Humphrey, 1995).

A short emotional intelligence measure to be used in the leadership and management literature was developed using the ability based (Mayer & Salovey, 1997) definition as a foundation (Wong & Law, 2002). This measure explored the relationships between emotional intelligence and job performance, job satisfaction, organizational commitment and turnover intention. The results showed that the emotional intelligence of followers affects job satisfaction and performance, while the

emotional intelligence of the leaders affects their satisfaction and extra-role behavior (Wong & Law, 2002).

The concept of emotional intelligence and cognitive ability has also been explored (Graves, 1999). Results from the structural equation modeling supported the notion that these two components were related, yet distinct constructs. "It appears that emotional intelligence and cognitive ability play equally important roles in explaining differences in people's ability to (a) influence and (b) demonstrate interpersonal competence" (Graves, 1999, p. 187). "Interestingly, the emotional intelligence and cognitive ability composites made significant contributions in the prediction of the performance criteria, regardless of whether peer ratings or assessor ratings were used" (Graves, 1999, p. 190). Based on the findings, it's suggested that emotional intelligence has the potential to increase the utility of the selection process.

***Ability emotional intelligence and personality***

Similar to the interest in examining relationships between trait emotional intelligence and personality, several authors have evaluated that same relationship but with a more restrictive, ability based view of emotional intelligence. Both of these studies used the Multifactor Emotional Intelligence Scale (MEIS) (Mayer, Salovey, & Caruso, 1999), which is the first performance based measure of emotional intelligence. Ciarrochi, Chan and Caputi (2000) critically evaluated the emotional intelligence construct using the MEIS. They found that even after controlling for IQ and personality traits, emotional intelligence was related to specific personality traits (i.e. empathy). Their results suggested that the emotional intelligence construct was distinctive and

useful, but that traditional IQ may also be important in better understanding emotional processes.

Caruso, Mayer and Salovey (2002) also looked at emotional intelligence and personality. These authors sampled 183 men and women with the MEIS and measures of personality, social behavior and career interests. They also found support for the discriminant validity of the emotional intelligence construct and that it was relatively independent of the more traditionally defined personality traits.

### *Emotions and leadership*

The effect of emotional intelligence as a predictor of leadership success has also been explored (Collins, V.L., 2001). Both a personality-based (trait) measure and an ability-based measure of emotional intelligence were used. It was hypothesized that emotional intelligence would be predictive of leadership success as measured by ratings on multi-rater feedback, position and salary. This primary hypothesis was not supported and there was not a significant role for either the ability or personality (trait) measurement approach to emotional intelligence over and above cognition and personality traits. The author, however, stipulates that the lack of significant results may be a function of power due to a relatively small subject pool or that the results may in fact indicate that emotional intelligence does not explain variability in success among the top executives who participated in the study (Collins, V.L., 2001).

Emotional intelligence was also evaluated through nurse leaders and their leadership practices (Vitello-Ciciu, 2001). This was a descriptive exploratory study to examine the self-reported leadership practices of nurse leaders through the Leadership

and Practices Inventory (Kouzes & Posner, 1987), and emotional intelligence as measured by the Mayer Salovey Caruso Emotional Intelligence Test (MSCEIT) (Mayer, Salovey & Caruso, 1999). The nurses who scored above and below one standard deviation on the MSCEIT were further interviewed to identify how they foster the development of their emotional intelligence abilities. A weak relationship between overall emotional intelligence and Enabling Others to Act was found. Additionally, the nurses scoring higher in emotional intelligence were found to use self-help books (90%) and engage in meditative practices (72%) as skills to manage their emotions.

### *Measurements of Ability Emotional Intelligence*

The measures of ability based emotional intelligence are comparatively new to those for the trait-based perspective. Instrumentation based on the ability definition of emotional intelligence and it's subsequent testing has occurred only recently. The uniqueness of the instrumentation in this area is that it is performance based as opposed to a self-report, which is more common under the overall emotional intelligence umbrella. The Multi Factor Emotional Intelligence Survey (MEIS) was devised to reflect the refined, ability definition of emotional intelligence (Mayer & Salovey, 1997). The literature related to the measurements of ability emotional intelligence is presented under the following two headings:

- Multifactor Emotional Intelligence Survey (MEIS)
- Mayer Salovey Caruso Emotional Intelligence Test (MSCEIT)

***Multifactor emotional intelligence survey (MEIS)***

The MEIS (Mayer, Caruso & Salovey, 1999) was operationalized on 12 components of emotional intelligence, divided into four branches of abilities: (a) perceiving, (b) assimilating, (c) understanding, and (d) managing emotions. The perceiving branch consisted of "tasks concerned with the ability to perceive and identify the emotional content of a variety of stimuli"(p. 274). There were four tasks including the faces test (eight stimuli; 48 items), music test (eight stimuli; 48 items), designs test (eight stimuli; 48 items) and the stories test (six stimuli, 42 items). The faces test included eight faces chosen to represent a variety of emotions, the music test included 5-10 second original pieces of music and the designs test consisted of computer-generated graphics designed to portray a variety of emotions. The participants were to answer on a 5-point scale whether a given emotion was '1=Definitely Not Present' or '5=Definitely Present'. The stories test was identical to the others above except that the stimuli were six stories designed to encompass a range of mood and emotions.

Branch 2 contained tasks concerned with the "ability to assimilate emotions into perceptual and cognitive processes" (Mayer et. al., p. 275). The synesthesia (six stimuli; 60 items) test measured people's ability to describe emotional sensations and their parallels to other sensory modalities. "People imagined an event that could make them feel a particular feeling, which they then described on 10 semantic differential scales" p. 275). For example, 'Imagine an event that could make you feel both somewhat surprised and somewhat displeased….Now describe your feelings on each of 10, 5 – point semantic differential scales, including 'Warm 1 2 3 4 5 Cold'. The second

test on this branch was the feeling biases test (four stimuli; 60 items). This test measured the extent to which people understand how feelings influence their judgments of how they felt toward a fictional person at the moment. For example, the participants were asked to read a brief passage that describes 'Jonathan' and suggests that he has said something to make you feel both guilty and afraid. Within the context of feeling guilty and afraid, the participant is asked to evaluate a series of traits (sad, trusting, tense, cynical, aggressive, controlling, and hasty) and the degree to which it seems they describe 'Jonathan'. The scale is '1=Definitely Does Not Describe' to '5=Definitely Does Describe' him.

The third branch includes tasks around reasoning about and understanding emotions. This branch includes four tasks: (a) blends (eight stimuli; 8 items), (b) progressions (eight stimuli; 8 items), (c) transitions (four stimuli; 24 items), and (d) relativity (four stimuli; 40 items). The blends test measured the ability to analyze blended emotions through reading a statement and then selecting the best answer that combines the emotions most closely. For example: 'Optimism most closely combines which two emotions?': (a) pleasure and anticipation, (b) acceptance and joy, (c) surprise and joy, or (d) pleasure and joy. The progressions test is concerned with people's understanding of how emotional reactions proceed over time. A sample item is: 'If you feel angrier and angrier toward someone so that you are losing control, it would result in': (a) gloating, (b) resentment, (c) hate, or (d) rage. Participants were asked to select the best answer.

The transitions test, as part of the branch three tasks was concerned with evaluating people's understanding of how emotions (and implicitly, the situations eliciting them) follow up on one another. An item was 'a person is afraid and later is calm. In between, what are the likely ways the person might feel?'. A list of six items (acceptance, fear, anger, anticipation, surprise, and disappointment) followed where the participant was asked to rate each item from '1=Extremely Unlikely' to have occurred to '5= Extremely Likely'. The relativity test was composed of "items depicting conflictual social encounters between two characters" (Mayer et al., 1999, p. 277). The participants were asked to estimate the feelings of both of the characters. An example item read 'A dog is chasing sticks outside when he runs out in the street and gets hit by a car. The driver stops when the dog's owner dashes over to check on the dog.' The participant was then to evaluate to what extent the dog-owner exhibited certain feelings and then to what extent the driver exhibited certain feelings.

The final fourth branch on the MEIS (Mayer et. al., 1999) consisted of the ability to manage emotions. This branch had two tasks: (a) the managing of feelings of others (six stimuli; 24 items) and, (b) the managing of feelings of the self (six stimuli; 24 items). Both tasks included six vignettes. From the vignette, four possible courses of action followed. The participants were asked to rate the course of action responses from '1=Extremely Ineffective' to 5=Extremely Effective'. The second set of vignettes referred to emotional problems relating to the self.

Mayer et. al. (1999) made the argument that emotional intelligence is broader than social intelligence including not only "reasoning about emotions in social

relationships, but also reasoning about internal emotions that are important for personal growth" (p. 11). It was further argued that emotional intelligence is more focused than social intelligence as it pertains primarily to the emotional problems embedded in personal and social problems, and it is this increased focus that makes it distinct from traditional and social intelligence.

The emotional intelligence construct as operationalized by the MEIS was critically evaluated (Ciarrochi, Chan & Caputi, 2000). They evaluated the reliability and factor structure of the test, and investigated whether emotional intelligence moderates the relationship between mood, mood-based judgmental biases and mood management. The study consisted of 134 Australian undergraduate psychology students, who were participating to satisfy a course requirement. There were several phases of the study, with some variations in the number of participants in each phase. Similar reliabilities were found (Ciarrochi et al., 2000) on each branch and test as in the Mayer et. al (1999) study. In general, support for the reliability and validity of the MEIS was confirmed. Emotional intelligence factors were reliable and related in expected ways to a number of criterion variables. Taken together, the authors said, "these results make a case for the distinctiveness and usefulness of emotional intelligence" (Cirarrochi et. al, 2000, p. 556).

In evaluating emotional intelligence to personality, the MEIS (Mayer et. al., 1999), the 16 Primary Factors (16PF: Cattell, Cattell, & Cattell, 1993) for impression management, the Fundamental Interpersonal Relations Orientation-Behavior (FIRO-B: Schultz, 1989) for social behavior and the Holland Self-Directed Search (SDS: Holland,

1990) for career interests were used with 183 men and women (Caruso, Mayer & Salovey, 2002). The internal consistencies reported for the total MEIS were .95 with alphas ranging for the four branch scores to be from $\alpha = .74$ to $\alpha = .96$. Individual subtest alphas ranged from $\alpha = .31$ to $\alpha = .92$. The rest-retest reliability was a correlation of r(183)= .75, with the four branch scores ranging from r(183)= .60 to r(183)= .68.

When looking at the MEIS to personality relationships only a few significant correlations were obtained (Caruso, Mayer & Salovey, 2002). It was summarized that the MEIS is generally not associated with the 16 PF and appears to be relatively free from the effects of response bias, "as indicated by the r(183)= .00 correlation between the total MEIS and the 16PF management scale" (Caruso, Mayer, & Salovey, 2002, p. 313). Few correlations between the MEIS, the SDS and the FIRO-B were also reported.

> "In this study, emotional intelligence was separable from several, standard personality traits. The correlational and factor analytic data strongly suggest that the MEIS is not measuring constructs that are assessed by standard personality tests…..the ability approach places emotional intelligence in an ability or intelligence framework" (Caruso, Mayer, & Salovey, 2002 p. 318)

demonstrating adequate internal consistency of the MEIS.

Lam and Kirby (2002) explored the impact of emotional and general intelligence on individual performance through using the short version of the MEIS (Mayer et al., 1999), the Shipley Institute of Living IQ Scale (Western Psychological Services, 1967) and a demographic questionnaire. The participants were 304 undergraduates at a

university in the western United States ranging in age from 18-33 years (M=20.8 years, SD=2.4), primarily Caucasian (88.5%). They found that general intelligence made a significant contribution to the prediction of individual performance of a cognitive task. Overall emotional intelligence "perceiving emotions and regulating emotions all contributed positively to individual cognitive performance; however, understanding emotions did not add to the explanation in variance in individual cognitive based performance over and above that attributable to general intelligence" (p. 139). The data acquired from the understanding emotions branch of the MEIS had some internal-consistency problems and was eliminated from analysis.

The overall emotional intelligence factor was related to performance in that higher emotional intelligence was associated with better scores on one measure of cognitive performance (Lam & Kirby, 2002). It was concluded that the MEIS is a useful instrument in its versatility of examining either the overall construct of emotional intelligence or its separate components.

Additional studies using the MEIS as a measurement of emotional intelligence have been published. The importance of emotional intelligence in the workplace was explored and reported that emotional intelligence as measured by the MEIS was significantly correlated with effective team leadership and team performance (Rice, 1999). The MEIS has also been shown to have convergent validity by correlating moderately with the Armed Services Vocational Aptitude Battery, which is a measure of intelligence, and showed divergent validity by correlating only slightly with the Trait-Self-Description Inventory which is a Big Five personality measure (Roberts,

Zeidner, & Matthews, 2001). These numerous studies have demonstrated that the MEIS has satisfactory reliability, and validity and should be considered a good ability measure of emotional intelligence. Recently the MEIS has undergone revision for professional use. The test was shortened from over 1 hour to complete to now from 25-35 minutes and was recently published and made commercially available as the Mayer Salovey Caruso Emotional Intelligence Test v2.0 (MSCEIT).

### *Mayer Salovey Caruso emotional intelligence test (MSCEIT)*

The MSCEIT is becoming the new standard for measuring emotional intelligence from an ability perspective. A detailed critique of the instrument while it was still in research form has already been provided (Weinberger, 2002b). The MSCEIT was published for commercial use in the spring of 2002 and was based directly on the MEIS. The above-mentioned critique provided an overall evaluation of the instrument utilizing the Standards for Educational and Psychological Testing (AERA, 1999) as a guide. Key areas pointed out for caution were the validity for use criteria due to the young age of the norming sample and it's comparisons to the average age in corporate populations, the depth of supporting documentation in the reliability areas and the depth of the test manual (Weinberger, 2002b).

Evaluating the MSCEIT v2.0, professional edition, the normative sample is described (Mayer, Salovey & Caruso, 2002). The normative base is on 5000 respondents, with over 72% of the population under 29 years of age. But the cases are weighted in the sample of 5000 to mimic the United States census figures (US Census Bureau, November, 2000). The MSCEIT norms were then calculated through a

computer based weighting scheme so that the normative values will properly reflect the United States demographic distributions in gender, age, ethnicity and education. This is an improvement to the issue that the Weinberger (2002b) critique pointed out earlier.

The MSCEIT (Mayer, Salovey & Caruso, 2002) provides 15 main scores: Total EIQ score, two area scores, four branch scores and eight task scores. The overall Emotional Intelligence Score (EIQ) provides an overall index of the respondent's emotional intelligence. A total EIQ score compares an individual's performance on the MSCEIT to those in the normative sample. The area scores enable one to gain insight into possible differences between the respondents' (a) ability to perceive and utilize emotions (experiential emotional intelligence) and (b) their ability to understand and manage emotions (strategic emotional intelligence).

The four branch scores provide data on (a) perceiving emotions, (b) facilitating thought, (c) understanding emotions, and (d) managing emotions. Perceiving emotions is defined as the "ability to recognize how an individual and those around the individual are feeling…this involves the capacity to perceive and to express feelings" (MSCEIT, 2002, p. 19). This emotion perception involves paying attention to and accurately decoding emotional signals in facial expressions, tone of voice and artistic expressions. The MSCEIT (Mayer, Salovey & Caruso, 2002) measures this perception through the appraisal of emotions in others and in images. This section included ten different stimuli with fifty total items. In this section, the participant would be asked to look at a picture of a face expressing some type of emotion, or general picture of some kind. A sample question is:

How much is each feeling below expressed by this face? (a color picture of a face is present).

| | | | | | | |
|---|---|---|---|---|---|---|
| 1. No Happiness | 1 | 2 | 3 | 4 | 5 | Extreme Happiness |
| 2. No Fear | 1 | 2 | 3 | 4 | 5 | Extreme Fear |
| 3. No Surprise | 1 | 2 | 3 | 4 | 5 | Extreme Surprise |
| 4. No Disgust | 1 | 2 | 3 | 4 | 5 | Extreme Disgust |
| 5. No Excitement | 1 | 2 | 3 | 4 | 5 | Extreme Excitement |

The second branch of the MSCEIT (Mayer, Salovey & Caruso, 2002) measured how much a respondent's thoughts and other cognitive activities are informed by his or her experience of emotions. This branch was called facilitating thought. "Facilitating thought focuses on how emotions affect the cognitive system and, as such, can be harnessed for more effective problem-solving, reasoning, decision-making, and creative endeavors" (MSCEIT, 2002, p. 19). This section included ten different stimuli with thirty total items. A sample question in this group included:

What mood(s) might be helpful to feel when composing an inspiring military march?

| | Not Useful | | | | Useful |
|---|---|---|---|---|---|
| a. anger | 1 | 2 | 3 | 4 | 5 |
| b. excitement | 1 | 2 | 3 | 4 | 5 |
| c. frustration | 1 | 2 | 3 | 4 | 5 |

Understanding emotions was measured through the third branch of the MSCEIT (Mayer, Salovey & Caruso, 2002). This branch includes the ability to label emotions and to recognize that there are groups of related emotional terms. "Knowledge of how emotions combine and change over time is important in one's dealings with other people and in enhancing one's self-understanding" (p. 19). Thirty-two different stimuli measured this dimension. A sample question from the MSCEIT is as follows:

Acceptance, joy, and warmth often combine to form _____.

a. love
b. amazement
c. anticipation
d. contentment
e. acceptance

The final, fourth branch measured the managing emotions component of emotional intelligence. "Managing emotions means that, at appropriate times, one feels the feeling rather than repressing it, and then uses the feeling to make better decisions" (MSCEIT, 2002, p. 19). This management involves the participation of emotions in thought and allowing thought to include emotions. Eight different stimuli and twenty-nine items measured this component. Following is a sample question from this section:

Mora woke up feeling pretty well. She had slept well, felt well rested, and had no particular cares or concerns. How well would each action help her preserve her mood?

Action 1: She got up and enjoyed the rest of the day.
a. Very ineffective b. Somewhat ineffective c. Neutral d. Somewhat effective e. Very effective

Action 2: Mara enjoyed the feeling, and decided to think about and appreciate all the things that were going well for her.
a. Very ineffective b. Somewhat ineffective c. Neutral d. Somewhat effective e. Very effective

Action 3: She decided it was best to ignore the feeling since it wouldn't last anyway.
a. Very ineffective b. Somewhat ineffective c. Neutral d. Somewhat effective e. Very effective

Action 4: She used the positive feeling to call her mother, who had been depressed, and tried to cheer her up.
a. Very ineffective b. Somewhat ineffective c. Neutral d. Somewhat effective e. Very effective

Table 2-3 summarizes the components of the MSCEIT v2.

Table 2-3

Constructs, Components and Items of the MSCEIT v2

| Emotional Intelligence Construct | Component | Total Items |
|---|---|---|
| Area Scores | | |
| Experiential | 1. Perceiving<br>2. Facilitating | Branch 1 & 2 |
| Strategic | 1. Understanding<br>2. Managing | Branch 2 & 3 |
| Branch Scores | | |
| Branch 1:<br>Perceiving Emotions | 1. Faces<br>2. Pictures | 4 Stimuli/20 items<br>6 Stimuli/30 items |
| Branch 2:<br>Facilitating Thought | 1. Sensations<br>2. Facilitation | 5 Stimuli/15 items<br>5 Stimuli/15 items |
| Branch 3:<br>Understanding Emotions | 1. Changes<br>2. Blends | 20 items<br>12 items |
| Branch 4:<br>Managing Emotions | 1. Emotion Management<br>2. Emotional Relations | 5 Stimuli/20 items<br>3 Stimuli/9 items |

Source: Adapted from MSCEIT Test Manual, v2 (Mayer, Salovey & Caruso, 2002)

The MSCEIT v2 (Mayer, Salovey & Caruso, 2002) is currently the only emotional intelligence test that is focused on an ability perspective of emotional intelligence, is performance-based as opposed to self-report and is available for commercial use. With the shortened version and commercial availability, this instrument is available for broader use and testing. The MSCEIT measures people's actual performance, rather than their self-reported skills on emotional problem-solving tasks. Performance on these tasks has been only slightly related to personality traits as

measured by self-report personality tests (Caruso, & Wolfe, 2001). The current self-reporting tests of emotional intelligence appear to be re-packaged models of traditional personality traits such as optimism, motivation, and stress tolerance (Caruso & Wolfe).

The ability model of emotional intelligence is framed as a type of intelligence, hence it is intended to co-exist with, supplement, and clarify existing models of leadership – not replace them (Caruso, Mayer, & Salovey, 2002). Though the model is too new to have extensive data in support of its predictive validity, it is believed that it will make significant contributions to our understanding of leadership (Caruso, Mayer, & Salovey). "Leadership, which embraces the emotional side of directing organizations, pumps life and meaning into management structures, bringing them to full life" (Barach & Eckhardt, 1996, p.4). Other components of leadership, such as charisma, includes the leader regulating the emotions of its team members (Freidman, Riggio & Casella, 1988; Wasielewski, 1985), appears to require the ability to enhance pleasant emotions and de-emphasize unpleasant emotions in others. Charismatic leadership, a form of transformational leadership (Bass, 1985, 1997) may also have its roots in managing emotions (Ashkanasy & Tsee, 1998). Hence, a better empirical understanding of the role of emotional intelligence and leadership is warranted.

### *Leadership*

"Leadership theory and research have not adequately considered how leader's moods and emotions influence their effectiveness" (George, 2000, p.1028). This study aims to get at part of that question. A wide diversity of approaches to leadership has been proposed, from analyzing what leaders are like, what they do, how they motivate

their followers, how their styles interact with situational conditions and how they can make major changes in their organizations are only a few examples (Yukl, 1998; Yukl & Van Fleet, 1992). A great deal of research has been conducted surrounding these many theories and has led to a better understanding of leadership. But understanding how and why leaders have (or fail to have) positive influences on their followers is still a compelling question for researchers (George, 2000). Feelings and moods have been shown to influence the judgments people make, attributions for success and failure and inductive and deductive reasoning. It is likely then, that feelings play an important role in leadership. These emotion/mood capabilities have been addressed by emotional intelligence. Emotional intelligence describes that ability to join emotions and reasoning, using emotions to facilitate reasoning and reasoning intelligently about them (Mayer & Salovey, 1997). Several researchers have begun to evaluate this role of emotional intelligence and leadership.

Vitello-Cicciu (2001) looked at emotional intelligence (from an ability perspective) and its relationship to leadership practices among nursing leaders. Nursing leaders are responsible for managing and coordinating the environment in which healthcare providers deliver the care, and they are expected to attend to the emotional side of leadership, which requires that these nurses possess emotional intelligence. The effects of ability emotional intelligence as a predictor of leadership success were also evaluated (Collins, V.J., 2001). From subordinate ratings, a relationship between ability based emotional intelligence and leadership success was found. This ability based

emotional intelligence appears to influence prediction of success through the perceptions of others.

The relationships among emotional intelligence, personality, leadership and managerial effectiveness have been another area of study (Buford, 2001). A trait-focused perspective of emotional intelligence was used to assess the validity of emotional intelligence in predicting management performance and transformational leadership. Significant relationships and overlap between emotional intelligence, all Big Five personality variables and self-reported transformational leadership and leadership effectiveness were found (Buford, 2001). Sosik and Megerian (1999) also looked at trait based emotional intelligence of leaders and leaders performance. They examined whether the self-awareness of managers would moderate the relationship between emotional intelligence, transformational leadership behavior and managerial performance. Their results suggested that managers who maintain self-awareness possess more aspects of emotional intelligence and are rated as more effective by both superiors and subordinates than those who are not self-aware (Sosik & Megerian, 1999). These studies suggest that there is an interest in evaluating the role of emotional intelligence and leadership. Specifically, an area that has not been evaluated is the role of ability based emotional intelligence and transformational leadership.

### *Charismatic Leadership*

The study of leadership, its outcomes and its effectiveness has ebbed and flowed over the years. Leadership research was typically classified based on its primary focus, commonly on leader traits, leader behavior, power and influence or situational factors

(House & Podsakof, 1994; Yukl & Van Fleet, 1992). Most definitions of leadership have reflected an assumption around a process where one person exerts influence over another to guide and facilitate relationships in a group or organization (Yukl, 1998). Many differences in how leadership is defined, revolve around how influence is applied, who applies it and the resulting outcomes. For years the definitions of leadership emphasized a rational and cognitive perspective. Many recent conceptions however, emphasize the emotional aspects of influence more than the reason (Yukl, 1998). Common within this view is the perspective that leaders inspire followers to willingly sacrifice their selfish interests for a higher cause.

This new class of "outstanding leadership theories" (House & Podsakoff, 1994) emerged and centered on the "major effects (that leaders can have) on the emotions, motives, preferences, aspirations, and commitment of followers, as well as on the structure, culture, and performance of complex organizations" (House & Podsakoff, 1994, p.55). Charismatic and transformational leadership were part of this new class of theories which emphasized

> "symbolic leader behavior, visionary and inspirational ability, non-verbal communication, appeal to ideological values, and the empowerment of the followers by the leader….outstanding leaders transform organizations by infusing into them ideological values and moral purpose, thus inducing strong commitment, rather than by affecting the cognitions or the task environment of followers, or by offering material incentives and the threat of punishment." (House & Podakoff, 1994, p.55).

The term charisma (Weber, 1947) was used to describe those exceptional qualities in a leader who used their influence based on followers' perceptions rather than traditional or formal authority. From this foundation of charisma, numerous theories of charismatic leadership have emerged. House (1977) described a charismatic leader as one who has profound and unusual effects on followers. These charismatic leaders were: (a) highly self-confident with a strong conviction in their own beliefs and values, (b) likely to set behavioral examples for their followers to imitate, (c) describing the group goals within the shared values, ideals and aspirations of the followers, and (d) likely to communicate high expectations of their follower's performance (Yukl, 1998).

This theory of charismatic leadership (House, 1977) has been expanded to be described in more behavioral components by Conger and Kanungo (1987). These charismatic leaders challenge the status quo and have an idealized vision of the future state; they act in unconventional ways to achieve their vision, pursue their vision through personal risk and high costs, and are confident about their direction. These definitions of charismatic leadership were further refined and incorporated within a transformational leadership construct by Burns (1978).

### *Transformational Leadership*

Burns (1978) described transformational leadership as a process in which "leaders and followers raise one another to higher levels of morality and motivation" (p. 20). This process of leadership is "a stream of evolving interrelationships in which leaders are continuously evoking motivational responses from followers and modifying their behavior as they meet responsiveness or resistance, in a ceaseless process of flow

and counterflow" (Burns, 1978, p. 440). These transformational leaders "seek to raise the consciousness of followers by appealing to higher ideals and moral values such as liberty, justice, equality, peace, not to baser emotions such as fear, greed, jealousy, or hatred" (Yukl & Van Fleet, 1992, p. 176). Transformational leadership was in contrast to transactional leadership, where followers are motivated by their self-interest in exchange for specific rewards for reaching certain goals and accomplishing specific tasks.

This theory of transformational and transactional leadership was further refined and the scope of the constructs expanded by Bass (1985). Transformational leaders were described to motivate followers to perform beyond expectations by intellectually stimulating and inspiring them to transcend their own self-interest for a higher collective purpose. Transactional leaders use a negotiation process, where followers exchange efforts and services for rewards. Transformational leadership was differentiated from charismatic leadership in that, "charisma is a necessary ingredient of transformational leadership, but by itself is not sufficient to account for the transformational process" (Bass, 1985, p.31). These transformational leaders seek to empower and elevate followers and can be found in any organization at any level. A transformational leader activates follower motivation and increases follower commitment. In order to more effectively measure these components of leadership, Bass and his colleagues developed the Multi-factor Leadership Questionnaire (MLQ), currently in version MLQ5x (Avolio, Bass & Jung, 1995; Bass & Avolio, 2000).

### *Multifactor leadership questionnaire (MLQ5x)*

The MLQ5x (Bass & Avolio, 2000) is a 360-degree instrument consisting of two parts. One component is a self-assessment for leaders in regards to their leadership style and the second assessment is for subordinates/peers/boss to report on their perceptions of the behavior and attributes of their immediate supervisor/peer/subordinate. The two components can be used separately, as part of a 180-degree or a full 360-degree assessment. Both instruments have identical scales and items, except that the item stems refer to the supervisor in one case and the self in another.

Transformational leadership consists of four factors as measured by the MLQ5x (Bass & Avolio, 2000): (a) intellectual stimulation, (b) individualized consideration, (c) charisma (idealized attributes and idealized behaviors), and (d) inspirational motivation. Intellectual stimulation gets followers to question the status quo and encourages them to question their methods and seek ways to improve them. A sample item is: "seeks differing perspectives when solving problems". Individualized consideration is where the leader focuses on the unique needs of each follower and works continuously to help them to reach their full potential. Charisma involves gaining respect, trust, and confidence toward the leader and transmitting a strong sense of mission and vision of the desired future to the followers.

A sample item is: "Instills pride in me for being associated with him/her". And finally, inspirational motivation is communicating an energizing sense of purpose.

Transactional leadership consists of two factors as measured by the MLQ5x (Bass & Avolio, 2000): (a) contingent reward, and (b) management-by-exception (which includes management by exception – passive and management by exception – active). Contingent reward clarifies expectations, positively reinforces the achievement of mutually agreed upon goals and what will be received if certain performance levels are met. A sample item is: "expresses satisfaction when I meet expectations". Management-by-exception is defined as focusing on task execution for any problems that might arise and correcting those problems to maintain performance at an acceptable level.

Laissez-faire leadership is the negation of or a no leadership factor (Bass & Avolio, 1993). In this situation, leadership is "absent and intervention by the nominal leaders is avoided. Decisions are often delayed; feedback, rewards, and involvement are absent; and there is not attempt to motivate followers or recognize and satisfy their needs" (Bass & Avolio, 1993, p.53). A sample item is: "avoids getting involved when important issues arise". Table 2-4 provides an overview of the leadership construct.

Table 2-4

Constructs, Factors and Scales of the MLQ5x

| Leadership Construct | Component | Scale (Number of items/Scale) |
|---|---|---|
| Transformational Leadership | Intellectual Stimulation | Intellectual Stimulation (4) |
| | Individualized Consideration | Individualized Consideration (4) |
| | Charisma | Idealized Influence (Behavior) (4)<br>Idealized Influence (Attributed) (4) |
| | Inspirational Motivation | Inspirational Motivation (4) |
| Transactional Leadership | Contingent Reward | Contingent Reward (4) |
| | Management-by-Exception | Management-by-Exception (Active) (4)<br>Management-by-Exception (Passive) (4) |
| Laissez-Faire Leadership | Laissez-Faire | Laissez-Faire (4) |
| Leadership Outcomes | Satisfaction | Satisfaction (2) |
| | Extra Effort | Extra Effort (3) |
| | Effectiveness | Effectiveness (4) |

*Source: Adapted from Avolio, Bass, & Jung (1995); Bass & Avolio, 2000*

In addition to the transformational and transactional leadership components, there are three outcome leadership outcomes: (a) satisfaction, (b) extra-effort, and (c) effectiveness. From a subordinate perspective, these are described as: (a) how satisfied I am with my leader, (b) the degree to which my leader gets extra-effort out of me, and

(c) how effective my leader is. A sample item for effectiveness is: "is effective in meeting my job-related needs". There have been a number of survey studies that have used the MLQ to examine the relationship between leadership behavior and various criteria of leadership effectiveness (e.g., Avolio & Howell, 1992; Yammarino & Bass, 1990). Most recently, Lowe, Kroeck, and Sivasubramaniam (1996) completed a meta-analysis evaluating 39 leadership studies. They found that in most studies, three transformational leadership behaviors (charisma, individualized consideration, intellectual stimulation) were related to leadership effectiveness. This relationship was stronger for subordinate self-rated effort than for an independent criterion of leadership effectiveness. The transformational leadership behaviors correlated more strongly with leadership effectiveness than did the transactional leadership behaviors.

Generally speaking, effective leadership includes the following essential elements (Conger & Kanungo, 1998; Locke, 1991; Yukl, 1998): (a) development of a collective sense of goals and objectives, (b) instills in others knowledge and appreciation of work activities and behaviors, (c) generates and maintains confidence, excitement and enthusiasm in an organization as well as trust and cooperation, (d) encourages flexibility in decision making and change, and (e) establishes a meaningful identity for an organization. Emotional intelligence may be an avenue for leaders to accomplish effective leadership (George, 2000).

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### *Exploratory Questions and Their Hypotheses*

The purpose of this study is to investigate the relationships between emotional intelligence and leadership style and between emotional intelligence and leadership effectiveness. Based upon the literature review, the two research questions were expanded to include three subquestions each, and are as follows:

1. What is the relationship between the emotional intelligence of leaders and their leadership style?
    1a. *What is the relationship between the emotional intelligence of leaders and their transformational leadership style?*
    *1b. What is the relationship between the emotional intelligence of leaders and their transactional leadership style?*
    *1c. What is the relationship between the emotional intelligence of leaders and their laissez-faire leadership style?*
2. What is the relationship between the emotional intelligence of leaders and their leadership effectiveness?
    *2a. What is the relationship between the emotional intelligence of leaders and their subordinates perception of their extra effort?*
    *2b. What is the relationship between the emotional intelligence of leaders and their subordinates satisfaction with their leadership?*
    *2c. What is the relationship between the emotional intelligence of leaders and their perceived leadership effectiveness?*

***What is the Relationship Between the Emotional Intelligence of Leaders and Their Transformational Leadership Style?***

As has been described, emotional intelligence is measured through the ability to perceive emotions accurately, to access or generate feelings when they facilitate thought, to understand emotion and emotional knowledge and to regulate emotions (Mayer & Salovey, 1997). The relationship between emotion perception, emotion recognition, organizational relationships and leadership has been explored, but through a broader, trait focused perspective of emotional intelligence. This relationship has not yet been explored using an ability-based perspective of emotional intelligence. Transformational leadership is described as that type of leadership where a leader activates follower motivation and increases their commitment. These leaders are thought to arouse dormant needs in their followers and motivate them to perform beyond baseline expectations. In order to be able to tap into their followers, it is believed that these leaders need to have good emotion perception and recognition skills, hence the first hypothesis:

> *Hypothesis 1 (H1): There is a significant and positive correlation ($p<.05$) between perceiving emotions, as measured by the MSCEIT and transformational leadership styles as perceived by subordinates.*

Transformational leaders however, would also need to be able to more effectively facilitate thought by focusing on how emotions can be harnessed for more effective problem solving and creative endeavors. Transformational leaders leverage their skills

of charisma, intellectual stimulation and individualized consideration to accomplish these tasks.

> *Hypothesis 2 (H2): There is a significant and positive correlation ($p<.05$) between facilitating thought, as measured by the MSCEIT and transformational leadership styles as perceived by subordinates.*

Understanding emotions through recognizing groups of related emotional items and managing those emotions are also critical skills to a transformational leader. Transformational leaders tap into their followers and leverage their performance through a personal connection.

> *Hypothesis 3 (H3): There is a significant and positive correlation ($p<.05$) between understanding emotions as measured by the MSCEIT and transformational leadership styles as perceived by subordinates.*

> *Hypothesis 4 (H4): There is a significant and positive correlation ($p<.05$) between managing emotions as measured by the MSCEIT and transformational leadership styles as perceived by subordinates.*

***What is the Relationship Between the Emotional Intelligence of Leaders and Their Transactional Leadership Style?***

Transactional leadership is that type of leadership that occurs day to day. These types of leaders apply influence through clear goal setting, clarified outcomes and

providing feedback and rewards for accomplishments. This type of leadership is not emotional in nature.

*Hypothesis 5 (H5): There is no significant correlation between perceiving emotions as measured by the MSCEIT and transactional leadership style as perceived by subordinates.*

*Hypothesis 6 (H6): There is no significant correlation between facilitating thought as measured by the MSCEIT and transactional leadership style as perceived by subordinates.*

*Hypothesis 7 (H7): There is no significant correlation between understanding emotions as measured by the MSCEIT and transactional style leadership as perceived by subordinates.*

*Hypothesis 8 (H8): There is no significant correlation between managing emotions as measured by the MSCEIT and transactional leadership style as perceived by subordinates.*

***What is the Relationship Between the Emotional Intelligence of Leaders and Their Laissez-Faire Leadership Style?***

Laissez-faire leadership is the negation of leadership. It is no leadership at all. Laissez-faire leaders are absent and often delay involvement. There is no attempt to motivate followers or to recognize and satisfy their needs (Bass & Avolio, 1993).

*Hypothesis 9 (H9): There is no significant correlation between perceiving emotions as measured by the MSCEIT and laissez-faire leadership style as perceived by subordinates.*

*Hypothesis 10 (H10): There is no significant correlation between facilitating thought as measured by the MSCEIT and laissez-faire leadership style as perceived by subordinates.*

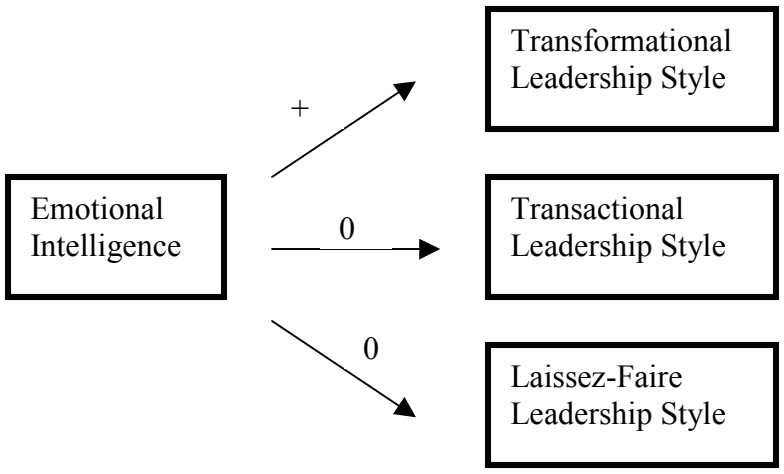
*Hypothesis 11 (H11): There is no significant correlation between understanding emotions as measured by the MSCEIT and laissez-faire leadership style as perceived by subordinates.*

*Hypothesis 12 (H12): There is no significant correlation between managing emotions as measured by the MSCEIT and laissez-faire leadership style as perceived by subordinates.*

These first sets of hypotheses can be viewed in a model format. See Figure 2-1.

Figure 2 –1

Pictorial Representation of Hypothesized Relationship of Emotional Intelligence and Leadership Style




***What is the Relationship Between the Emotional Intelligence of Leaders and Their Subordinates Perception of Their Extra Effort?***

Extra effort is an outcome variable of leadership. Extra effort of a follower is measured by a follower's willingness to try harder, complete more than they expected to do and has a heightened desire to succeed. Those leaders who are more emotionally intelligent, through perceiving, using, and understanding and managing emotions would be able to lead for extra effort.

*Hypothesis 13 (H13): There is a significant and positive correlation ($p<.05$) between perceiving emotions as measured by the MSCEIT and extra effort as perceived by subordinates.*

*Hypothesis 14 (H14): There is a significant and positive correlation (p<.05) between facilitating thought as measured by the MSCEIT and extra effort as perceived by subordinates.*

*Hypothesis 15 (H15): There is a significant and positive correlation (p<.05) between understanding emotions as measured by the MSCEIT and extra effort as perceived by subordinates.*

*Hypothesis 16 (H16): There is a significant and positive correlation (p<.05) between managing emotions as measured by the MSCEIT and extra effort as perceived by subordinates.*

***What is the Relationship Between the Emotional Intelligence of Leaders and Their Subordinates Satisfaction with Their Leadership?***

There has been little research to date looking at the role of follower satisfaction and emotional intelligence. Some followers may want a leader who is more individualistic, but others may not.

*Hypothesis 17 (H17): There is no significant correlation between perceiving emotions as measured by the MSCEIT and satisfaction with leadership as perceived by subordinates.*

*Hypothesis 18 (H18): There is no significant correlation between facilitating thought as measured by the MSCEIT and satisfaction with leadership as perceived by subordinates.*

*Hypothesis 19 (H19): There is no significant correlation between understanding emotions as measured by the MSCEIT and satisfaction with leadership as perceived by subordinates.*

*Hypothesis 20 (H20): There is no significant correlation between managing emotions as measured by the MSCEIT and satisfaction with leadership as perceived by subordinates.*

***What is the Relationship Between the Emotional Intelligence of Leaders and Their Perceived Leadership Effectiveness?***

Transformational leadership behaviors are related to leadership effectiveness (Lowe, Kroeck & Sivasubramaniam, 1996). This type of leadership is based on charisma, intellectual stimulation and individualized consideration. Your emotionally intelligent leaders have a higher aptitude to tap into their followers and lead transformationally, and consequently effectively.

*Hypothesis 21 (H21): There is a significant and positive correlation (p<.05) between perceiving emotions as measured by the MSCEIT and leader effectiveness as perceived by subordinates.*

*Hypothesis 22 (H22): There is a significant and positive correlation (p<.05) between facilitating thought as measured by the MSCEIT and leader effectiveness as perceived by subordinates.*

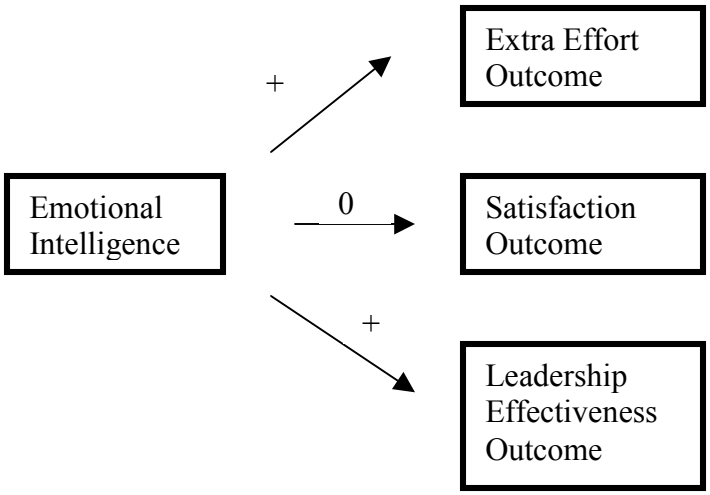
*Hypothesis 23 (H23): There is a significant and positive correlation (p<.05) between understanding emotions as measured by the MSCEIT and leader effectiveness as perceived by subordinates.*

*Hypothesis 24 (H24): There is a significant and positive correlation (p<.05) between managing emotions as measured by the MSCEIT and leader effectiveness as perceived by subordinates.*

These second sets of hypotheses can also be viewed in a model format. See Figure 2-2.

Figure 2 –2

Pictorial Representation of Hypothesized Relationship of Emotional Intelligence and Leadership Outcome Variables




***Summary***

In this section, the research literature on emotional intelligence and leadership was reviewed. Emotional intelligence research has diverged down two paths. The more commonly held view among practitioners and some scholars is the perspective espoused primarily by Goleman (1995; 1998b; 2001). He broadly defines emotional intelligence as one's ability to "motivate oneself and persist in the face of frustrations; to control impulses and delay gratification; to regulate one's moods and keep distress from swamping the ability to think; to empathize and to hope" (Goleman, 1995, p.34). This perspective has been described as a trait model for emotional intelligence, since it incorporates many components of personality and self-perceived abilities (Petrides & Furnham, 2001). It has been difficult for many researchers to find trait emotional

intelligence adding unique variance to our understanding of personality, intelligence, leadership and management (Buford, 2001; Kobe, Reiter-Palmon & Rickers, 2001; Van Der Zee, Thijs & Schakel, 2002; Zeidner, Roberts & Matthews, 2002).

Ability based emotional intelligence is a narrow, more restrictive perspective of the construct. This is defined as:

> Emotional intelligence involves the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth (Mayer and Salovey, 1997, p. 10).

Since this definition is narrower in perspective and application, it currently does not appear to have wide practitioner appeal. This perspective however is the only one that has a performance-based, commercially available test to measure it. With a non-self reporting test, it is believed that one can more accurately measure any relationships or predictive value of this construct. The MSCEIT (Mayer, Salovey, & Caruso, 2002), based on an ability perspective of emotional intelligence provides some of the key components required to further research this construct and its implications to HRD.

The concept of leadership has as many different definitions as there are persons who define it (Stogdill, 1974). Recent conceptions of leadership have recognized the importance of emotion as a basis of influence (Yukl, 1998). Transformational leaders exhibit charismatic behaviors, arouse dormant needs in their followers and motivate them to perform beyond baseline expectations. Transformational leadership is that type

of leadership that is centered on the "major effects (that leaders can have) on the emotions, motives, preferences, aspirations, and commitment of followers…" (House & Podsakoff, 1994, p. 55). Evaluating and understanding the role of leadership and emotional intelligence has been of interest to practitioners and scholars alike.

The challenge with many current studies on leadership, its effectiveness and emotional intelligence, is that they have used self-reporting instruments and broader definitions of emotional intelligence. The purpose of this study is to view emotional intelligence from an ability perspective and research its relationship to leadership style and leadership effectiveness as perceived by leaders' subordinates.

The following chapters describe the research method, results and implications of an empirical study of ability emotional intelligence and leadership style.

Chapter 3

# RESEARCH METHOD

This chapter describes the method used to study the relationships among emotional intelligence, leadership style, and leadership effectiveness and to test the twenty-four hypotheses presented as a summary to the literature in Chapter 2. The purpose of this study is to gain a better understanding of the relationships between the three phenomenons. The following components will be addressed in this chapter: (a) research design; (b) population and sample; (c) data collection instruments; (d) execution planning; and (e) variables for data analysis and statistical treatment.

## *Research Design*

This study was conducted using a correlational research design. Two commercially available survey instruments were administered. One instrument, the Mayer Salovey Caruso Emotional Intelligence Test (MSCEIT) (Mayer, Salovey, & Caruso, 2002) was administered to all the top managers (N = 151) of a single US based manufacturing organization referred to as CSW. The MSCEIT measured the variable of emotional intelligence. This instrument reported five scores in the areas of: (a) perceiving emotions, (b) facilitating emotions, (c) understanding emotions, (d) managing emotions, and (e) overall emotional intelligence. The second instrument, the Multifactor Leadership Questionnaire (MLQ5x) (Bass & Avolio, 2000) was administered to the subordinates of those 151 managers. This instrument measured the

variables of transformational leadership style, transactional leadership style, and laissez-faire leadership style. In addition, the MLQ5x reported results in the areas of extra effort, satisfaction with the leader, and the leader's effectiveness. The instruments were collected and then sent to the respective publishers for scoring. The raw data were entered and analyzed using correlational statistics. The Manager of Global Leadership Development at CSW and the author provided group level survey results to the organization's executive team. Individual feedback sessions were conducted with each of the 151 managers where their personal survey results were discussed and personal actions plans developed.

### *Population and Sample*

The target population for this study consisted of the managers of CSW; a Midwestern based manufacturing organization that employs 2300 people worldwide. Of that 2300, approximately 2000 were located within the United States. Starting at the top of the organization and working down within the hierarchy, managers (defined as those who have more than three direct reports), located within North America were identified. The total population of 151 managers participated in the study. These managers included executives and directors of CSW, managers across all functions of the organization and supervisors in customer service and manufacturing. This represented about 90% of the companies' personnel having the title of manager. From CSW human resource records, the 151 managers were made up of 27 females and 124 males.

After determining the population of the 151 managers who would participate, the names of those managers' direct reports were collected. Due to the number of employees impacted by this study, the organization asked that the number of employees surveyed be limited. For managers who had more than 10 direct reports, 10 of their direct reports were randomly selected to participate. If a manager had between 3-10 direct reports, all were asked to participate. The manufacturing supervisors and field service managers generally have 10-20 direct reports, and were the ones primarily impacted by this random selection.

The 151 managers were sent the MSCEIT (Mayer, Salovey and Caruso, 2002), to evaluate their emotional intelligence. 138 completed surveys were received, 3 managers refused to participate and 10 managers did not respond. A response rate of 93.3% occurred with the management group. The MLQ5x (Bass & Avolio, 2000) was sent out to the subordinates to gain their perceptions of their manager's leadership style and leadership effectiveness. A total of 1165 subordinates were asked to participate. 791 completed surveys were returned. In addition, 17 surveys were sent back as undeliverable or a refusal to participate. The total response rate was 68.9%.

***Non-respondent Bias and Non-randomness of Responses***

Error limit is defined as the degree to which the researcher can be confident that the sample and the respondents are representative of the population (Wunsch, 1986). In this case, 100% of the 151 managers with three or more direct reports participated. Of the 151 managers participating, only 1 manager had no response from any of their direct reports on the MLQ5x survey instrument.

The possibility of systematic distortion of the data because of differences between respondents and non-respondents is referred to as non-respondent bias. 100% response rates are unrealistic, so it is the researcher's responsibility to decrease the concern of non-response bias (Wunsch, 1986). Following up with the non-respondents is a generally accepted method for accomplishing this, however, it can yield low success. Within this study, two follow up methods were used. For the subordinates, who were asked to evaluate their managers, a follow-up letter was sent to all participants from the VP of Human Resources of CSW reminding them of the survey and asking for their participation. Due to the anonymity granted to the subordinates, it was not distinguished which subordinates responded and which did not. Managers however, were specifically identified in the study and those managers who did not return the MSCEIT within the first deadline were sent a follow-up e-mail directly from the VP of Human Resources reminding them of the study and asking for their participation. There were no differences in characteristics of the manager respondents and non-respondents.

### *Data Collection Instruments*

After reviewing the literature, previous research and consulting with the Manager of Global Leadership Development at CSW, the MSCEIT (Mayer, Salovey, & Caruso, 2002) was selected for measuring *emotional intelligence* and the MLQ5x (Bass & Avolio, 2000) was selected for measuring *leadership style and effectiveness*. The MSCEIT was only available and validated in an English version at the time of the study; hence the management sample was limited to the North American employees.

The MLQ5x is widely available in multiple languages, and is validated in English. Following is a description of the instruments.

***Mayer Salovey Caruso Emotional Intelligence Test (MSCEIT v2)***

The MSCEIT is based on the work of Mayer, Salovey and Caruso (2002) and presents the most recent revision of the original instrument, the MEIS and is the only version that is available for professional use. This is a new instrument, with few studies testing its reported validity and reliability metrics. The scale structure of the instrument has already been reported in Chapter 2. The MSCEIT is an outcome of the first instrument the MEIS (Mayer, Salovey & Caruso, 1999; Mayer, Caruso & Salovey, 1999), which consists of a four-branch model of *emotional intelligence* measured through 12 subscales. The *emotional intelligence* scores can be calculated according to general consensus (what most people say) and/or according to the criterion of expert consensus (what the experts say). The MSCEIT is 141 items long, less than one third the length of its original predecessor the MEIS. The MSCEIT offers a means to measure emotional intelligence on objective ability-based data that are not overly subject to response bias (Mayer, Salovey & Caruso, 2002).

It is recommended that most users employ the general scoring method (Mayer, Salovey & Caruso, 2002). This method utilizes the entire normative sample of 5000 to score item responses. If 70% of the norm sample selected "A" as their choice for an item, the response of "A" would yield a score of .70 for that item. The expert scoring method is the same, but uses a sample of 21 emotion experts to formulate the scores associated with the responses to each item. The correlation between the expert-based

and general consensus based item response frequencies was .90. Due to these high correlations, it was determined that general scoring would be appropriate. The MSCEIT (Mayer, Salovey, & Caruso, 2002) is available in both a computerized and paper and pencil version. Since part of the population was located in the field and may not have had access to a computer, the paper and pencil version was selected.

The MSCEIT (Mayer, Salovey & Caruso, 2002) has reported full-scale reliability of .91, with area reliabilities of .90 (experiential emotional intelligence) and .85 (strategic emotional intelligence). The four branch score reliabilities ranged from .74 to .89. The subtasks are somewhat less reliable and the test authors suggest that researchers exercise caution at evaluating at that level. Comparisons therefore were limited to the branch level and higher. The MSCEIT is intended to measure one unified area of ability – *emotional intelligence* – that can be subdivided into subsidiary areas of skill. Therefore, it is important for the MSCEIT branch scores to intercorrelate positively. Those intercorrelations have been reported in the test manual (Mayer, Salovey, & Caruso, 2002) in the low to moderate range (.30 to .51). Intercorrelations among the branch and area scores with general scoring were reported for this study, and are located in Appendix H.

Several studies were mentioned in the MSCEIT Test Manual (Mayer, Salovey & Caruso, 2002) in describing the discriminant validity of the MSCEIT. In respect to its' relationships with IQ: Correlations of r = .36 and r = .38 (Mayer et al, 1999) and correlations of approximately r = .05 (Ciarrochi et al., 2000) were found. There is moderate correlation with IQ, but when there are correlations they are in the expected

direction, that is, higher IQ related to higher total emotional intelligence. In evaluating the MSCEIT against a broader trait perspective of *emotional intelligence,* measured through self-report, Brackett and Mayer (2001) found r = .18 (207) between the MSCEIT and the Bar-On (1995) EQi. Pelletteri (2001), as cited by Mayer, Salovey & Caruso (2002) found a correlation of r = .13 (130), ns using the MSCEIT and EQi. This demonstrates that the MSCEIT measures something different from the Bar-On and the EQi. Both the Bar-On and the EQi are based on a broader, trait-focused perspective of emotional intelligence. The MSCEIT measures an ability-based perspective of emotional intelligence. *Emotional intelligence* is defined differently in each of these instruments.

Some higher correlations have been found with the MSCEIT and *empathy*. These included correlations of r = .33, ($p < .01$) between the MEIS (predecessor of the MSCEIT) and the Caruso-Mayer *empathy* scale (Mayer et al., 1999). Others found a correlation of r = .43 between the MEIS and the Mehrabian-Epstein *empathy* scale in a sample of 114 college students (Ciarrochi et al., 2000). In relationship to personality tests, it is expected that there might be a small correlation, but not substantive. Salovey and colleagues (in press), evaluating the MSCEIT against the five personality components, with a sample of 97 participants, found the following correlations: r = -.13 (ns), neuroticism; r = .04 (ns), extroversion; r = .33 ($p < .05$), agreeableness; r = -.23 ($p < .05$), openness; and r =.25 ($p < .05$) conscientiousness. A high emotionally intelligent person "cannot be identified according to any moderately high or strong relationship to other personality styles" (Mayer, Salovey & Caruso, 2002, p. 40).

***Multifactor Leadership Questionnaire (MLQ5x)***

The MLQ5x is the most recent version available of the original MLQ form 1 (Bass & Avolio, 2000) and is based on the work of Bass (1985). The most recent version has been used in numerous research projects and in the past four years, over 200 theses and doctoral dissertations alone have explored and tested the paradigm of transformation and transactional leadership (Bass & Avolio, 2000). The scale structure is reported in Chapter 2. Confirmatory factor analysis using Lisrel VII has been used to test the convergent and discriminant validities of each MLQ5x scale, the psychometric properties of the instrument, the implied correlation matrix with the observed correlations, and degree of goodness of fit. Testing the six-factor model, Bass and Avolio (2000) found that it had the most optimal fit. There were generally adequate reliabilities (Cronbach's alpha) ranging from $\alpha = .63$ to $\alpha = .92$. Estimates of internal consistency were above $\alpha = .70$ for all scales except for active management by exception (Bass & Avolio). The intercorrelations among the MLQ5x five *transformational leadership* scales were relatively high and positive. The average interrcorrelation was $r = .83$, and it was $r = .71$ for the five *transformational leadership* scales with ratings of contingent reward leadership (Bass & Avolio). *Transformational leadership* scales and contingent reward were positively correlated with the three outcome measures: extra effort, effectiveness and satisfaction ($r = .18$ to $r = .74$). Management by exception active was only slightly correlated with these three outcome measures and management by exception passive and *laissez-faire leadership* was strongly negatively correlated with the outcome measures (Bass & Avolio). All of these

results confirm the factor structure and validate the instrument. Due to the relatively high intercorrelations among the subscales in transformational leadership, some authors (Atwater & Yammarino, 1992; Dubinsky, Yammarino, & Jolson, 1995) have combined them and considered transformational leadership as one 20-item scale instead of five separate 4-item scales.

*Transformational leadership* augments rather than replaces *transactional leadership* in terms of its impact on performance. The emotional appeals of the transformational leader are interspersed with the balances of establishing expectations and satisfying agreed upon contracts (Bass & Avolio, 2000). The transformational leaders motivate followers to perform beyond their own expectations based on the leader's idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. These *transformational leadership* styles build on the transactional base in contributing to the extra effort and performance of others.

### *Demographic Variables*

Emotional intelligence and leadership style may be influenced by demographic characteristics such as gender, age, and occupation level (Mayer, Salovey & Caruso, 2002). This demographic data was collected from the human resources department of CSW simply for descriptive purposes in this report. The manager population consisted of 124 males and 27 females. 146 managers were described as Caucasian. 34 of the managers were under the age of forty. 69 managers were between the ages of forty and forty-nine, 42 managers were between the ages of fifty and fifty-nine, and 6 managers were over the age of sixty. The managers had varying lengths of service: 55 managers

have been employed by CSW for less than ten years, 44 managers have been employed by CSW for eleven to nineteen years, 34 managers for twenty to twenty-nine years and 18 managers have been employed by CSW for over thirty years. The occupation level of the manager population included 31 individuals in the position of director or executive, 83 were classified as managers and 37 were classified as supervisors (see Table 3-1).

Table 3-1

Demographic Summary of Manager Population

| Gender | | Occupation Level | | Age | | Years of Service | |
|---|---|---|---|---|---|---|---|
| Male | 124 | Director & Above | 31 | <40 years | 34 | 1 – 9 yrs | 55 |
| Female | 27 | Manager | 83 | 40 – 49 yrs | 69 | 10 – 19 yrs | 44 |
| | | Supervisor | 37 | 50 – 59 yrs | 42 | 20 – 29 yrs | 34 |
| | | | | 60 – 69 yrs | 6 | 30 + yrs | 18 |

The company used these variables for in-house reporting and comparisons only. Further analysis is not included in this report as this study was focused on the larger question of relationships in general and not on the smaller variations that may be possible due to gender, age and occupation.

### *Administration*

This project required a great deal of coordination and executive support from the sponsor organization, CSW. In this section, logistical aspects, the University Human Subjects Committee approval process, the data collection strategy and the study timeline are described.

An initial period of planning occurred from May 2001 until November 2001. During this period, a great deal of time was spent reviewing the relevant research literature, formulating initial research questions, evaluating possible data collection strategies and instruments, and obtaining feedback from the researcher's doctoral committee members on the structure and feasibility of the study. Concurrently, effort was being made with CSW as a possible site for the research study. After discussions with CSW's Manager of Global Leadership and the Vice President of Human Resources regarding the study, tentative approval was given in early October 2001. The Manager of Global Leadership was selected as the researcher's primary contact. Through discussions with the Manager of Global Leadership, agreement was reached with CSW and the desired outcomes for the study were formally stated, the preliminary sampling and data collection strategies decided on and the MSCEIT (Mayer, Salovey & Caruso, 2002) and MLQ5x (Bass & Avolio, 2000) were selected as the survey instruments. Additionally, internal resources were identified to assist with distribution and collection of the survey instruments once formal permission was received to conduct the study.

The dissertation committee approved a formal research proposal including the above items in November 2001. Upon receiving that approval, formal application was made to the Institutional Review Board: Human Subjects Committee (IRB) on November 23, 2001 and indicated that the study was exempt from review under federal guidelines 45 CFR Part 46 of category 7, and was subject to expedited review. Final approval was received from the IRB on January 6, 2002 (see Appendix A).

Concurrent to the IRB approval process, meetings with the Manager of Global Leadership for finalizing organizational support with the executive team members of CSW were conducted. Final executive support and sponsorship on the surveys and sampling strategies was obtained in late February 2002 from the CSW Chief Executive Office, Chief Operation Officer and the Vice President of Human Resources. The Manager of Global Leadership provided the 151 managers names (who had more than three direct reports) and human resources provided the names of the direct reports of those managers. Ten participants were randomly selected for each manager who had more than ten direct reports. All direct reports were selected to participate for those managers who had from three to ten subordinates.

The data collection occurred in two phases to have minimal impact on the organization. Phase 1 consisted of the MLQ5x (Bass & Avolio, 2000) being sent out to the subordinates of the 151 managers. Phase 2 consisted of the MSCEIT (Mayer, Salovey & Caruso, 2002) being sent out to the 151 managers. Approximately thirty days passed from the beginning of phase one to the beginning of phase two.

***Phase One – MLQ5x***

MLQ5x (Bass & Avolio, 2000) questionnaires were secured from Mind Gardens (the MLQ5x publisher) with an appropriate number for each manager. Prior to formally beginning the study, a memo, dated March 18, 2002 was sent by the VP of Human Resources to all CSW directors and executives describing the purpose of the study, the process and soliciting their support (Appendix B). On March 21, 2002 a memo went out to all CSW managers to notify them of the study (Appendix B), and its intention and

to have them inform their subordinates of the upcoming initiative (this was a common communication practice of CSW). Managers were encouraged to support the initiative. Mailing labels were prepared, along with a copy of the manager-designated questionnaire, a consent form (Appendix C), a letter, dated March 26, 2002 from the Vice President of Human Resources (Appendix D) and a self-addressed stamped envelope. Each package was sent to the home addresses of all subordinates to allow them to privately determine if they wanted to participate. Three methods were provided to each subordinate for questionnaire completion: Self-addressed stamped envelope, fax, and designated drop boxes at each facility. These options were provided to each subordinate to maintain their confidentiality and to increase participation. Fax and self-addressed envelopes went directly to the author. The drop box questionnaires were collected by the respective designated site personnel daily and were forwarded to the author.

Data collection began in March 2002 and continued through early May 2002. A reminder memo was sent out to all subordinates on April 12, 2002 and again on April 26, 2002 (Appendix E) to ask for their participation if they hadn't already. In order to maintain confidentiality with the subordinates (and IRB requirements) data was not collected on which subordinates responded and which did not. Only manager level data was maintained. All survey questionnaires were collected by the researcher and sent to Mind Gardens for scoring. Mind Gardens sent back the results in an electronic spreadsheet, which were inputted into a statistical software program.

***Phase Two – MSCEIT***

Directly surveying the selected managers with the MSCEIT (Mayer, Salovey & Caruso, 2002) constituted phase two of the study. A memo dated April 22, 2002 by the Vice President of Human Resources (Appendix D) was attached to the survey instrument along with instructions for completion, a consent form and a self-addressed stamped envelope. These packages were sent via U.S. mail to the homes of the designated managers. Data collection began in April 2002 and continued through early June 2002. All completed surveys were sent to the researcher. All collected surveys were forwarded to Multi Health Systems (MHS, the test publisher) for scoring. On May 15, 2002 and again on May 22, 2002 (Appendix B) the Manager of Global Leadership sent an e-mail to the managers who had not yet returned their surveys, asking for their participation in the study. The scored results from MHS were received in electronic spreadsheet form where they were inputted into a statistical software package.

Collection of results from both surveys concluded in early June 2002. Data was inputted into a statistical program and analyzed in June 2002. The Manager of Global Leadership and the researcher conducted feedback sessions with the executive team members in late June 2002. Managers were provided separate, individualized leadership reports beginning in July 2002 (see Appendix B, June 6, 2002 letter). These reports were based on the subordinate responses on the MLQ5x (Bass & Avolio, 2000) and were prepared by Mind Gardens. Each manager had a one-hour feedback session by the author, Manager of Global Leadership or Director of Human Resources. These feedback sessions were completed in October 2002.

### *Variables for Data Analysis and Statistical Treatment*

The written surveys addressed two constructs with a total of 16 categories and 186 items. The research questions addressed were:

1. What is the relationship between the emotional intelligence of leaders and their leadership style?

    1a. *What is the relationship between the emotional intelligence of leaders and their transformational leadership style?*

    *1b. What is the relationship between the emotional intelligence of leaders and their transactional leadership style?*

    *1c. What is the relationship between the emotional intelligence of leaders and their laissez-faire leadership style?*

2. What is the relationship between the emotional intelligence of leaders and their leadership effectiveness?

    *2a. What is the relationship between the emotional intelligence of leaders and their subordinates perception of their extra effort?*

    *2b. What is the relationship between the emotional intelligence of leaders and their subordinates satisfaction with their leadership?*

    *2c. What is the relationship between the emotional intelligence of leaders and their perceived leadership effectiveness?*

Table 3-2 outlines, which survey instrument questions, addressed which research question and their associated hypotheses.

Table 3-2

MSCEIT, MLQ5x and Associated Item Numbers by Hypothesis

| Research Question (RQ) / Hypotheses (H) | Instrument Item Numbers |
|---|---|
| RQ 1a | |
| H1: H4 (All use the same MLQ5x Questions) | MLQ5x: Q2, Q6, Q8, Q9, Q10, Q13, Q14, Q15, Q18, Q19, Q21, Q23, Q25, Q26, Q29, Q30, Q31, Q32, Q34, Q36 |
| H1: | MSCEIT: Section A & Section E |
| H2: | MSCEIT: Section B & Section F |
| H3: | MSCEIT: Section C & Section G |
| H4: | MSCEIT: Section D & Section H |
| RQ 1b | |
| H5:H8 (All use the same MLQ5x questions) | MLQ5x: Q1, Q3, Q4, Q11, Q12, Q16, Q17, Q20, Q22, Q24, Q27, Q35 |
| H5: | MSCEIT: Section A & Section E |
| H6: | MSCEIT: Section B & Section F |
| H7: | MSCEIT: Section C & Section G |
| H8: | MSCEIT: Section D & Section H |
| RQ 1c | |
| H9:H12 (All use the same MLQ5x questions) | MLQ5x: Q5, Q7, Q28, Q33 |
| H9: | MSCEIT: Section A & Section E |
| H10: | MSCEIT: Section B & Section F |
| H11: | MSCEIT: Section C & Section G |
| H12: | MSCEIT: Section D & Section H |
| RQ 2a | |
| H13:H16 (All use the same MLQ5x questions) | MLQ5x: Q39, Q42, Q44 |
| H13: | MSCEIT: Section A & Section E |
| H14: | MSCEIT: Section B & Section F |
| H15: | MSCEIT: Section C & Section G |
| H16: | MSCEIT: Section D & Section H |
| RQ 2b | |
| H17:H20 (All use the same MLQ5x questions) | MLQ5x: Q38, Q41 |
| H17: | MSCEIT: Section A & Section E |
| H18 | MSCEIT: Section B & Section F |
| H19: | MSCEIT: Section C & Section G |
| H20: | MSCEIT: Section D & Section H |
| RQ 2c | |
| H21: H24 (All use the same MLQ5x questions) | MLQ5x: Q37, Q40, Q43, Q45 |
| H21: | MSCEIT: Section A & Section E |
| H22: | MSCEIT: Section B & Section F |
| H23: | MSCEIT: Section C & Section G |
| H24: | MSCEIT: Section D & Section H |

*Adapted from MLQ5x (Bass & Avolio, 2000) and MSCEIT (Mayer, Salovey & Caruso, 2002)*

To stay consistent with the leadership literature in reporting on the MLQ5x (Bass & Avolio, 2000), the leadership factors were grouped into three leadership styles: *Tranformational leadership*, *transactional leadership* and *laissez-faire leadership.* Intellectual stimulation, individualized consideration, charisma and inspirational motivation all make up transformational leadership; transactional leadership consists of contingent reward and management by exception; and laissez-faire leadership is simply reported as the laissez fair factor. Each leadership outcome variable is reported independently. Emotional intelligence is reported by each factor and a combination of the four factors is reported as an overall emotional intelligence score (see Appendix G for item details). Chapter 4 reports on each of these leadership styles, overall emotional intelligence, the outcome variables and the components that constitute them.

The reliability of each instrument and its scales was measured by calculating Chronbach's alpha for each scale for the MLQ5x and split ½ for the MSCEIT. To test the hypotheses relative to emotional intelligence and leadership style, the data sets were merged. Correlational statistics were completed to evaluate the degree of relationship between each factor of leadership, emotional intelligence, and leadership outcomes.

### *Summary*

In this chapter the research design, the population and sample characteristics and the response rates from each instrument were described. Issues of non-response bias and non-randomness were addressed. Description of the two data collection instruments along with their relative components and administrative procedures are also included. Finally, the variables for data analysis and a brief discussion of the statistical treatment

used are outlined. The results of the data analysis are presented in the following chapter.

# Chapter 4

# RESULTS

This section contains the results of the statistical analyses of the two surveys completed at CSW. The emotional intelligence instrument, the Mayer Salovey Caruso Emotional Intelligence Test (MSCEIT) (Mayer, Salovey & Caruso, 2002) was completed by 138 managers out of a total population of 151. The leadership styles survey, the MLQ5x (Bass & Avolio, 2000) was completed by 791 employees on their manager. This section is structured in the following way:

1. Overview of the study and associated descriptive statistics of the nine leadership and the four emotional intelligence components.
2. Data analysis answering the research question: *What is the relationship between the emotional intelligence of leaders and their leadership style?*
3. Data analysis answering the research question: *What is the relationship between the emotional intelligence of leaders and their leadership effectiveness?*

## *Study Overview*

This study was conducted using a correlational research design. One instrument, the MSCEIT (Mayer, Salovey, & Caruso, 2002) was administered to all the top managers (N = 151) of a single US based manufacturing organization referred to as CSW. The MSCEIT measured the variable of *emotional intelligence*. This instrument

reported five scores in the areas of: (a) perceiving emotions, (b) facilitating emotions, (c) understanding emotions, (d) managing emotions, and (e) overall emotional intelligence. The second instrument, the Multifactor Leadership Questionnaire (MLQ5x) (Bass & Avolio, 2000) was administered to the subordinates of those 151 managers to gain their perceptions of their managers leadership style. This instrument measured the variables of *transformational leadership style*, *transactional leadership style* and *laissez-faire leadership style*. In addition, the MLQ5x reported results in the areas of extra effort, satisfaction with the leader and the leaders effectiveness. The completed instruments were collected and then sent to the respective publishers for scoring. Each of the 791 subordinate responses was connected to a particular manager. Those subordinate responses that belonged to manager a, were aggregated by that manager, and so on through the entire data set. The resulting subordinate response dataset was matched to each of the 151 managers who were provided the MSCEIT. The subordinate responses for the managers who did not complete the MSCEIT were not included in the study analyses. The results were entered and analyzed using descriptive and correlational statistics.

### *Descriptive Statistics of Mayer Salovey Caruso Emotional Intelligence Test*

The MSCEIT (Mayer, Salovey & Caruso, 2002) is a performance-based, commercially available, emotional intelligence survey instrument. Each answer was scored against a general consensus score. All scores are reported as normed standard scores with a mean = 100, and a standard deviation of 15. Scores are obtained on the

four emotional intelligence branches and an overall emotional intelligence score. The MSCEIT details are as follows:

Table 4-1

MSCEIT Survey – Item Details

| Emotional Intelligence Branch | Location and Number of Items |
|---|---|
| Branch 1: Perceiving Emotions | Section A & Section E: 50 Items |
| Branch 2: Facilitating Thought | Section B & Section F: 30 Items |
| Branch 3: Understanding Emotions | Section C & Section G: 32 Items |
| Branch 4: Managing Emotions | Section D & Section H: 29 Items |

*Adapted from MSCEIT (Mayer, Salovey & Caruso, 2002)*

The results of the data analysis found a range including acceptable reliablities at the overall emotional intelligence level and Branch 1 and relatively low reliabilities for the balance of the dimensions. The overall emotional intelligence factor returned a reliability of .86 (Split ½) compared to the reported reliability of .91 in the test manual. The branch reliabilities ranged from an acceptable (split ½) reliability of .91 (Perceiving Emotions) to low reliabilities of .63 (Facilitating Thought), .56 (Understanding Emotions) and .61 (Managing Emotions). These reliabilities differed somewhat from that reported by Mayer, Salovey & Caruso (2002), which ranged from an overall emotional intelligence reliability (split ½) = .93 to a low reliability at the facilitating emotions (branch 2) of .79. See Table 4-2 for details.

Table 4-2

Descriptive Statistics of Emotional Intelligence as Measured by the MSCEIT

N (133)

| Dimension | M | SD | Split ½ Reliability | Test Manual Reliability |
|---|---|---|---|---|
| Total Emotional Intelligence | 95.17 | 11.57 | .86 | .93 |
| Branch 1: Perceiving Emotions | 99.16 | 15.13 | .91 | .91 |
| Branch 2: Facilitating Thought | 97.11 | 13.71 | .63 | .79 |
| Branch 3: Understanding Emotions | 95.38 | 9.82 | .56 | .80 |
| Branch 4: Managing Emotions | 96.05 | 8.38 | .61 | .83 |

As identified earlier, the MSCEIT (Mayer, Salovey & Caruso, 2002) is a new performance-based test of emotional intelligence. The normed standard score on the various components of the MSCEIT and the overall total emotional intelligence is a score of 100, with a standard deviation of 15. The leaders in this study scored within the range expected from the normed sample. To investigate the emotional intelligence relationships further, the intercorrelations of the respective emotional intelligence dimensions were evaluated. The intercorrelations obtained in this study (see Table 5-1) ranged from a high r = .395 for facilitating thought and managing emotions (as compared to a reported r = .50) to a very low r = .185 for understanding emotions and managing emotions as compared to a reported r = .51. Some of the alpha's for the respective items within a particular branch score were similar to those reported by the authors. There were also differences with other branches. In addition, all of the

intercorrelations obtained were lower than those reported by the test authors. More details are explored in Chapter 5.

Though most of the branch reliabilities are lower than was expected based on the MSCEIT (Mayer, Salovey & Caruso, 2002) test manual, further analysis is useful. This further analysis will contribute to the knowledge base in the area of this instrument and to the research questions this study is exploring. The lower reliability of the instrumentation however, will impact the strength of the results and the associated conclusions.

### *Descriptive Statistics of the Multifactor Leadership Style Questionnaire*

This section contains the descriptive statistics for the nine leadership styles. The scores ranged on a Likert scale from 0 – 4. Table 4-3 outlines the combinations of questions that made up each leadership component:

Table 4-3

Leadership Style Survey – Item Descriptions

| Transformational Leadership | Item Numbers |
|---|---|
| Intellectual Stimulation | (q2 + q8 + q30 + q32)/4 |
| Individualized Consideration | (q15 + q19 + q29 + q31)/4 |
| Charisma | |
| Idealized Behavior | (q6 + q14 + q23 + q34)/4 |
| Idealized Attributes | (q10 + q18 + q21 + q25)/4 |
| Inspirational Motivation | (q9 + q13 + q26 + q36)/4 |
| Transactional Leadership | |
| Contingent Reward | (q1 + q11 + q16 + q35)/4 |
| Management By Exception | |
| Active | (q4 + q22 +q24 +q27)/4 |
| Passive | (q3 + q12 + q17 + q20)/4 |
| Laissez-Faire Leadership | (q5 + q7 + q28 + q33)/4 |
| Leadership Style Outcome Variables | |
| Satisfaction | (q38 +q41)/2 |
| Extra Effort | (q39 + q42 + q44)/3 |
| Effectiveness | (q37 + q40 + q43 + q45)/4 |

*Adapted from the MLQ5x (Bass & Avolio, 2000)*

Table 4-4 shows the mean, standard deviation and reliability (Cronbach's alpha) for each scale based on the entire sample. Descriptive statistics for each leadership item are located in Appendix I.

Table 4-4

Descriptive Statistics of Leadership Dimensions as Measured by the MLQ5x

| Dimension | M | SD | SD of the means of leaders | Cronbach α |
|---|---|---|---|---|
| Transformational Leadership | | | .609 (N=137) | .94 |
| Intel. Stimulation | 2.41 | .93 | .591 (N=138) | .82 |
| Indiv. Consideration | 2.41 | 1.05 | .689 (N=138) | .85 |
| Idealized Behavior | 2.41 | .94 | .626 (N=137) | .77 |
| Idealized Attributes | 2.61 | 1.05 | .718 (N=138) | .83 |
| Inspir. Motivation | 2.74 | .98 | .667 (N=138) | .87 |
| Transactional Leadership | | | | |
| Contingent Reward | 2.64 | .97 | .627 (N=138) | .80 |
| Mgmt by Excep- A | 1.77 | 1.02 | .629 (N=137) | .76 |
| Mgmt by Excep – P | 1.20 | .93 | .563 (N=138) | .74 |
| Laissez-faire Leadership | .94 | .89 | .576 (N=138) | .80 |
| Outcome Variables | | | | |
| Satisfaction | 2.75 | 1.14 | .733 (N=138) | .89 |
| Extra Effort | 2.43 | 1.1 | .732 (N=138) | .86 |
| Effectiveness | 2.79 | .99 | .648 (N=138) | .88 |

The means and standard deviations obtained in this study were also consistent with that reported by Bass & Avolio (2000). All leadership dimensions were within the expected range. The nine leadership styles and composite transformational leadership score showed sufficient internal consistency ranging from $\alpha = .74$ (Management by Exception- Passive) to $\alpha = .87$ (Inspirational Motivation) and $\alpha = .94$ for Transformational Leadership. The outcome variables of satisfaction, effectiveness and

extra effort also had sufficient internal consistency. All of these results were within the range reported by Bass and Avolio (2000).

In this study, the MLQ5x (Bass & Avolio, 2000) returned higher reliabilities than that of the MSCEIT (Mayer, Salovey & Caruso, 2002) in the subdimensions as well as the item scores within the dimensions. Additionally, the reported intercorrelations of the various components of leadership were well within the range reported by the authors (Bass & Avolio, 2002), and all were within the expected direction. Additional details are supplied in Chapter 5.

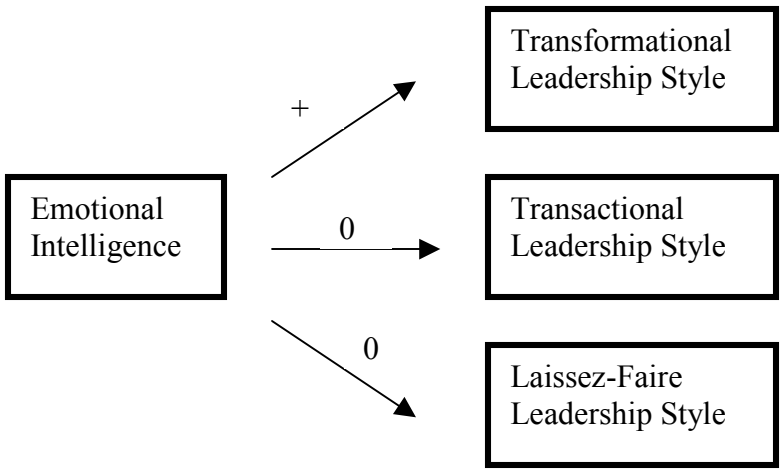
Following the descriptive statistical analyses on the respective instruments, the data was further analyzed to answer the study's research questions and their associated hypotheses.

### *What is the Relationship Between the Emotional Intelligence of Leaders and Their Leadership Style?*

After reviewing the data for each test result independently and it's respective reliabilities, the next step was to analyze the data with respect to the specific hypotheses. See Figure 4-1 for a review of the model that is being tested through the first research question.

Figure 4 –1

Pictorial Representation of Hypothesized Relationship of Emotional Intelligence and Leadership Style




The first set of research hypotheses looked to answer Research Question 1a:

***What is the Relationship Between the Emotional Intelligence of Leaders and Their Transformational Leadership Style?***

Hypotheses 1 through Hypotheses 4 were stated as follows:

*Hypothesis 1 (H1): There is a significant and positive correlation ($p<.05$) between perceiving emotions, as measured by the MSCEIT and transformational leadership styles as perceived by subordinates.*

*Hypothesis 2 (H2): There is a significant and positive correlation ($p<.05$) between facilitating thought, as measured by the MSCEIT and transformational leadership styles as perceived by subordinates.*

*Hypothesis 3 (H3): There is a significant and positive correlation (p<.05) between understanding emotions as measured by the MSCEIT and transformational leadership styles as perceived by subordinates.*

*Hypothesis 4 (H4): There is a significant and positive correlation (p<.05) between managing emotions as measured by the MSCEIT and transformational leadership styles as perceived by subordinates.*

Based on the literature, directional research hypothesis 1 (H1) through hypothesis 4 (H4) stated a significant and positive correlation (p<.05) between the four branches of *emotional intelligence* and *transformational leadership* (as perceived by subordinates). See Table 4-5 for the results. All four research hypotheses were not supported.

Table 4-5

Correlation of Emotional Intelligence and Transformational Leadership Dimensions

| | Mean | Std Dev | Transformational Leadership | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Transformational Leadership | | .609 (N=137) | 1.0 | | | | | | | | | |
| Intellectual Stimulation (1) | 2.41 | .591 (N=138) | .925** | 1.00 | | | | | | | | |
| Idealized Attributes (2) | 2.41 | .689 (N=138) | .956** | .864** | 1.00 | | | | | | | |
| Idealized Behaviors (3) | 2.41 | .626 (N=137) | .898** | .771** | .837** | 1.00 | | | | | | |
| Inspirational Motivation (4) | 2.61 | .718 (N=138) | .923** | .785** | .852** | .812** | 1.00 | | | | | |
| Individualized Consideration (5) | 2.74 | .667 (N=138) | .921** | .854** | .849** | .739** | .800** | 1.00 | | | | |
| Branch 1: Perceiving Emotions (6) | 99.16 | 15.13 (N=133) | -.030 | .018 | .088 | -.026 | -.078 | .001 | 1.00 | | | |
| Branch 2: Facilitating Thought (7) | 97.11 | 13.71 (N=133) | .118 | .110 | .075 | .157* | .099 | .112 | .348** | 1.00 | | |
| Branch 3: Understanding Emotions (8) | 95.38 | 9.82 (N=133) | .043 | .0149 | .061 | .111 | -.009 | .012 | .236** | .328** | 1.00 | |
| Branch 4: Managing Emotions (9) | 96.05 | 8.38 (N=133) | .101 | .119 | .069 | .038 | .128 | .134 | .262** | .395** | .185** | 1.00 |
| EI Total | 95.17 | 11.57 (N=133) | .078 | .102 | .061 | .086 | .037 | .092 | .755** | .744** | .613** | .591** |

* $p < .05$, ** $p < .01$

The only significant result for the entire comparison of the various dimensions of emotional intelligence with transformational leadership was the facilitating thought branch of emotional intelligence and the idealized behavior leadership style dimension at an r = .157. All means and standard deviations for both the subordinate responses on the MLQ5x (Bass & Avolio, 2000) and the managers responses on the MSCEIT (Mayer, Salovey & Caruso, 2002) were within the range expected from the normed sample of each respective instrument. For Hypothesis 1 (H1): There was a negative (r = -.030), non-significant correlation ($p < .05$) between perceiving emotions, as measured by the MSCEIT and transformational leadership styles as perceived by subordinates. For Hypothesis 2 (H2): There was a positive (r = .118), non-significant correlation ($p < .05$) between facilitating thought, as measured by the MSCEIT and transformational leaders styles as perceived by subordinates. For Hypothesis 3 (H3): There was a positive (r = .043), non-significant correlation ($p < .05$) between understanding emotions as measured by the MSCEIT and transformational leadership styles as perceived by subordinates. And for Hypothesis 4 (H4): There was a positive (r = .101), non-significant correlation ($p < .05$) between managing emotions as measured by the MSCEIT and transformational leadership styles as perceived by subordinates. These findings are completely contrary to what the prevailing literature would have suggested. The relationship between emotional intelligence and transactional leadership style was explored through the next research question.

***What is the Relationship Between the Emotional Intelligence of Leaders and Their Transactional Leadership Style?***

Looking further into the research questions about the relationships between *emotional intelligence* and *transactional leadership*, the following null hypotheses were stated as follows:

*Hypothesis 5 (H5): There is no significant correlation between perceiving emotions as measured by the MSCEIT and transactional leadership style as perceived by subordinates.*

*Hypothesis 6 (H6): There is no significant correlation between facilitating thought as measured by the MSCEIT and transactional leadership style as perceived by subordinates.*

*Hypothesis 7 (H7): There is no significant correlation between understanding emotions as measured by the MSCEIT and transactional leadership style as perceived by subordinates.*

*Hypothesis 8 (H8): There is no significant correlation between managing emotions as measured by the MSCEIT and transactional leadership style as perceived by subordinates.*

Table 4-6 shows the results from the data analyses regarding Hypotheses 5 through Hypotheses 8.

Table 4-6

Correlations of Emotional Intelligence and Transactional Leadership Dimensions

| | Mean | Std Dev | Contingent Reward | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|---|
| Contingent Reward | 2.64 | .627 (N=138) | 1.00 | | | | | | |
| 1. Management by Exception-Active | 1.77 | .629 (N=137) | .169* | 1.00 | | | | | |
| 2. Management by Exception – Passive | 1.20 | .563 (N=138) | -.559** | .119 | 1.00 | | | | |
| 3. Branch 1: Perceiving Emotions | 99.16 | 15.13 (N=133) | -.079 | .020 | -.099 | 1.00 | | | |
| 4. Branch 2: Facilitating Thought | 97.11 | 13.71 (N=133) | .143 | .040 | -.005 | .348** | 1.00 | | |
| 5. Branch 3: Understanding Emotions | 95.38 | 9.82 (N=133) | -.024 | -.092 | .004 | .236** | .328** | 1.00 | |
| 6. Branch 4: Managing Emotions | 96.05 | 8.38 (N=133) | .085 | -.135 | -.085 | .262** | .395** | .185* | 1.00 |
| EI Total | 95.17 | 11.57 (N=133) | .038 | -.060 | -.076 | .755** | .744** | .613** | .591*** |

* $p < .05$, ** $p < .01$

Due to minimal literature in the area of transactional leadership and emotional intelligence, *transactional leadership* had not been identified as having a base in emotions. Hence the Hypotheses H5-H8 were presented as null hypotheses. For hypothesis 5 (H5): There was a negative (r = -.079), non-significant correlation between perceiving emotions as measured by the MSCEIT and the transactional leadership dimension contingent reward as perceived by subordinates. For hypothesis 6 (H6): There was a positive (r = .143), non-significant correlation between facilitating thought as measured by the MSCEIT and transactional leadership dimension contingent reward as perceived by subordinates. For hypothesis 7 (H7): There was a negative (r = -.024), non-significant correlation between understanding emotions as measured by the MSCEIT and the transactional leadership dimension contingent reward as perceived by subordinates. And for hypothesis 8 (H8): There was a positive (r = .085), non-significant correlation between managing emotions as measured by the MSCEIT and the transactional leadership dimension contingent reward as perceived by subordinates. All the null hypotheses were not rejected. Similar to the transformational leadership dimensions, all means and standard deviations on the managers responses on the MLQ5x (Bass & Avolio, 2000) were within the expected range. Laissez-Faire leadership was the third and final leadership style variable explored.

***What is the Relationship Between the Emotional Intelligence of Leaders and Their Laissez-Faire Leadership Style?***

The correlation between *laissez-faire leadership*, which is the negation of leadership was also expected to show no significant relationship between it and the various components of *emotional intelligence*. The null hypotheses were stated as follows:

*Hypothesis 9 (H9): There is no significant correlation between perceiving emotions as measured by the MSCEIT and laissez-faire leadership style as perceived by subordinates.*

*Hypothesis 10 (H10): There is no significant correlation between facilitating thought as measured by the MSCEIT and laissez-faire leadership style as perceived by subordinates.*

*Hypothesis 11 (H11): There is no significant correlation between understanding emotions as measured by the MSCEIT and laissez-faire leadership style as perceived by subordinates.*

*Hypothesis 12 (H12): There is no significant correlation between managing emotions as measured by the MSCEIT and laissez-faire leadership style as perceived by subordinates.*

These null hypotheses were not rejected in that no relationship was found. For hypothesis 9 (H9): There was a negative (r = -.035), non-significant correlation between perceiving emotions as measured by the MSCEIT and laissez-faire leadership as perceived by subordinates. For hypothesis 10 (H10): There was a negative (r = -.051), non-significant correlation between facilitating thought as measured by the MSCEIT and laissez-faire leadership as perceived by subordinates. For hypothesis 11 (H11): There was a positive (r = .029), non-significant correlation between understanding emotions as measured by the MSCEIT and laissez-faire leadership as perceived by subordinates. And for hypothesis 12 (H12): There was a negative (r = -.087), non significant correlation between managing emotions as measured by the MSCEIT and laissez-faire leadership as perceived by subordinates. Again, all means and standard deviations obtained in this study were within the expected range as reported by the authors. See Table 4-7 for the results.

Table 4-7

Correlations of Emotional Intelligence and Laissez-faire Leadership Dimensions

| | Mean | Std. Dev | Laissez-faire | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|
| Laissez-faire | .94 | 576 (N=138) | 1.00 | | | | |
| 1. Branch 1: Perceiving Emotions | 99.16 | 15.13 (N=133) | -.035 | 1.00 | | | |
| 2. Branch 2: Facilitating Thought (2) | 97.11 | 13.71 (N=133) | -.051 | .348** | 1.00 | | |
| 3. Branch 3: Understanding Emotions (3) | 95.38 | 9.82 (N=133) | .029 | .236** | .328** | 1.00 | |
| 4. Branch 4: Managing Emotions (4) | 96.05 | 8.38 (N=133) | -.087 | .262** | .395** | .185** | 1.00 |
| EI Total | 95.17 | 11.57 (N=133) | -.049 | .755** | .744** | .613** | .591** |

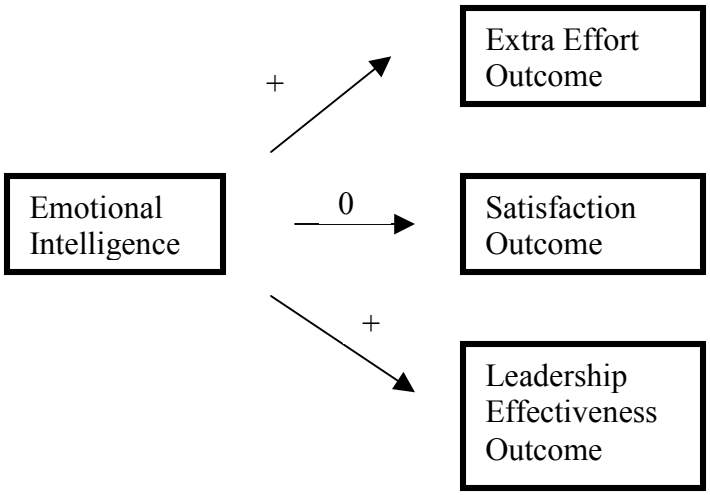
* p < .05, ** P , >01

***What is the Relationship Between the Emotional Intelligence of Leaders and their Leadership Effectiveness?***

The final sets of hypotheses were around the outcome variables of leadership, namely leadership effectiveness, satisfaction with the leader and extra effort. The following section describes the analyses of the data surrounding the hypotheses of these relationships. See Figure 4-2 for a pictorial representation.

Figure 4 –2

Pictorial Representation of Hypothesized Relationship of Emotional Intelligence and Leadership Outcome Variables




***What is the Relationship Between the Emotional Intelligence of Leaders and Their Subordinates Perception of Their Extra Effort?***

Extra effort of a follower is measured by a follower's willingness to try harder, complete more than they expected to do and have a heightened desire to succeed. It was hypothesized that leaders who are more emotionally intelligent would be able to impact this variable. Based on prior research, the directional hypotheses for this research question are stated as follows:

*Hypothesis 13 (H13): There is a significant and positive correlation ($p<.05$) between perceiving emotions as measured by the MSCEIT and extra effort as perceived by subordinates.*

*Hypothesis 14 (H14): There is a significant and positive correlation (p<.05) between facilitating thought as measured by the MSCEIT and extra effort as perceived by subordinates.*

*Hypothesis 15 (H15): There is a significant and positive correlation (p<.05) between understanding emotions as measured by the MSCEIT and extra effort as perceived by subordinates.*

*Hypothesis 16 (H16): There is a significant and positive correlation (p<.05) between managing emotions as measured by the MSCEIT and extra effort as perceived by subordinates.*

The results suggest no support for hypothesis H13-H16 in that there was no relationship between the various components of emotional intelligence and extra effort. For hypothesis 13 (H13): There positive (r = .001), non-significant correlation (p< .05) between perceiving emotions as measured by the MSCEIT and extra effort as perceived by subordinates. For hypothesis 14 (H14): There was a positive (r= .060), non-significant correlation (p< .05) between facilitating thought as measured by the MSCEIT and extra effort as perceived by subordinates. For hypothesis 15 (H15): There was a positive (r = .066), non-significant correlation (p< .05) between understanding emotions as measured by the MSCEIT and extra effort as perceived by subordinates. And for

hypothesis 16 (H16): There was a positive (r = .018), non-significant correlation (p< .05) between managing emotions as measured by the MSCEIT and extra effort as perceived by subordinates. See Table 4-8 for details.

Table 4-8

Correlation of Emotional Intelligence Dimensions and Leadership Outcome Variable of Extra Effort (N=133)

| | Mean | Std Deviation | Extra Effort | Branch 1 | Branch 2 | Branch 3 | Branch 4 |
|---|---|---|---|---|---|---|---|
| Extra Effort | 2.42 | .712 | 1.00 | | | | |
| Branch 1: Perceiving Emotions | 99.16 | 15.13 | .001 | 1.00 | | | |
| Branch 2: Facilitating Thought | 97.11 | 13.71 | .060 | .348** | 1.00 | | |
| Branch 3: Understanding Emotions | 95.38 | 9.82 | .066 | .236** | .328** | 1.00 | |
| Branch 4: Managing Emotions | 96.05 | 8.38 | .018 | .262** | .395** | .185* | 1.00 |

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

What the results confirm is that there are no significant associations between the reported extra effort and emotional intelligence. A continued analysis follows on the dependent variable of satisfaction.

***What is the Relationship Between the Emotional Intelligence of Leaders and Their Subordinates Satisfaction with Their Leadership?***

Based on prior research, hypotheses H17 – H20 predicted no significant correlation between the various components of emotional intelligence and the outcome variable of satisfaction as perceived by subordinates. The hypotheses are as follows:

*Hypothesis 17 (H17): There is no significant correlation between perceiving emotions as measured by the MSCEIT and satisfaction with their leadership as perceived by subordinates.*

*Hypothesis 18 (H18): There is no significant correlation between facilitating thought as measured by the MSCEIT and satisfaction with their leadership as perceived by subordinates.*

*Hypothesis 19 (H19): There is no significant correlation between understanding emotions as measured by the MSCEIT and satisfaction with their leadership as perceived by subordinates.*

*Hypothesis 20 (H20): There is no significant correlation between managing emotions as measured by the MSCEIT and satisfaction with their leadership as perceived by subordinates.*

These hypotheses were not rejected; emotional intelligence did not correlate significantly with perceived satisfaction of the leader. For hypothesis 17 (H17): There was a positive (r = .015), non-significant correlation between perceiving emotions as measured by the MSCEIT and satisfaction as perceived by subordinates. For hypothesis 18 (H18): There was a positive (r = .075), non-significant correlation between facilitating thought as measured by the MSCEIT and satisfaction as perceived by subordinates. For hypothesis 19 (H19): There was a positive (r = .027), non-significant correlation between understanding emotions as measured by the MSCEIT and satisfaction as perceived by subordinates. And for hypothesis 20 (H20): There was a positive (r = .103), non-significant correlation between managing emotions as measured by the MSCEIT and satisfaction as perceived by subordinates. See Table 4-9 for the details.

Table 4-9

Correlations of Emotional Intelligence Dimensions and Leadership Outcome Variable of Satisfaction

(N=133)

| | Mean | Std Dev | Satisfaction | Branch 1 | Branch 2 | Branch 3 | Branch 4 |
|---|---|---|---|---|---|---|---|
| Satisfaction | 2.78 | .736 | 1.00 | .015 | | | |
| Branch 1: Perceiving Emotions | 99.19 | 15.18 | .015 | 1.00 | | | |
| Branch 2: Facilitating Thought | 97.13 | 13.76 | .075 | .348** | 1.00 | | |
| Branch 3: Understanding Emotions | 95.38 | 9.86 | .027 | .250** | .326** | 1.00 | |
| Branch 4: Managing Emotions | 96.025 | 8.41 | .103 | .253** | .405** | .220** | 1.0 |

** $p < .01$

The outcome variable of effectiveness is the last to analyze in this study.

***What is the Relationship Between the Emotional Intelligence of Leaders and Their Perceived Leadership Effectiveness?***

The final set of hypotheses were around perceived effectiveness of the leader and *emotional intelligence*. In previous studies, *transformational leadership* was related to leadership effectiveness (Lowe, Kroeck & Sivasubramaniam, 1996). Additionally, it was stipulated that emotionally intelligent leaders should have a higher aptitude to tap into their followers and hence lead them transformationally. Hence, Hypotheses H21 through

H24 stated a significant and positive correlation between various components of emotional intelligence and leadership effectiveness as perceived by the subordinates. The hypotheses area as follows:

*Hypothesis 21 (H21): There is a significant and positive correlation ($p<.05$) between perceiving emotions as measured by the MSCEIT and leader effectiveness as perceived by subordinates.*

*Hypothesis 22 (H22): There is a significant and positive correlation ($p<.05$) between facilitating thought as measured by the MSCEIT and leader effectiveness as perceived by subordinates.*

*Hypothesis 23 (H23): There is a significant and positive correlation ($p<.05$) between understanding emotions as measured by the MSCEIT and leader effectiveness as perceived by subordinates.*

*Hypothesis 24 (H24): There is a significant and positive correlation ($p<.05$) between managing emotions as measured by the MSCEIT and leader effectiveness as perceived by subordinates.*

See Table 4-10 for the results of the data analyses.

Table 4-10

Correlations of Emotional Intelligence Dimensions and Leadership Outcome Variable of Effectiveness

(N=133)

| | Mean | Std Dev. | Effectiveness | Branch 1 | Branch 2 | Branch 3 |
|---|---|---|---|---|---|---|
| Effectiveness | 2.83 | .652 | 1.00 | | | |
| Branch 1: Perceiving Emotions | 99.19 | 15.18 | .015 | 1.00 | | |
| Branch 2: Facilitating Thought | 97.13 | 13.76 | .118 | .348** | 1.00 | |
| Branch 3: Understanding Emotions | 95.38 | 9.86 | .047 | .250** | .326** | 1.00 |
| Branch 4: Managing Emotions | 96.03 | 8.41 | .129 | .253** | .405** | .220** |

** $p < .01$

No support was found for the hypothesized relationship between the various components of emotional intelligence and perceived leadership effectiveness. For hypothesis 21 (H21): There was a positive ($r = .015$), non-significant correlation ($p < .05$) between perceiving emotions as measured by the MSCEIT and leader effectiveness as perceived by subordinates. For hypothesis 22 (H22): There was a positive ($r = .118$), non-significant correlation ($p < .05$) between facilitating thought as measured by the MSCEIT and leader effectiveness as perceived by subordinates. For hypothesis 23 (H23): There was a positive ($r = .047$), non-significant correlation ($p < .05$) between

understanding emotions as measured by the MSCEIT and leader effectiveness as perceived by subordinates. And for hypothesis 24 (H24): There was a positive (r = .129), non-significant correlation ($p < .05$) between managing emotions as measured by the MSCEIT and leader effectiveness as perceived by subordinates. The various branches of *emotional intelligence* had no significant relationship with the various outcomes of leadership.

### *Summary*

This chapter presented the results of the statistical analyses of the data obtained from two surveys completed at CSW. The MSCEIT (Mayer, Salovey & Caruso, 2002) was completed by 138 managers, which measured their emotional intelligence. The MLQ5x (Bass & Avolio, 2000) was completed by 791 employees on their perceptions of their managers' leadership styles.

The first part of this chapter outlined the descriptive statistics obtained on the two survey instruments. The descriptive statistics on the emotional intelligence survey, returned relatively low reliabilities ranging from an acceptable (split ½ ) reliability of .86 for overall emotional intelligence to a reliability of .91 (Perceiving Emotions) to a low reliability of .56 (Understanding Emotions). The means and standard deviations obtained were well within the expected range. (Mayer, Salovey & Caruso, 2002). Further analysis revealed lower intercorrelations than those reported by Mayer, Salovey and Caruso (2002). Additional details on these intercorrelations in Chapter 5. The descriptive statistics on the MLQ5x (Bass & Avolio, 2000) showed sufficient internal consistency, ranging from an $\alpha = .74$ (Management by Exception- Passive) to $\alpha = .87$ (Inspirational

Motivation). All the results obtained were consistent with those reported by Bass and Avolio (2000), including the means and standard deviations obtained.

The next section of the chapter provided the data analyses that answered the first research question: What is the relationship between the emotional intelligence of leaders and their leadership style? Hypotheses H1-H4 stated a significant and positive correlation between the four branches of emotional intelligence and transformational leadership. None of these were supported in the study. The only significant result for the entire comparison of the various dimensions of emotional intelligence with transformational leadership was the facilitating thought branch of emotional intelligence and the idealized behavior leadership style dimension at an $r = .157$ ($p < .05$).

Hypotheses H5-H8 stated no significant relationship between the various components of transactional leadership and emotional intelligence. These null hypotheses were not rejected. No significant relationship was found between the various components of emotional intelligence and the factors of transactional leadership, to include contingent reward, management by exception-active and management by exception-passive. Finally, another set of analyses evaluated the relationship between the dimensions of emotional intelligence and laissez-faire leadership. As hypothesized, there was no significant relationship between these variables, hence null Hypothesis H9-H12 were not rejected.

The final section of the chapter outlined the data analyses that answered the second research question: What is the relationship between the emotional intelligence of leaders and their leadership effectiveness? The final sets of analyses evaluated the

impact of leadership style and emotional intelligence on the outcome variables of extra effort, satisfaction and effectiveness of the leader.

In all cases, the dimensions of emotional intelligence had no significant relationships between the various outcome variables. From the dependent variable of extra effort, there was no relationship found between the various branches of emotional intelligence. Hypotheses H13-H16 were not supported.

From the dependent variable of satisfaction, the emotional intelligence dimensions again did not contribute any significant association and hypotheses H17-H20 were not rejected. Again, the lack of significant findings eliminated the need for further analysis.

The dependent variable of leadership effectiveness was the last to be analyzed. Similar to the other dependent variables of extra effort and satisfaction, there was no significant relationship between the dimensions of emotional intelligence and the perceptions of leader effectiveness and hypotheses H21-H24 were not supported.

Since, there were no significant relationships found between the branches of emotional intelligence and the outcome variables of leadership and there were relatively low reliabilities on the MSCEIT it was unnecessary to pursue further regression or multi-correlational analysis.

Chapter 5

# SUMMARY AND CONCLUSIONS

This chapter contains a brief summary of the study, conclusions based on the statistical analysis of the survey data, and the implications for practice and research related to emotional intelligence and leadership in organizations.

## *Summary*

The purpose of this study was to investigate the relationships among emotional intelligence, leadership style and leadership effectiveness. The general research questions asked were:

1. *What is the relationship between the emotional intelligence of leaders and their leadership style?*
2. *What is the relationship between the emotional intelligence of leaders and their leadership effectiveness?*

Recently, there has been a number of articles in the popular press espousing the benefits of emotional intelligence to organizations, leaders, and individual contributors. This has contributed to a significant influx of popular books and seminars on the topic and consultants 'training' individuals to become more emotionally intelligent. Though there exists large amounts of research on leadership (see Stogdill, 1974; Yukl, 1998; Yukl & Van Fleet, 1992 for examples), there is comparatively little for emotional intelligence. And though the popular press speaks to the importance of emotional intelligence and

leadership, there is limited research supporting the premises behind emotional intelligence. This study was intended to contribute to that void.

Goleman (1995) popularized the notion of emotional intelligence through the publication of his book titled *Emotional Intelligence* and subsequent to that, *Working with Emotional Intelligence* (Goleman, 1998b). Both of these texts spoke to the importance of emotional intelligence to an individual's success in life. The themes resonated with the general public and many organizations, such as American Express, who began training programs in the area of emotional intelligence for their leaders. Goleman's conceptualization of emotional intelligence was different however than Salovey and Mayer (1990), who originally coined the term in the early 1990's and further refined their definition in the past ten years.

Two primary perspectives of emotional intelligence have emerged over the past decade: One is based more on a mixed perspective that defines emotional intelligence largely through personality characteristics. The second perspective is an ability perspective, which defines emotional intelligence as a set of distinct abilities. Since there has been a large amount of research in the area of personality characteristics and leadership, this study evaluated the relationships between emotional intelligence from an ability perspective and leadership style. The ability perspective of emotional intelligence was chosen for further research for primarily two reasons: (1) It was the only perspective that had a performance based, commercially available reliable and valid instrument; and (2) the ability perspective was a narrower construct than the personality based perspective

and this study was aiming to find unique relationships between that perspective and leadership style.

The major research questions centered around emotional intelligence and leadership style and leadership effectiveness. The research setting was a single international manufacturing organization, named CSW in this report, headquartered in the Midwest. The study was narrowed to those employees and managers who work in the North American division of the organization. CSW employs approximately 2000 people in the North American division of the total 2300 people worldwide. Of that 2000, approximately 600 sales and service employees are based out of their homes across the United States.

Based on a review of the literature and the needs of CSW, two existing instruments were selected for the study. One was the Bass and Avolio (2000) *Multifactor Leadership Questionnaire* (MLQ5x), measuring Transformational, Transactional, and Laissez-faire leadership styles, and extra effort, satisfaction and effectiveness outcomes. The second instrument was the Mayer, Salovey, and Caruso's (2002) *Emotional Intelligence Test* (MSCEIT v 2.0), measuring emotional intelligence from an ability perspective. The total population of North American managers (N = 151) who had three or more direct reports were administered the MSCEIT. With 138 completed and returned surveys, there was a 93.3% response rate. Based on a response rate of 93.3%, the results are representative of the entire population. The MLQ5x was administered to 1165 employees who were the subordinates of 151 managers identified for the study. The

overall response rate from the subordinates was 68.9% with a total of 791 completed surveys.

The emotional intelligence reliability dimensions (Cronbach's alpha) yielded a acceptable reliability (split ½) of .91 (Perceiving Emotions) to a low, unacceptable reliability of .56 (Understanding Emotions). The overall emotional intelligence reliability reported as a .86. The unacceptable reliabilities at the branch 2, branch 3 and branch 4 areas provide a limitation to this study. Additionally, the intercorrelations found for the various emotional intelligence dimensions, although significant, were lower than that reported in the test manual (MSCEIT v2.0, 2002). The correlations among items returned some favorable reliabilities in the Branch 1 area (perceiving emotions) $\alpha = .89$ and marginal reliabilities in Branch 2 (facilitating thought) $\alpha = .56$ and Branch 4 (managing emotions) $\alpha = .65$. Test reliabilities (Cronbach's alpha) were acceptable for the leadership scales on the MLQ5x, ranging from $\alpha = .74$ (Management by Exception – Passive) to $\alpha = .87$ (Inspirational Motivation). The internal consistency measures were also high and comparable to the reported results in the test manual.

### *Conclusions*

The MLQ5x (Bass & Avolio, 2000) data measured nine components of leadership and three outcome variables. The MSCEIT (Mayer, Salovey & Caruso, 2002) data measured four dimensions of emotional intelligence.

### *Transformational Leadership and Emotional Intelligence*

When comparing the data within the dimensions of emotional intelligence and components of transformational leadership (Research Question 1a), no significant relationships were found, which led to a finding of no support for the first set of directional hypotheses (H1-H4). The results of this study differed from those reported by Sosik and Megerian (1999). They evaluated the relationships of emotional intelligence, transformational leadership and leadership effectiveness, and found that managers who were rated more effective leaders by their subordinates possessed more aspects of emotional intelligence. Sosik and Megerian used a trait-based perspective of emotional intelligence, whereas in this study, the author limited the view of emotional intelligence to an ability perspective. Buford (2001), also using a mixed model perspective of emotional intelligence found a relationship between emotional intelligence and transformational leadership. Little relationship, however, has been found between the self-reported leadership practices of nurses and their emotional intelligence (Vitello-Ciciu, 2001) as reported by the MSCEIT (Mayer, Salovey & Caruso, 2002) and no support was found for the effect of emotional intelligence as a predictor of leadership success of top executives (Collins, V.J., 2001)

The findings of this study suggest that the ability perspective of emotional intelligence does not have any relationship to perceptions of leadership style. This finding is contrary to what one would expect from reviewing the test manual for the MSCEIT v2.0 (Mayer, Salovey, Caruso, 2002) and the associated citations. A further explanation for these findings could be that the MSCEIT, still in its infancy is not

effectively capturing the significant differences in emotional intelligence from one individual to the next. Mixed reliability results were obtained within the correlations among items on the MSCEIT, pointing to some potential construct validity problems and this could be another possible explanation for no significant correlations found on some of the dimensions. Within the perceiving emotions branch of the MSCEIT, the item reliabilities were (split ½) .91. Therefore, a claim of weak instrumentation cannot explain the entire lack of significance found for the hypotheses H1, H5, H9, H13, H17, and H21.

### *Transactional Leadership and Emotional Intelligence*

A comparison of the perceived transactional leadership styles of the CSW managers and their emotional intelligence (Research Question 1b) showed no significant relationships, as was hypothesized (H5-H8). The primary purpose for the hypotheses of no relationships was due to the lack of research support in this area. This study contributes to filling that literature void. Similar to the findings for the transformational leadership dimensions, none of the transactional leadership dimensions (contingent reward, management by exception- active and management by exception- passive) had any significant relationships to any of the components of emotional intelligence. Two conclusions could be made: (1) No relationships exist between emotional intelligence and transactional leadership, therefore, the importance of emotional intelligence in day-to-day leadership is grossly exaggerated; or (2) some limitations of the MSCEIT (Mayer, Salovey & Caruso, 2002), with the low reliabilities do not allow for these conclusions at this time and further development is warranted.

### *Laissez-faire Leadership and Emotional Intelligence*

Hypotheses H9-H12 suggested no relationship between Laissez-faire leadership and the various dimensions of emotional intelligence, answering research question 1c. Again, the lack of research in this area required the hypotheses to posit no relationship. In this study, the hypotheses were supported, as no relationship between these various dimensions was supported. This suggests that the emotional intelligence of a leader has no relationship to their lack of leadership tendencies (laissez-faire leadership). This result is contrary to what the popular press and some research suggests.

### *Leadership Outcomes and Emotional Intelligence*

The final sets of hypotheses evaluated the various leadership outcomes (extra effort, satisfaction and effectiveness) and their relationship with emotional intelligence. These hypotheses were centered on Research Question 2: What is the relationship between the emotional intelligence of leaders and their leadership effectiveness? These entire leadership outcome variables were based on the perceptions of the follower's and all were evaluated in a correlation analysis.

#### *Extra effort*

Extra effort of a follower is measured by a follower's willingness to try harder, complete more than they expected to do and have a heightened desire to succeed. The MLQ5x (Bass & Avolio, 2000) was used to evaluate from the followers perspective. Hypotheses H13-H16 suggested no relationship between the followers perception of the extra effort their leader gets out of them and the leaders emotional intelligence as

measured by the MSCEIT (answering Research Question 2a). As hypothesized, no relationship was found for these dimensions and the null hypotheses were not rejected. Therefore, the emotional intelligence of a manager has no significant relationship to the perceptions of extra effort of the follower.

### *Satisfaction*

The outcome variable of satisfaction was the second one explored (Research Question 2b) and hypothesized through hypotheses H17-H20. Again, due to sparse literature in this area, it was hypothesized that no significant relationship between the variables of satisfaction as perceived by the follower and the emotional intelligence of the manager is present. No significant relationships were found between the various components of emotional intelligence and the dependent variable of satisfaction and the null hypotheses were not rejected. A conclusion could be that the perceived satisfaction with a manager has no relationship to the managers' emotional intelligence.

### *Effectiveness*

The final dependent variable analyzed was leadership effectiveness surrounding around Research Question 2c. It was hypothesized that there was a significant positive relationship between the perceived effectiveness of the manager and that managers' emotional intelligence (H20-H24). The results found no support for the hypotheses. There was no significant positive relationship between leadership effectiveness as perceived by the subordinate and the various dimensions of emotional intelligence. The

results did not support the hypotheses and suggest that the emotional intelligence of the manager has no significant impact on the perceived effectiveness of that manager.

### *Additional Survey Data*

As had been mentioned in Chapter 4, the intercorrelation data on the MSCEIT (Mayer, Salovey & Caruso, 2002), emotional intelligence instrument and the MLQ5x (Bass & Avolio, 2000) were further explored to attempt to better explain the results obtained. The first table (5-1) outlines the intercorrelation data of the emotional intelligence instrument obtained as compared to what was reported in the test manual.

Table 5-1

Intercorrelation of Emotional Intelligence Dimensions

(results obtained/reported in tech manual)

N (134)

| | Branch 1 | Branch 2 | Branch 3 | Branch 4 | Experiential EI | Strategic EI |
|---|---|---|---|---|---|---|
| Branch 1 | 1.0 | | | | | |
| Branch 2 | .348**/.54 | | | | | |
| Branch 3 | .236**/.30 | .328**/.43 | | | | |
| Branch 4 | .262**/.35 | .395**/.50 | .185**/.51 | | | |
| Experien-tial EI | .857** | .762** | .360** | .372** | | |
| Strategic EI | .325** | .439** | .812** | .706** | .462**/.51 | |
| Total EI | .755** | .744** | .613** | .591** | .918** | .769** |

** correlation at $p < .01$ level (2-tailed)

The intercorrelations acquired through this study, are lower than that reported by the MSCEIT authors (Mayer, Salovey & Caruso, 2002), but still significant at the $p< .01$ levels. Additional analysis was completed among items within each branch to further evaluate the internal consistency of the MSCEIT. See Table 5-2. Branch 1, perceiving emotions consisted of an adjusted 39 total items. The split ½ reliability for these branch items was a highly reliable .91. This shows internal consistency within these items. A

reliability of 0.7 is generally considered acceptable (Nunnally, 1978). Branch 2, facilitating thought consisted of 24 total items. Based on the scoring guidelines provided, and adjusting for weak items, there were a total of 16 items evaluated for the Split ½ reliability. The split ½ for these branch items was .63. Branch 4, managing emotions consisted of 24 total items to be included in the scoring analysis. Again, adjustments were made for weak items and the Split ½ reliability was .65 for 20 items. Branch 3, understanding emotions, had some internal consistency issues. Adjustments were made based on the scoring guidelines (to only include certain items) and removing weak items from the final analysis. The split ½ for these remaining 15 items (out of 32 total) was .56. This may point to some instrument issues in this particular branch. See Appendix H for all the details.

Table 5-2

Emotional Intelligence Factor Reliability Analysis by Item

| Emotional Intelligence Factor | # Items | # of Cases | Split ½ Reliability |
|---|---|---|---|
| Perceiving Emotions – Branch 1 | 39 | 136 | .91 |
| Facilitating Thought – Branch 2 | 16 | 134 | .63 |
| Understanding Emotions – Branch 3 | 15 | 130 | .56 |
| Managing Emotions – Branch 4 | 18 | 137 | .61 |

Correlations among items were also explored within the MQL5x (Bass & Avolio, 2000). All of the transformational leadership dimensions, transactional leadership

dimensions and outcome variables of extra effort, satisfaction and effective were acceptable (Nunnally, 1978). See Table 5-3.

Table 5-3

Leadership Factor Reliability Analysis by Item

| Leadership Factor | # Items | # of Cases | Cronbach Alpha |
|---|---|---|---|
| Transformational Leadership | 20 | 609 | .96 |
| Inspirational Motivation | 4 | 742 | .88 |
| Intellectual Stimulation | 4 | 705 | .83 |
| Individualized Consideration | 4 | 735 | .85 |
| Idealized Behavior | 4 | 695 | .78 |
| Idealized Attributes | 4 | 723 | .84 |
| Contingent Reward | 4 | 710 | .81 |
| Management by Exception – Passive | 4 | 716 | .75 |
| Management by Exception – Active | 4 | 669 | .77 |
| Laissez-faire | 4 | 750 | .81 |
| Extra Effort | 3 | 746 | .87 |
| Satisfaction | 2 | 769 | .89 |
| Effectiveness | 4 | 701 | .89 |

In regards to the MLQ5x (Bass & Avolio, 2000), the correlation between idealized attributes and contingent reward was reported as r = .838 versus r = .68 in the test manual, see Table 5-4. This would suggest that the subordinates in this study see a stronger relationship between the idealized attributes of their leader and their day-to-day contingent reward leadership style than the normed data, which may point to a difference of this sample.

Table 5-4

Intercorrelation of Leadership Dimensions (mean data/leader)

N (137)

| | TL | IS | IA | IB | IM | IC | CR | MP | LF | EE | SA |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TL | 1.0 | | | | | | | | | | |
| IS | .925 | | | | | | | | | | |
| IA | .956 | .864 | | | | | | | | | |
| IB | .898 | .771 | .837 | | | | | | | | |
| IM | .923 | .785 | .852 | .812 | | | | | | | |
| IC | .921 | .854 | .849 | .739 | .80 | | | | | | |
| CR | .877 | .778 | .838 | .792 | .821 | .823 | | | | | |
| MA | | | | | | | .169* | | | | |
| MP | -.62 | -.60 | -.61 | -.42 | -.55 | -.67 | -.55 | | | | |
| LF | -.70 | -.61 | -.67 | -.60 | -.65 | -.68 | -.67 | .787 | | | |
| EE | .904 | .839 | .895 | .790 | .825 | .823 | .817 | -.59 | -.63 | | |
| SA | .892 | .832 | .867 | .723 | .806 | .88 | .827 | -.75 | -.74 | .87 | |
| EF | .879 | .803 | .858 | .762 | .811 | .815 | .828 | -.79 | -.79 | .863 | .893 |

Showing all at $p < .01$ significance, * $p < .05$ significance

TL: Transformational Leadership, IS: Intellectual Stimulation, IA: Idealized Attributes, IB: Idealized Behaviors, IM: Inspirational Motivation, IC: Individual Consideration, CR: Contingent Reward, MA: Management by Exception-Active, MP: Management by Exception- Passive, LF: Laissez-faire, EE: Extra Effort, SA: Satisfaction, EF: Effectiveness

Additionally, as expected, there was a significant negative correlation with the various components of transformational leadership and laissez-faire leadership and management by exception-passive. Only within the dimension of management by exception- active, were most of the correlations non-significant.

There was a significantly higher intercorrelation, however, between all the various factors of transformational leadership and the outcome variables of effectiveness, satisfaction and extra effort than that reported by the test authors (see Table 5-5). In every single case these associated relationships were several times stronger than that reported by the test authors. The correlation of intellectual stimulation and extra effort was r = .839 as compared to r = .69 for the technical manual. Intellectual stimulation correlated to satisfaction at an r = .832 compared to r = .18 and it compared to effectiveness at an r = .803 compared to a reported r = .41.

Table 5-5

Correlation of Leadership Dimensions (mean data/leader) as Compared to Technical Manual

| | IS | IA | IB | IM | IC | CR | EE | SA |
|---|---|---|---|---|---|---|---|---|
| Extra Effort | | | | | | | | |
| Results | .839 | .895 | .790 | .825 | .823 | .817 | | |
| Manual | .69* | .51* | .44* | .73* | .74* | .62* | | |
| Satisfaction | | | | | | | | |
| Results | .832 | .867 | .723 | .806 | .88 | .827 | .87 | |
| Manual | .18* | .25* | .22* | .21* | .27* | .19* | .23* | |
| Effectiveness | | | | | | | | |
| Results | .803 | .858 | .762 | .811 | .815 | .828 | .863 | .893 |
| Manual | .41* | .51* | .44* | .46* | .44* | .32* | .45* | .15* |

Showing at $p < .01$ significance, * $p < .05$ significance

Notes: Comparison of results obtained in current study to those reported in MLQ technical manual (Bass and Avolio, 2000, Table 3, page 15). IS: Intellectual Stimulation, IA: Idealized Attributes, IB: Idealized Behaviors, IM: Inspirational Motivation, IC: Individual Consideration, CR: Contingent Reward, Extra Effort, SA: Satisfaction, EF: Effectiveness

The correlation between idealized attributes and extra effort was $r = .895$ as compared to $r = .51$. (Idealized attributes and satisfaction correlated at $r = .867$ compared to $r = .25$ and correlated to effectiveness at $r = .858$ compared to $r = .51$). Idealized behaviors correlated to extra effort at $r = .790$ compared to $r = .44$ and correlated to satisfaction at $r = .723$ compared to $r = .22$ and effectiveness at $r = .762$ compared to $r =$

.44. Similar results were obtained with the correlations of inspirational motivation and the outcome variables. Inspirational motivation correlated at r = .825 compared to r = .73 on extra effort, correlated r = .806 compared to r = .21 on satisfaction and correlated with effectiveness at r = .811 compared to r = .46. For all practical purposes however, these intercorrelations obtained in this study are not unique dimensions since they are so highly intercorrelated.

### *Implications for Practice*

The research questions addressed in this study were related to the relationship between the emotional intelligence of managers and the perceptions those managers' leadership style and various outcomes of leadership as held by their subordinates. The populations studied were the employees of a single manufacturing organization headquartered in the Midwest of the United States. It is referred to as CSW. The results of the study, as described in Chapter 4 and the previous pages, relate to the employees who participated in this study. This presents a limitation as to the generalizability of the implications for the study; therefore, it is inappropriate to draw general implications for practice based on the results of this single study. Further replication of this type of study and empirical verification would determine the significance of the recommendations beyond the boundaries of CSW.

CSW had identified emotional intelligence as a key competency for evaluating its leadership and professional employees. The results of this study would suggest that CSW might want to further evaluate that practice and determine whether or not it would still be appropriate to attempt to measure their leaders against emotional intelligence as a

legitimate managerial competency. This study focused the view of emotional intelligence to an ability perspective, one that could be measured using a performance-based instrument -- the MSCEIT (Mayer, Salovey & Caruso, 2002). Within this perspective, the lack of significant relationships between the various components of leadership style and emotional intelligence is important to CSW and other organizations wanting to improve performance. Organizational efforts may be expelled in the wrong areas (that of improving emotional intelligence) and could be used in other areas to provide more significant contributions to the organizations management team.

CSW may want to reevaluate the variable of emotional intelligence more closely in light of these results. They need to determine whether or not this is a critical competency that they measure and hold their managers accountable to. These results would suggest that that practice is not based on sound data. And those types of practices tend to label organizations as chasing a new corporate 'fad', with negative connotations to the employees and managers of CSW. CSW however, has defined emotional intelligence for use in their management competencies, more broadly than that measured in this study. Their definition is more inclusive of some of the general personality characteristics. CSW may want to redefine their emotional intelligence dimension as personality components or be more aware of the limitations of their current definition, and that it really is a broader measurement of personality.

Another consideration is that an ability-based definition of emotional intelligence has little utility from an organizational perspective. The more broad stroked, personality based definitions of emotional intelligence appear to have more face validity with

organizations. These perspectives may more effectively describe the kinds of characteristics and behaviors that many organizations hold their leaders accountable to. For specifics in language however, understanding exactly what the HRD practitioners and managers are defining and looking for when speaking of emotional intelligence, is and will continue to be critically important.

Though this study's results should not be broadly generalized, they are still important to consider for today's practitioners. It appears that many of the benefits espoused regarding emotional intelligence to an individual's leadership success and effectiveness still need to be empirically confirmed. This study showed that those relationships between emotional intelligence, leadership style and leadership effectiveness do not exist. Hence, further research is needed in the areas of this construct and associated measurement tools before this author would support its use in practice.

### *Implications for Theory*

According to this study, there is no relationship between emotional intelligence of managers and their leadership style as perceived by subordinates. Nor is there any relationship between emotional intelligence of these managers and their perceived leadership effectiveness, satisfaction or extra effort. Goleman (1995; 1998a; 1998b; 2000) has claimed that the key to a leaders effectiveness and success in an organization is their emotional intelligence. This study suggests that there are no relationships between the two. This is important not only for the theory around emotional intelligence, but also around the issue of leadership effectiveness.

How leaders can be more effective is a core issue to the field of HRD. This study was intended to address a gap existing in the literature today in providing a more informed link between the theory and practice of the relationship between leadership effectiveness and emotional intelligence. The results of this study indicate that the expertise associated with effective leadership is not related, nor core to an individuals emotional intelligence. This is one study however, and others would need to be completed to see if this premise holds true in other organizations.

Researchers in the field of HRD have started looking at the role of emotions and emotional intelligence within the organization. It has been suggested that emotional intelligence might be an aide to leadership development, and leadership effectiveness (Drodge & Murphy, 2002). This study found that the perceptions of a leaders leadership style have no relationship to that leaders emotional intelligence. In addition, there is no relationship to that leaders perceived leadership effectiveness and their emotional intelligence. These results are contrary to what has been suggested by some researchers in HRD and other disciplines. This study provides additional information to the body of knowledge in the area of emotional intelligence, leadership and the field of HRD.

The MSCEIT (Mayer, Salovey & Caruso, 2002) was designed to measure emotional intelligence. This instrument, still in its infancy, but commercially available, appears to have some limitations. It's branch reliabilities were reported from a low split ½ of .56 (Understanding Emotions) to an acceptable $\alpha = .91$ (Perceiving Emotions) with an overall emotional intelligence reported reliability of .86. These lower reliabilities can be partially explained by the smaller sample in this study compared to the normed sample

of 5000. Additionally, split ½ reliability was used to remain consistent with the test authors, which may also push down the reliability. Given these considerations however, there still appears to be a problem in parts of the instrumentation and some potential construct validity issues. Based on this data, additional research and work is needed in the development of the MSCEIT to ensure that repeatable reliabilities can be obtained.

Several conclusions can be drawn from this study to the implications for the theory base. This body of work in emotional intelligence is growing; there have been however, few empirical studies to date. Several recent studies have been completed using the MSCEIT (Mayer, Salovey & Caruso, 2002) with mixed results as to the relative contribution of emotional intelligence to predictions of general personality, life criteria, and leadership. One conclusion from this study is that some further development work is needed on the MSCEIT, and that the lack of relationship results found are not significant to the knowledge base. Or, the importance of emotional intelligence and its relationship to leadership style and leadership effectiveness has been over emphasized in the literature. And, that these relationships do not exist and are not important to a continued understanding of leaders effectiveness in an organization. The reliability data found for the MLQ5x (Bass & Avolio, 2000) leadership assessment however, was as expected.

Within the population assessed and the results obtained on the MLQ5x (Bass & Avolio, 2000), the intercorrelations of the various leadership dimensions was fairly consistent with that reported in the test manual in most cases. The most significant difference reported was the relationship between idealized attributes and contingent reward. A significantly stronger relationship was found in this study, which would

suggest that these subordinates see a strong relationship between the idealized attributes of their manager and their day-to-day contingent reward leadership style. Of more interest are the relationships between the various leadership style dimensions and the outcome variables of extra effort, satisfaction and effectiveness. In every single case these associated relationships were several times stronger than that reported by the test authors (Bass & Avolio, 2000). This would suggest that this particular sample is unique from a general population in that they attribute a much larger degree of their managers' effectiveness, their satisfaction and extra effort to the managers perceived leadership style than any other dimension. And these results may explain to some degree the lack of relationships found with the emotional intelligence dimensions.

### *Future Research Needs*

This study investigated the relationships between the emotional intelligence of managers and their leadership style as perceived by their subordinates. This study was intended to contribute further to the theory base surrounding emotional intelligence and its application to practice. Due to the incorporation of emotional intelligence concepts into practice, and as yet, limited amount of empirical research in the area of emotional intelligence, the following paragraphs outline some future research needs.

Several areas of potential research for emotional intelligence and its role in the field of HRD have been previously outlined (Weinberger, 2002b). This study was intended to evaluate one of those research agenda's. Based on the results of this study, the following are the areas of future research needs:

- Develop consistently reliable instrumentation

- Develop a more closely aligned definition of emotional intelligence
- Determine if the construct of emotional intelligence is a unique measure
- Explore the construct of emotional intelligence qualitatively

Questions on how to measure emotional intelligence have resulted in a lot of dialogue in the literature. Most measurement tools however are self-report in nature. The MSCEIT (Mayer, Salovey & Caruso, 2002) was one of the first attempts at a performance-based instrument. These results would indicate however, that some more work is needed in this area on parts of the instrumentation. Internally consistent, reliable instrumentation is critical to identifying core relationships between variables and to further explore research agenda's in regard to emotional intelligence, leadership and management.

The construct of emotional intelligence itself also needs to be investigated further. This construct is viewed very broadly in some bodies of work and very narrowly in others. Part of the challenge lies in the term emotional intelligence, which has many definitions. A more closely aligned definition of emotional intelligence is needed for clarity and to assist future researchers and practitioners. The broad array of definitions, have different underlying assumptions and are measured with different methods. This results in the use of the term *emotional intelligence* in many different ways. A careful reading is required in the respective theoretical journals to understand what perspective the author is coming from and compare that perspective to their conclusions. Confusion also occurs in practice: Without a critical read of the articles and an understanding of the

various perspectives of emotional intelligence, our practitioners are being led into a continued pursuit of what might be a corporate fad.

In addition to clarity around the definition of emotional intelligence, the uniqueness of this construct needs to be investigated further. The question of whether or not emotional intelligence is contributing anything unique is an important one to answer. It may be, that these concepts of emotion perception, understanding and managing emotion are captured in other constructs already in use and there is no need to have an *emotional intelligence* construct.

Another recommendation for future research is to explore the concept of emotional intelligence from a qualitative perspective. It may be that emotional intelligence is difficult to measure in the quantitative perspective and a better understanding may be gained through looking at this differently. The nuances around individuals' behavior and approach to others could be explored through a qualitative lens and would contribute additional knowledge in this body of emotional intelligence work.

The topic of emotional intelligence has generated a great deal of interest in the practitioner community and a divergence of perspectives in the research community. A better understanding of this construct from a multitude of perspectives, along with tools to effectively measure it, will contribute significantly to this phenomenon of emotional intelligence and further clarify whether it provides a unique contribution to our understanding of individuals and to the field of HRD.

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# Appendix A

## Institutional Review Board/Human Subjects Committee Approval

[Insert IRB Approval Letter Here]

# Appendix B

## Pre-Notification/Information Memo's

DATE March 18, 2002
TO Global Leadership Group
FROM Tom Dybsky
SUBJECT **Emotional Intelligence/Leadership Practice Survey**

For the past two years we have had a focus on the assessment and development of our top leaders. In working with Joel Brown, an industrial psychologist, we developed our leadership core competencies (leadership, results orientation, teamwork, analytical thinking, emotional intelligence). We then built a 360-leadership instrument, redesigned our performance appraisal documents, and developed several leadership-related training programs. In addition, we assessed the leadership strengths and development needs of our senior management team, manufacturing group, and the engineering team. One additional step we have been planning for some time has been to conduct leadership assessments looking at both emotional intelligence and key leadership factors.

In working with the University of Minnesota we now have two excellent instruments to facilitate this process. It is our plan over the next four months to assess our managers (approximately 150). The main objectives of this initiative are:

- Assess both the leadership and emotional intelligence of our management team (i.e., SMG, directors, managers and supervisors) and establish a baseline for development.
- Based on the data, refine our current leadership development programs and perhaps add additional ones.
- Work with each manager using his/her data to develop individual development plans (IDP).
- In hiring new managers, ensure we are selecting those who complement our strengths and weaknesses as a leadership team.

The process will be as follows:

- Attached are several pieces of information on the process. Please call Patricia Edman with any questions you may have.
- GLC members will then be responsible for communicating the process to their managers and respective subordinates participating in the program.
- All participants will receive a letter describing the process.
- Direct reports of participants in the study will receive a copy of the leadership practices assessment instrument to be completed (45 questions, approximately 20 minutes).
- Within four to six weeks following the completion of the leadership instrument, all participants will receive the emotional intelligence instrument and will be asked to complete it (60 questions, approximately 30 minutes to complete).
- Within one month of submitting the data, participants will receive a report and our Global Leadership Development department will sit with the participant and his/her manager, review the findings, and discuss individual development plans.

This is a very critical initiative as we continue to build a high-performing organization. Your cooperation and support is greatly appreciated. If you have any questions, please feel free to call Patricia or myself.

Attachments:
Memo to participants (to be sent on 3/19/02)
Memo to participants' direct reports (included with the leadership survey, to be sent 3/26/02)
List of all participants
Project plan

DATE March 21, 2002
TO Participants in Survey
FROM Tom Dybsky
SUBJECT **Emotional Intelligence/Leadership Practice Survey**

In our continuing efforts to build a high performing organization, we are undertaking a study of our management team in the areas of Emotional Intelligence and Leadership. These two competencies are critical to our leadership and organizational effectiveness. We will accomplish several things with this study. First, each manager will receive information to assist in his/her development planning. The information will also be consolidated to give further clarification and direction to our leadership education and development efforts organizationally. Finally, we will look at the correlation between Emotional Intelligence and Effective Leadership Practices. As we developed our competencies, we believed this correlation was strong, and this study will confirm that.

You have all seen the definitions of Emotional Intelligence and Leadership through our performance management system and performance appraisals. As a reminder, following are brief definitions of what we will be measuring in this process.

**Emotional Intelligence**

- The ability to *perceive accurately*, *appraise*, and *express emotion*; the ability to *access and/or generate feelings when they facilitate thought*; the ability to understand emotion and emotional knowledge; and the ability to *regulate emotions* to promote emotional and intellectual growth.

**Leadership Effectiveness**

- *Idealized Influence*

  Leaders display conviction; *emphasize trust*; *take stands on difficult issues*; present their most important values; and emphasize the importance of purpose, commitment, and the ethical consequences of decision. Such leaders are admired as role models; they generate pride, loyalty, confidence, and *alignment around a shared purpose*.
- *Inspirational Motivation*

  Leaders articulate an *appealing vision* of the future*, challenge followers with high standards*, talk optimistically and with enthusiasm, and provide encouragement and meaning for what needs to be done.
- *Intellectual Stimulation*

  Leaders *question old assumptions*, traditions, and beliefs; *stimulate in others new perspectives* and ways of doing things; and *encourage the expression of ideas and reasons*.
- *Individualized Consideration*

  Leaders deal with others as individuals; consider their individuals needs, abilities and aspirations; *listen attentively*; further their development; advise; teach; and *coach*.

Following is an explanation of the study and what you can expect:

- Participants in the study are directors, managers and supervisors at CSW, based in the United States, with three or more direct reports. Following the completion of this initial study, we will continue to survey all other directors, managers and supervisors at CSW in the US, TEO, and AEJ.

- This is a two-part survey. The first part is an assessment of Leadership Practices by a manager's direct reports. The second is a self-assessment on Emotional Intelligence completed by the managers themselves. These two pieces of information will then be correlated and given back to the manager.

- The report each manager receives will be used for development planning purposes only. The report will include scores on the Emotional Intelligence self-assessment, and compiled data from direct reports on Leadership Effectiveness. The ratings will also be compared to all Tennant managers, as well as national norms. The participant will have a meeting with his/her direct supervisor and a human resources representative (to help analyze the survey information) to build his/her individual development plan. CSW data will be consolidated to assist in providing education and development programs across the organization.

- Surveys employees complete and return will be kept confidential. The surveys are sent to Lisa Weinberger, who will send them to an outside firm for scoring. The surveys will not have employees names on them, rather are coded with a number that represents the manager being assessed. This way, we will know how many surveys are returned for each manager, but not specifically who sent them. There are Consent Forms included in each survey that explains the confidentiality of the study and offers several methods to ask questions regarding the surveys.

- You have the opportunity for gathering further information about your Leadership Practices if you choose. Yourself, your manager, and peers can also complete the survey being used to gather data from your direct reports. Please let Patricia Edman, Manager, Global Leadership Development know if you would like to complete the full 360-degree feedback process.

- For those of you who have more than 10 direct reports, we have randomly selected 10 to receive the survey. If you would prefer to have all your direct reports complete the assessment, please contact Patricia Edman.

Please let your direct reports know that the leadership effectiveness survey will be arriving at their home. This is a very critical initiative as we continue to build a high-performing organization. Your cooperation and support is greatly appreciated. If you, or your direct reports, have any questions or comments, please call either Patricia Edman or myself.

DATE June 6, 2002

TO Participants in Leadership/Emotional Intelligence Survey
FROM Patricia Edman
SUBJECT **Feedback Timeline**

I want to thank you once again for participating in our Leadership Effectiveness and Emotional Intelligence Surveys. The information we are gathering will be instrumental in helping you with individual development, as well as giving us direction in our efforts to create a high performing organization. Following is a timeline of what you can expect moving forward:

- We have all the Leadership Effectiveness individual reports back. Each report is about 50 pages long, so we are putting together brief summaries for each individual to assist in using the reports effectively.

- We anticipate getting the reports for the Emotional Intelligence instrument you completed at the end of June. At that time we will collate your Leadership Effectiveness report and your Emotional Intelligence report.

- Once we have these reports collated, we will send to you a leadership self-assessment that mirrors the survey completed by your subordinates. It is important for you to be able to compare your assessment of yourself to what your subordinate feedback says. Once we receive these self-assessments back, we will schedule individual meetings with each of you to assist in reading and analyzing the reports. These meetings should take about one hour. The result of these meetings is a start on your development plan.

- We have 150 managers to meet with and will complete these meetings as quickly as possible.

- We will also be communicating to the organization high level information on this process. Over 800 employees participated in rating their managers, and it is important that we let people know that we are doing something with the information they provided.

Thank you once again for your support in this process. Please call if you have any questions or comments.

Patricia Edman

# Appendix C

## Survey Consent Forms

**An examination of the relationship between emotional intelligence, leadership style and perceived leadership effectiveness.**

## Consent Form

You are invited to participate in a research study on emotional intelligence, leadership style and perceived leadership effectiveness at Tennant Company. You have been asked to participate since you are a direct report of a director, manager or supervisor with Tennant Company, based in the United States.

We ask that you read this document and ask any questions you may have before agreeing to be in the study. This study is conducted by Lisa A. Weinberger, a doctoral candidate in Human Resource Development at the University of Minnesota in conjunction with Patricia Edman, Manager of Global Leadership at Tennant Company. The purpose of this study is to explore the relationships between emotional intelligence and leadership style of Tennant Company's managers, so that we can better understand our team and provide information for managers to adjust to the changing needs of the future.

You may ask any questions you have about the study before agreeing to participate. If you agree to be in this study, we ask that you review this consent form and complete the attached survey (directions attached), which will take approximately 30 minutes of your time. There are no costs to participate. You do not need to answer all the questions on the survey in order to participate.

There are no risks involved in participating. At the conclusion of the study, all manager participants will be provided a report summarizing their emotional intelligence score and compiled feedback from their direct reports. All direct report feedback will be grouped together, with no personal identifiers of who participated and who did not.

The records of this study will be kept confidential. Any results reported will be reported at the group level without the possibility of identifying a single employee or groups of employees. The research records will be kept in a locked file in a locked office and only the researcher and Manager of Global Leadership will have access to the records. These research records will be retained until the study is completed (approximately 1 year).

Your decision to participate will not affect your current or future relations with the University of Minnesota or Tennant Company in any way. If you decide to participate, you are free to withdraw at any time without affecting your employment relationship.

The researcher conducting this study is Lisa A. Weinberger. If you have any questions, you may contact Patricia Edman at 763-513-2202 or Lisa A. Weinberger at 763-513-2140. You may also contact the reseacher's academic advisor, Dr. Richard Swanson at 612-624-9727. If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), contact Research Subjects' Advocate line, D528 Mayo, 420 Delaware Street Southeast, Minneapolis, MN 55455; telephone (612) 625-1650.

Thank you,

Lisa A. Weinberger
Ph.D. Candidate
March 26, 2002

**Statement of Consent:**

I have read the above information. I have asked questions and have received answers. By returning the enclosed survey, I consent to participate in the study.

Signature of Investigator or Person Obtaining Consent _____ Date _3/26/2002_____

*Please keep this copy for your records.*

**An examination of the relationship between emotional intelligence, leadership style and perceived leadership effectiveness.**

**Consent Form**

You are invited to participate in a research study on emotional intelligence, leadership style and perceived leadership effectiveness at Tennant Company. You have been asked to participate since you are a director, manager or supervisor with Tennant Company, are based in the United States and have direct reports.

We ask that you read this document and ask any questions you may have before agreeing to be in the study. This study is conducted by Lisa A. Weinberger, a doctoral candidate in Human Resource Development at the University of Minnesota in conjunction with Patricia Edman, Manager of Global Leadership at Tennant Company. The purpose of this study is to explore the relationships between emotional intelligence and leadership style of Tennant Company's managers, so that we can better understand our team and provide information for managers to adjust to the changing needs of the future.

You may ask any questions you have about the study before agreeing to participate. If you agree to be in this study, we ask that you sign this consent form and complete an online survey (directions attached), which will take approximately 30 minutes of your time. There are no costs to participate. You do not need to answer all the questions on the survey in order to participate.

The only risk to manager participants is the reaction you may have to the resulting feedback from the results.

At the conclusion of the study, all manager participants will be provided a report summarizing their emotional intelligence score and compiled feedback from their subordinates. You can use this information to assist in your individual development plan. A copy of this report will be retained in your education record in Human Resources.

The records of this study will be kept confidential. Results reported will be reported at the group level without the possibility of identifying a single employee or groups of employees. Additionally, the compiled answers of the entire emotional intelligence survey will be retained by the testing agency for global data analysis purposes. No identifying marks will be retained.

The research records will be kept in a locked file in a locked office and only the researcher and Manager of Global Leadership will have access to the records. These research records will be retained until the study is completed (approximately 1 year).

Your decision to participate will not affect your current or future relations with the University of Minnesota or Tennant Company in any way. If you decide to participate, you are free to withdraw at any time without affecting your employment relationship.

The researcher conducting this study is Lisa A. Weinberger. If you have any questions, you may contact Patricia Edman at 763-513-2202 or Lisa A. Weinberger at 763-513-2140. You may also contact the researcher's academic advisor, Dr. Richard Swanson at 612-624-9727. If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), contact Research Subjects' Advocate line, D528 Mayo, 420 Delaware Street Southeast, Minneapolis, MN 55455; telephone (612) 625-1650.

Thank you,

Lisa A. Weinberger
Ph.D. Candidate
April 22, 2002

**Statement of Consent:**

I have read the above information. I have asked questions and have received answers. I consent to participate in the study.
Signature _____ Date _____

Signature of Investigator or Person Obtaining Consent _____ Date _____

*You will be given a copy of this form to keep for you records.*

# Appendix D

## Survey Cover Letters

DATE March 26, 2002
FROM Tom Dybsky
SUBJECT **Leadership Effectiveness Study**

Attached you will find a leadership practice assessment instrument to complete on your manager. This is an instrument that the company is utilizing to help assess both leadership strengths and development needs. You honest and open response will be greatly appreciated. Please realize that his information will be strictly confidential. When results are returned, the information will be reported in summarized data so that individuals cannot be identified. Completing the survey should only take about 20 minutes.

We are asking you to respond according to the directions. Complete the enclosed survey, and put it in the Inter company Mail M/D 65, drop off at the front desk of your facility, fax it to 763-513-2108 or send via the postage paid envelope included with the survey. Lisa Weinberger will then batch all the data and send it to a testing agency for scoring.

All responses need to be received by April 15, 2002. If you feel uncomfortable with any particular questions, simply leave it blank.

Thank you for your support in this effort. Your input is valuable to us and makes a difference. If you have any questions, please contact Patricia Edman or myself. Thanks again for your assistance.

DATE April 22, 2002
FROM Tom Dybsky
SUBJECT **Emotional Intelligence Self Assessment**

As you know, in our continuing efforts to build a high performing organization, we have undertaken a study of our management team in the areas of Emotional Intelligence and Leadership. These two competencies are critical to our leadership and organizational effectiveness. The first part of the study was a survey that your direct reports completed on your leadership effectiveness. The second part is a self-assessment on Emotional Intelligence.

Enclosed you will find an Emotional Intelligence self-assessment instrument. This is an instrument that the company is utilizing to help assess the emotional intelligence of our management team. Once the assessment is scored, we will return to you management reports of both the Leadership Effectiveness survey and your Emotional Intelligence survey to be used in your individual development planning.

We are asking that you respond according to the directions. Complete the enclosed survey, and put the survey booklet, the scoring sheet, and the signed consent form in the Inter Company Mail M/D 65 or send via the postage paid envelope included with the survey.

All responses need to be received by May 8, 2002.

Thank you for your support in this effort. If you have any questions, please contact Patricia Edman or myself. Thanks again for your assistance.

# Appendix E

## Survey Reminders

DATE April 12, 2002
FROM Tom Dybsky
SUBJECT **Leadership Effectiveness Study**

Approximately two weeks ago, you received a leadership practice assessment instrument to complete on your manager. This is an instrument that the company is utilizing to help assess both leadership strengths and development needs.

If you have not yet completed and returned the survey, your honest and open response will be greatly appreciated. Please realize that this information will be strictly confidential. When results are returned, the information will be reported in summarized data so that individuals cannot be identified. Completing the survey should only take about 20 minutes.

We are asking you to respond according to the directions. Complete the enclosed survey, and put it in the Inter company Mail M/D 65, fax it to 763-513-2108 or send via the postage paid envelope included with the survey. Lisa Weinberger will then batch all the data and send it to a testing agency for scoring.

If you have misplaced your survey and would like to participate, please contact Patricia Edman at 763-513-2202 or Lisa Weinberger at 763-513-2140 who will send you another one.

Please send back your survey's as soon as possible. If you feel uncomfortable with any particular questions, simply leave it blank.

Thank you for your support in this effort. Your input is valuable to us and makes a difference. If you have any questions, please contact Patricia Edman or myself. Thanks again for your assistance.

DATE April 26, 2002
FROM Tom Dybsky
SUBJECT **Leadership Effectiveness Study**

It is not too late to participate. Your feedback is critically important.

Approximately four weeks ago, you received a leadership practice assessment instrument to complete on your manager. This is an instrument that the company is utilizing to help assess both leadership strengths and development needs.

If you have completed and returned the survey, thank you. If you have not yet completed and returned the survey, your honest and open response will be greatly appreciated. Please realize that this information will be strictly confidential. When results are returned, the information will be reported in summarized data so that individuals cannot be identified. Completing the survey should only take about 20 minutes.

We are asking you to respond according to the directions. Complete the survey and put it in the Inter company Mail M/D 65, fax it to 763-513-2108 or send via the postage paid envelope included with the survey. Lisa Weinberger will then batch all the data and send it to a testing agency for scoring.

If you have misplaced your survey and would like to participate, please contact Patricia Edman at 763-513-2202 or Lisa Weinberger at 763-513-2140 who will send you another one.

Please send back your survey's as soon as possible. If you feel uncomfortable with any particular question, simply leave it blank.

Thank you for your support in this effort. Your input is valuable to us and makes a difference. If you have any questions, please contact Patricia Edman or myself. Thanks again for your assistance.

DATE: May 15, 2002
TO: Participants in Survey
FROM: Patricia Edman
SUBJECT: **Emotional Intelligence/Leadership Practice Survey (via e-mail)**

Approximately four weeks ago, you received an Emotional Intelligence instrument to complete. This is an instrument that the company is utilizing to help assess Emotional Intelligence and is an important part of our Leadership Effectiveness study.

We have not yet received your survey. It is very important for your development planning to get complete feedback on two of our Core Leadership Competencies – Leadership and Emotional Intelligence. Your direct reports have completed a survey for you on your leadership, and this survey will complete your management report.

If you have misplaced your survey, please contact either Lisa Weinberger or myself and we will send you another one.

Please return the survey as soon as possible. We are waiting for all surveys to be returned before sending them out for scoring.

Thank you for your support in this effort. Your input is valuable to us, and will help you continue to grow as a leader at CSW.

DATE: May 22, 2002
TO: Participants in Survey
FROM: Patricia Edman
SUBJECT: **Emotional Intelligence/Leadership Practice Survey (via e-mail)**

CSW has undertaken a very important initiative focusing on the development of our management team. We are assessing the entire management team on two of our Core Competencies – Leadership and Emotional Intelligence. The information we receive through these surveys will not only help you as an individual manager in the company, but also give direction to our Education and Development Department in developing new training programs.

We have not yet received your survey on Emotional Intelligence. Your direct reports have completed a survey for you on your leadership, and this survey will complete your management report.

If you have misplaced your survey, please contact either Lisa Weinberger or myself and we will send you another one.

Please return the survey by May 29, 2002. We are waiting for all surveys to be returned before sending them out for scoring.

Thank you for your support in this effort. Your input is valuable to us, and will help you continue to grow as a leader at CSW.

# Appendix F

## Survey Instructions

**MSCEIT Instruction Sheet**

1. Please complete the First Name/Last Name section and fill in completely the bubbles that correspond to your name. If your first or last name is too long to fit into the blanks provided, simply drop the last letters.

2. Purpose of the Test

The MSCEIT is designed to measure the abilities that make up emotional intelligence. The survey will return feedback to you in four areas:

   a. Perceiving Emotions – your ability to recognize how you and those around you are feeling.
   b. Facilitating Thought – your ability to generate emotions, and use them to enhance reasoning and other cognitive tasks.
   c. Understanding Emotions – your ability to understand simple and complex emotions.
   d. Managing Emotions – your ability to manage emotions in your self and in others.

3. Contents of the MSCEIT

   You will be asked to solve a series of emotional problems. These problems are arranged in eight clusters, labeled from "A" to "H". The questions involve identifying emotions in faces and pictures, comparing emotional feelings to other sensations such as those of heat and colors, and many others.

4. Taking the MSCEIT

   The MSCEIT takes about 30-45 minutes to complete. Please use the answer sheet provided. Do not write in the item booklet. Please work carefully, but also work as quickly as you can. Finish a question as soon as you have found the answer with which you are most satisfied.

5. When Completed with the MSCEIT

   Once you have completed the survey, please return the answer sheet, item booklet and your signed consent form to Lisa Weinberger, MD 65. You can return them via inner office mail or the postage paid envelope enclosed with the survey. Lisa will compile all surveys and send to a testing agency for scoring.

6. Questions

   If you have any questions about the survey, please contact Patricia Edman at x2202 or Lisa Weinberger at x2140.

# Appendix G

## Summary of Survey Contents & Associated Survey Instruments

Contents of the MSCEIT and MLQ5x Surveys

| Construct | Factor | Level of Measurement | Number of Items |
|---|---|---|---|
| Emotional Intelligence | Perceiving Emotions | | 50 |
| | Facilitating Thought | | 30 |
| | Understanding Emotions | | 32 |
| | Managing Emotions | | 29 |
| Transformational Leadership | Intellectual Stimulation | Interval | 4 |
| | Individualized Consideration | Interval | 4 |
| | Charisma | Interval | |
| | Idealized Behavior | | 4 |
| | Idealized Attributes | | 4 |
| | Inspirational Motivation | Interval | 4 |
| Transactional Leadership | Contingent Reward | Interval | 4 |
| | Management-by Exception | Interval | |
| | Active | | 4 |
| | Passive | | 4 |
| Laissex-faire Leadership | Laissez-Faire | Interval | 4 |
| Outcome Variables | Satisfaction | Interval | 2 |
| | Extra Effort | Interval | 3 |
| | Effectiveness | Interval | 4 |
| Total | | | 186 |

*Adapted from MLQ5x (Bass & Avolio, 2000) and MSCEIT (Mayer, Salovey & Caruso, 2002)*

Multifactor Leadership Questionnaire Rater Form – Sample Questions

| Name of Leader: | Date: |
|---|---|
| Organization ID#: | Leader ID#: |

This questionnaire is used to describe the leadership style of the above-mentioned individual as you perceive it. Answer all items on this answer sheet. If an item is irrelevant, or if you are unsure or do not know the answer, leave the answer blank. Please answer this questionnaire anonymously.

Important (necessary for processing): Which best describes you?
__I am at a higher organizational level than the person I am rating.
__The person I am rating is at my organizational level.
__I am at a lower organizational level than the person I am rating.
__I do not wish my organization level to be known.

Forty-five descriptive statements are listed on the following ages. Judge how frequently each statement fits the person you are describing. Use the following rating scale:

| Not at all | Once in a while | Sometimes | Fairly often | Frequently, if not always |
|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 |

*The Person I am Rating…..*

| | | | | | | |
|---|---|---|---|---|---|---|
| **5.** | Avoids getting involved when important issues arise……. | 0 | 1 | 2 | 3 | 4 |
| **8**. | Seeks differing perspectives when solving problems……. | 0 | 1 | 2 | 3 | 4 |
| **10.** | Instills pride in me for being associated with him/her…… | 0 | 1 | 2 | 3 | 4 |
| **35.** | Expresses satisfaction when I meet expectations…… | 0 | 1 | 2 | 3 | 4 |
| **37**. | Is effective in meeting my job-related needs…….. | 0 | 1 | 2 | 3 | 4 |

MSCEIT – Sampling of Questions

*Branch 1 : Emotion Perception (10 different stimuli, 50 total items)*

A sample question is:

How much is each feeling below expressed by this face? (a color picture of a face is presented).

| | | | | | | |
|---|---|---|---|---|---|---|
| 1. No Happiness | 1 | 2 | 3 | 4 | 5 | Extreme Happiness |
| 2. No Fear | 1 | 2 | 3 | 4 | 5 | Extreme Fear |
| 3. No Surprise | 1 | 2 | 3 | 4 | 5 | Extreme Surprise |
| 4. No Disgust | 1 | 2 | 3 | 4 | 5 | Extreme Disgust |
| 5. No Excitement | 1 | 2 | 3 | 4 | 5 | Extreme Excitement |

*Branch 2: Facilitating Thought (10 different stimuli, 30 total items)*

What mood(s) might be helpful to feel when composing an inspiring military march?

| | Not Useful | | | | Useful |
|---|---|---|---|---|---|
| a. anger | 1 | 2 | 3 | 4 | 5 |
| b. excitement | 1 | 2 | 3 | 4 | 5 |
| c. frustration | 1 | 2 | 3 | 4 | 5 |

*Branch 3: Understanding Emotion (32 different stimuli)*

Acceptance, joy, and warmth often combine to form _____.

a. love
b. amazement
c. anticipation
d. contentment
e. acceptance

Rashad is usually quite happy at work and things also go well for him at home. He thought that he and his coworkers were generally fairly paid and treated well. Today, everyone in his unit received a modest across-the-board pay increase as part of corporate-wide adjustments in salary. Rashad felt_____.

a. surprised and shocked
b. peaceful and quite
c. humbled and guilty
d. proud and dominant

*Branch 4: Managing Emotion ( 8 different stimuli, 29 items)*

Mora woke up feeling pretty well. She had slept well, felt well rested, and had no particular cares or concerns. How well would each action help her preserve her mood?

Action 1: She got up and enjoyed the rest of the day.
a. Very ineffective b. Somewhat ineffective c. Neutral d. Somewhat effective e. Very effective

Action 2: Mara enjoyed the feeling, and decided to think about and appreciate all the things that were going well for her.
a. Very ineffective b. Somewhat ineffective c. Neutral d. Somewhat effective e. Very effective

Action 3: She decided it was best to ignore the feeling since it wouldn't last anyway.
a. Very ineffective b. Somewhat ineffective c. Neutral d. Somewhat effective e. Very effective

Action 4: She used the positive feeling to call her mother, who had been depressed, and tried to cheer her up.
a. Very ineffective b. Somewhat ineffective c. Neutral d. Somewhat effective e. Very effective

---

John developed a close relationship at work over the last year. Today, that friend completely surprised him by saying he had taken a job at another company and would be moving out of the area. He had not mentioned he was looking for other jobs. How effective would John be in maintaining a good relationship, if he chose to respond in each of the following ways?

Response 1: John felt good for him and told his friend that he was glad he got the new job. Over the next few weeks, John made arrangements to ensure they stayed in touch.
a. Very ineffective b. Somewhat ineffective c. Neutral d. Somewhat effective e. Very effective

Response 2: John felt sad that his friend was leaving, but he considered what happened as an indication that the friend did not much care for him. After all, the friend said nothing about his job search. Given that his friend was leaving anyway, John did not mention it, but instead went looking for other friends at work.
a. Very ineffective b. Somewhat ineffective c. Neutral d. Somewhat effective e. Very effective

Response 3: John was very angry that his friend hadn't said anything. John showed his disapproval by deciding to ignore his friend until the friend said something about what he had done. John thought that if his friend didn't say anything, it would confirm John's opinion that the friend was not worth talking to.
a. Very ineffective b. Somewhat ineffective c. Neutral d. Somewhat effective e. Very effective

---

# Appendix H

## MSCEIT Statistics

Intercorrelations Among the Branch and Area Scores (General Scoring) of the MSCEIT

| | Branch 1 | Branch 2 | Branch 3 | Branch 4 | Strategic Area |
|---|---|---|---|---|---|
| Branch 1: Perceiving Emotions | 1.0 | | | | |
| Branch 2: Facilitating Thought | .54 | 1.0 | | | |
| Branch 3: Understanding Emotions | .30 | .43 | 1.0 | | |
| Branch 4: Managing Emotions | .35 | .50 | .51 | 1.0 | |
| Experiential Area | | | | | .51 |

*Source: Mayer, Salovey & Caruso, MSCEIT v2 Test Manual (2002)*

Branch 1 – Perceiving Emotions Item Reliability Analysis

| | | Mean | Std Dev | Cases |
|---|---|---|---|---|
| 1. | I2 | 1.941 | .850 | 136 |
| 2. | I4 | 2.58 | 1.015 | 136 |
| 3. | I8 | 2.213 | .999 | 136 |
| 4. | I9 | 1.86 | .912 | 136 |
| 5. | I10 | 1.573 | .804 | 136 |
| 6. | I11 | 1.272 | .683 | 136 |
| 7. | I14 | 2.044 | .988 | 136 |
| 8. | I17 | 1.257 | .487 | 136 |
| 9. | I18 | 1.338 | .586 | 136 |
| 10. | I19 | 1.265 | .561 | 136 |
| 11. | I20 | 1.235 | .505 | 136 |
| 12. | I77 | 1.25 | .675 | 136 |
| 13. | I78 | 1.412 | .755 | 136 |
| 14. | I79 | 1.154 | .500 | 136 |
| 15. | I80 | 1.088 | .394 | 136 |
| 16. | I81 | 2.346 | 1.084 | 136 |
| 17 | I82 | 1.419 | .775 | 136 |
| 18. | I83 | 1.375 | .709 | 136 |
| 19. | I84 | 1.412 | .802 | 136 |
| 20. | I85 | 1.346 | .703 | 136 |
| 21. | I86 | 2.287 | 1.128 | 136 |
| 22. | I87 | 1.221 | .512 | 136 |
| 23. | I88 | 1.118 | .366 | 136 |
| 24. | I89 | 1.382 | .751 | 136 |
| 25. | I90 | 1.139 | .442 | 136 |
| 26. | I91 | 1.324 | .698 | 136 |
| 27. | I92 | 1.838 | 1.090 | 136 |
| 28. | I93 | 2.176 | 1.27 | 136 |
| 29. | I94 | 2.029 | 1.039 | 136 |
| 30. | I95 | 1.463 | .859 | 136 |
| 31. | I97 | 1.029 | .169 | 136 |
| 32. | I98 | 1.213 | .493 | 136 |
| 33. | I99 | 1.221 | .512 | 136 |
| 34. | I100 | 1.095 | .383 | 136 |
| 35. | I101 | 1.552 | .841 | 136 |
| 36. | I102 | 1.941 | 1.107 | 136 |
| 37. | I103 | 1.235 | .547 | 136 |
| 38. | I104 | 1.265 | .547 | 136 |
| 39. | I105 | 1.31 | .638 | 136 |

Split ½ Reliability: .91

Branch 2 – Facilitating Thought Item Reliability Analysis

| | | Mean | Std Dev | Cases |
|---|---|---|---|---|
| 1. | I21 | 1.142 | .508 | 134 |
| 2. | I22 | 1.321 | .800 | 134 |
| 3. | I23 | 4.881 | .325 | 134 |
| 4. | I24 | 2.381 | 1.249 | 134 |
| 5. | I26 | 1.507 | .979 | 134 |
| 6. | I27 | 1.798 | 1.017 | 134 |
| 7. | I28 | 1.164 | .462 | 134 |
| 8. | I32 | 2.664 | 1.262 | 134 |
| 9. | I33 | 2.388 | 1.149 | 134 |
| 10. | I35 | 1.529 | 1.031 | 134 |
| 11. | I108 | 1.164 | .564 | 134 |
| 12. | I111 | 1.328 | .669 | 134 |
| 13. | I114 | 1.784 | 1.058 | 134 |
| 14. | I116 | 1.970 | 1.156 | 134 |
| 15. | I119 | 1.224 | .529 | 134 |
| 16. | I120 | 1.739 | .980 | 134 |

Split ½ Reliability: .63

Branch 3 – Understanding Emotions Item Reliability Analysis

| | | Mean | Std Dev | Cases |
|---|---|---|---|---|
| 1. | I41 | 2.234 | .693 | 128 |
| 2. | I42 | 1.664 | .974 | 128 |
| 3. | I43 | 2.234 | .726 | 128 |
| 4. | I45 | 2.328 | 1.656 | 128 |
| 5. | I46 | 1.250 | .709 | 128 |
| 6. | I48 | 2.312 | .801 | 128 |
| 7. | I50 | 2.344 | 1.111 | 128 |
| 8. | I51 | 1.750 | 1.304 | 128 |
| 9. | I54 | 2.281 | .887 | 128 |
| 10. | I55 | 1.203 | .8544 | 128 |
| 11. | I122 | 1.367 | .821 | 128 |
| 12. | I123 | 2.945 | 1.421 | 128 |
| 13. | I126 | 2.492 | 1.065 | 128 |
| 14. | I129 | 1.414 | .901 | 128 |
| 15. | I132 | 1.625 | 1.184 | 128 |

Split ½ Reliability: .55

Branch 4 – Managing Emotions Item Reliability Analysis

| | | Mean | Std Dev | Cases |
|---|---|---|---|---|
| 1. | I56 | 4.576 | .837 | 137 |
| 2. | I57 | 4.722 | .661 | 137 |
| 3. | I58 | 4.69 | .670 | 137 |
| 4. | I60 | 4.222 | .869 | 137 |
| 5. | I63 | 4.555 | .899 | 137 |
| 6. | I64 | 4.336 | .816 | 137 |
| 7. | I66 | 4.569 | .662 | 137 |
| 8. | I69 | 4.496 | .666 | 137 |
| 9. | I70 | 4.438 | .726 | 137 |
| 10. | I71 | 4.357 | .998 | 137 |
| 11. | I72 | 4.861 | .473 | 137 |
| 12. | I73 | 4.343 | .771 | 137 |
| 13. | I74 | 3.912 | 1.159 | 137 |
| 14. | I133 | 4.825 | .567 | 137 |
| 15. | I134 | 4.664 | .622 | 137 |
| 16. | I135 | 4.847 | .468 | 137 |
| 17. | I137 | 4.745 | .664 | 137 |
| 18. | I141 | 4.161 | .933 | 137 |

Split ½ Reliability: .61

# Appendix I

## MLQ5x Statistics

Leadership Questionnaire – Descriptive Statistics by Item

509 Cases

| Question | Mean | SD | Variance | Minimum | Maximum |
|---|---|---|---|---|---|
| 1 | 2.76 | 1.10 | 1.21 | 0 | 4 |
| 2 | 2.61 | 1.07 | 1.14 | 0 | 4 |
| 3 | 1.49 | 1.28 | 1.63 | 0 | 4 |
| 4 | 2.01 | 1.29 | 1.66 | 0 | 4 |
| 5 | .83 | 1.10 | 1.21 | 0 | 4 |
| 6 | 1.91 | 1.20 | 1.44 | 0 | 4 |
| 7 | 1.08 | 1.15 | 1.32 | 0 | 4 |
| 8 | 2.38 | 1.13 | 1.27 | 0 | 4 |
| 9 | 2.78 | 1.16 | 1.34 | 0 | 4 |
| 10 | 2.34 | 1.40 | 1.96 | 0 | 4 |
| 11 | 2.58 | 1.14 | 1.29 | 0 | 4 |
| 12 | 1.05 | 1.14 | 1.29 | 0 | 4 |
| 13 | 2.74 | 1.11 | 1.21 | 0 | 4 |
| 14 | 2.40 | 1.28 | 1.63 | 0 | 4 |
| 15 | 2.00 | 1.27 | 1.61 | 0 | 4 |
| 16 | 2.20 | 1.35 | 1.82 | 0 | 4 |
| 17 | 1.51 | 1.23 | 1.51 | 0 | 4 |
| 18 | 2.58 | 1.25 | 1.56 | 0 | 4 |
| 19 | 2.89 | 1.16 | 1.34 | 0 | 4 |
| 20 | 1.02 | 1.16 | 1.34 | 0 | 4 |
| 21 | 2.62 | 1.28 | 1.63 | 0 | 4 |
| 22 | 1.92 | 1.25 | 1.56 | 0 | 4 |
| 23 | 2.79 | 1.17 | 1.36 | 0 | 4 |
| 24 | 1.67 | 1.31 | 1.71 | 0 | 4 |
| 25 | 2.71 | 1.13 | 1.27 | 0 | 4 |
| 26 | 2.40 | 1.22 | 1.48 | 0 | 4 |
| 27 | 1.61 | 1.22 | 1.48 | 0 | 4 |
| 28 | .91 | 1.17 | 1.36 | 0 | 4 |
| 29 | 2.44 | 1.27 | 1.61 | 0 | 4 |
| 30 | 2.35 | 1.16 | 1.34 | 0 | 4 |
| 31 | 2.24 | 1.30 | 1.69 | 0 | 4 |
| 32 | 2.21 | 1.16 | 1.34 | 0 | 4 |
| 33 | .95 | 1.14 | 1.29 | 0 | 4 |
| 34 | 2.5 | 1.16 | 1.34 | 0 | 4 |
| 35 | 2.88 | 1.19 | 1.41 | 0 | 4 |
| 36 | 2.84 | 1.09 | 1.18 | 0 | 4 |
| 37 | 2.66 | 1.16 | 1.34 | 0 | 4 |
| 38 | 2.54 | 1.26 | 1.58 | 0 | 4 |

| | | | | | |
|---|---|---|---|---|---|
| 39 | 2.27 | 1.17 | 1.36 | 0 | 4 |
| 40 | 2.62 | 1.24 | 1.53 | 0 | 4 |
| 41 | 2.96 | 1.14 | 1.29 | 0 | 4 |
| 42 | 2.55 | 1.27 | 1.61 | 0 | 4 |
| 43 | 2.92 | 1.06 | 1.12 | 0 | 4 |
| 44 | 2.48 | 1.27 | 1.61 | 0 | 4 |
| 45 | 2.95 | 1.12 | 1.25 | 0 | 4 |

Transformational Leadership and its Associated Dimensions Item Reliability Analysis

| Transformational Leadership | | Alpha = .9569 | | |
|---|---|---|---|---|
| | | Mean | Std Dev | Cases |
| 1. | MLQ6 | 1.8982 | 1.2029 | 609 |
| 2. | MLQ10 | 2.3514 | 1.4124 | 609 |
| 3. | MLQ14 | 2.4154 | 1.2914 | 609 |
| 4. | MLQ18 | 2.5747 | 1.2830 | 609 |
| 5. | MLQ21 | 2.6322 | 1.2975 | 609 |
| 6. | MLQ23 | 2.8194 | 1.1586 | 609 |
| 7. | MLQ25 | 2.7389 | 1.1323 | 609 |
| 8. | MLQ34 | 2.5140 | 1.1643 | 609 |
| 9. | MLQ9 | 2.8062 | 1.1635 | 609 |
| 10. | MLQ13 | 2.7488 | 1.1228 | 609 |
| 11. | MLQ26 | 2.4220 | 1.2130 | 609 |
| 12. | MLQ36 | 2.8506 | 1.1102 | 609 |
| 13. | MLQ2 | 2.6108 | 1.0918 | 609 |
| 14. | MLQ8 | 2.4056 | 1.1303 | 609 |
| 15. | MLQ30 | 2.3777 | 1.1536 | 609 |
| 16. | MLQ32 | 2.2184 | 1.1726 | 609 |
| 17. | MLQ15 | 1.9984 | 1.2818 | 609 |
| 18. | MLQ19 | 2.8949 | 1.1693 | 609 |
| 19. | MLQ29 | 2.565 | 1.2896 | 609 |
| 20. | MLQ31 | 2.2282 | 1.3224 | 609 |

| Inspirational Motivation | | Alpha = .8789 | | |
|---|---|---|---|---|
| | | Mean | Std Dev | Cases |
| 1. | MLQ9 | 2.8504 | 1.1619 | 742 |
| 2. | MLQ13 | 2.8005 | 1.1242 | 742 |
| 3. | MLQ26 | 2.4528 | 1.2293 | 742 |
| 4. | MLQ36 | 2.9070 | 1.1037 | 742 |

| Intellectual Stimulation | | Alpha = .8282 | | |
|---|---|---|---|---|
| | | Mean | Std Dev | Cases |
| 1. | MLQ2 | 2.6256 | 1.1109 | 705 |
| 2. | MLQ8 | 2.4085 | 1.1496 | 705 |
| 3. | MLQ30 | 2.3872 | 1.1758 | 705 |
| 4. | MLQ32 | 2.2213` | 1.1903 | 705 |

| Individual Consideration | | Alpha = .8507 | | |
|---|---|---|---|---|
| | | Mean | Std Dev | Cases |
| 1. | MLQ15 | 2.0163 | 1.2785 | 735 |
| 2. | MLQ19 | 2.9088 | 1.1805 | 735 |
| 3. | MLQ29 | 2.4925 | 1.2795 | 735 |
| 4. | MLQ31 | 2.2626 | 1.3248 | 735 |

| Idealized Attributes | | Alpha = .8376 | | |
|---|---|---|---|---|
| | | Mean | Std Dev | Cases |
| 1. | MLQ10 | 2.3707 | 1.4282 | 723 |
| 2. | MLQ18 | 2.6127 | 1.2717 | 723 |
| 3. | MLQ21 | 2.6487 | 1.3067 | 723 |
| 4. | MLQ25 | 2.7649 | 1.1313 | 723 |

| Idealized Behaviors | | Alpha = .7772 | | |
|---|---|---|---|---|
| | | Mean | Std Dev | Cases |
| 1. | MLQ6 | 1.8892 | 1.2067 | 695 |
| 2. | MLQ14 | 2.4446 | 1.2781 | 695 |
| 3. | MLQ23 | 2.8288 | 1.1580 | 695 |
| 4. | MLQ34 | 2.5439 | 1.1566 | 695 |

Transactional Leadership Dimensions Item Reliability Analysis

| Contingent Reward | | Alpha = .8052 | | |
|---|---|---|---|---|
| | | Mean | Std Dev | Cases |
| 1. | MLQ1 | 2.7507 | 1.1272 | 710 |
| 2. | MLQ11 | 2.6254 | 1.1480 | 710 |
| 3. | MLQ16 | 2.2296 | 1.3888 | 710 |
| 4. | MLQ35 | 2.8901 | 1.1920 | 710 |

| Management by Exception - Passive | | Alpha = .7456 | | |
|---|---|---|---|---|
| | | Mean | Std Dev | Cases |
| 1. | MLQ3 | 1.3966 | 1.2854 | 716 |
| 2. | MLQ12 | 1.0419 | 1.1592 | 716 |
| 3. | MLQ17 | 1.4218 | 1.2586 | 716 |
| 4. | MLQ20 | .9749 | 1.1633 | 716 |

| Management by Exception - Active | | Alpha = .7696 | | |
|---|---|---|---|---|
| | | Mean | Std Dev | Cases |
| 1. | MLQ4 | 1.9656 | 1.3213 | 669 |
| 2. | MLQ22 | 1.9043 | 1.2855 | 669 |
| 3. | MLQ24 | 1.6368 | 1.3441 | 669 |
| 4. | MLQ27 | 1.5740 | 1.2354 | 669 |

Laissez-Faire Leadership Dimension Item Reliability Analysis

| Laissez-Faire | | Alpha = .8054 | | |
|---|---|---|---|---|
| | | Mean | Std Dev | Cases |
| 1. | MLQ5 | .7653 | 1.0782 | 750 |
| 2. | MLQ7 | 1.0067 | 1.1280 | 750 |
| 3. | MLQ28 | .8627 | 1.1640 | 750 |
| 4. | MLQ33 | .9027 | 1.1554 | 750 |

Leadership Outcome Variable Dimensions Item Reliability Analysis

| Extra Effort | | Alpha = .8689 | | |
|---|---|---|---|---|
| | | Mean | Std Dev | Cases |
| 1. | MLQ39 | 2.2373 | 1.2135 | 746 |
| 2. | MLQ42 | 2.6046 | 1.2903 | 746 |
| 3. | MLQ44 | 2.5429 | 1.2876 | 746 |

| Satisfaction | | Alpha = .8944 | | |
|---|---|---|---|---|
| | | Mean | Std Dev | Cases |
| 1. | MLQ38 | 2.5813 | 1.2568 | 769 |
| 2. | MLQ41 | 3.0195 | 1.1312 | 769 |

| Effectiveness | | Alpha = .8877 | | |
|---|---|---|---|---|
| | | Mean | Std Dev | Cases |
| 1. | MLQ37 | 2.7489 | 1.1636 | 701 |
| 2. | MLQ40 | 2.6790 | 1.2380 | 701 |
| 3. | MLQ43 | 3.0200 | 1.0390 | 701 |
| 4. | MLQ45 | 3.0342 | 1.1001 | 701 |