

The relationship of emotional intelligence and transformational leadership behavior in
Texas AgriLife Extension Service mid-managers

by

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Dissertation

In

AGRICULTURAL EDUCATION

Submitted to the Graduate Faculty
of Texas Tech University in
Partial Fulfillment of
the Requirements for
the Degree of

Doctorate of Education

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August 2010

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Acknowledgements

I would have never been able to complete such a monumental task as a dissertation without the guidance of my committee members, help from friends and support from my family, husband and children.

I would like to express my deepest gratitude to my advisor, Dr. David Doerfert, for his guidance, caring attitude and patience with me throughout the process. He contributed so many hours beyond the work week, at night and on holidays to my research to ensure it was at the level it needed to be. I would also like to thank Dr. Chris Boleman, Dr. Steve Frazee, and Dr. Barry Boyd for serving on my committee and assisting me with the research and writing process. Special thanks to Dr. Matt Baker for guiding me up to the point of oral and written defense.

I would also like to express appreciation to my co-workers and Doc@Distance Co-Hort 3 members for your encouragement and motivation. For you being such a supportive role in balancing work, school and family.

I am most grateful for my family and friends. Many of you helped support my most immediate family with "Mom" being a full time student and worker. Thanks to my parents for always believing and supporting me in whatever I wanted to do. Finally, I would like to thank my husband, Bob and children Clay and Abby for always encouraging me through the good and bad times!

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Abstract

The purpose of the study was to examine the relationship between emotional intelligence and leadership styles among Texas AgriLife Extension Service mid-managers. A web based three part instrument was administered to participants. A general questionnaire about demographics, work history and views of leadership was part one. The Multifactor Leadership Questionnaire (MLQ form 5x) developed by Avolio and Bass examined the leader's self reported leadership style. The MLQ identifies scores for transformational, transactional and laissez-faire leadership styles and those were compared with scores on the BarOn Emotional Quotient Inventory Test (EQ-i).

An independent samples *t* test was performed to assess whether the mean EI subscales scores for the high transformational leadership group differed significantly from the low transformational leadership group. Six EI constructs were statistically significant in relation to transformational leadership behavior. The six were: optimism, happiness, empathy, interpersonal relationships, self-regard, and stress tolerance. An independent samples *t* test was performed to assess whether the mean EI subscales scores for the high transactional leadership group differed significantly from the low transactional leadership group. Social responsibility was the one EI construct that was statistically significant in relation to transactional leadership behavior.

The findings from this study indicate the leaders can develop and strengthen emotional intelligence and in doing so can more likely exhibit the use of transformational leadership behaviors. Further study would be needed to demonstrate the extent of possible application, but it is commendable that if leaders are trained in EI and those skills are fostered, they will be more likely to utilize transformational leadership further resulting in organizational effectiveness and follower satisfaction.

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Chapter I

Introduction

Background and Setting

Leadership has been a focus of research both in the public and private sector for many years and is defined by people many different ways. Meyers' (1978) definition of leadership is "...the performance of specifically defined leadership behaviors designed to influence group behavior and task organization" (p. 38). Owen (1987) gives the most succinct definition of leadership which "is in the relationship between leaders and followers" (p.67).

Whether the leadership interest focuses on what makes one a great leader or how a leader interacts with their followers, the dynamics of leadership is of great interest. Early research in leadership did not always connect the roles of the leader and the follower (Goleman, 1995). The knowledge base of transactional and transformational leadership looks at the exchange between the follower and the leader and then beyond that exchange respectively.

Downton (1973) first distinguished the difference between transformational leadership and that of transactional leadership. His work was further defined through the efforts of Burns (1978) and his work with political leaders. This pioneer work began to connect the work of the leader and the follower that had not been evident in prior research. Zaleznik (1977) expanded the transformational leadership theory as he connected the future goals based on the associate or followers needs. The Full Range

Model of Leadership (Avolio & Bass, 2004) broadened the scope of what was typically studied. It was identified as “full range” to expand the leadership field paradigm of leadership styles. Avolio (1999), Bass (1998), and Burns and Avolio (1994) challenged the leadership field with their new paradigm of transformational and transactional leadership.

Emotional intelligence (EI) also caught the attention and interest of many over the last few decades. Emotional intelligence can be the core to life success. It fosters how one looks at their life, work and the world around them. It is a crucial concept to understand, it’s difficult to capture on paper and harder than IQ to identify. It is a powerful concept! If people can understand their emotions and those emotions of others; they can fundamentally influence lives every day (BarOn, 2006; Goleman, 1998).

Emotional intelligence is a popular term and trend within corporate America and the educational world. EI “is a type of social intelligence that involves the ability to monitor one’s own and other’s emotions to discriminate among them and to use the information to guide one’s own thinking and action” (Mayer & Salovey, 1993, p. 422).

Emotional intelligence is learned. According to Stein and Book (2001), an individual’s emotional intelligence measure continues to rise with age. The process of development is over time with understanding and thoughtful effort. With improved personal performance comes ultimately success in many aspects of life (Lajoie, 2002).

Research also suggests that people with high levels of emotional intelligence “experience more career success, build stronger personal relationships, lead more

effectively, and enjoy better health than those with low [emotional intelligence] EQ” (Cooper, 1997, p.32). In their study on including emotional intelligence in agricultural education curriculum, Martinez, Beesley, Doerfert, and Akers (2003) recommended research be conducted on the relationship between leadership and emotional intelligence.

Statement of the Problem

There are many studies focusing on emotional intelligence and leadership respectively. The research is undeniable that transformational leadership increases organizational effectiveness (BarOn, 2006). There is also evidence that emotional intelligence can be developed and measured and is an important skill both in personal and professional lives (Goleman, 1998).

Texas AgriLife Extension Service conducted an agency structure reorganization in 2003 which included mid-management positions. In that restructuring, some administrative positions were made into program director positions. These new positions had no or little administrative duties related to hiring and firing of employees and were more directed towards subject matter expertise and programming. In this new structure, mid-management positions related to organizational excellence have an equal need for individuals possessing emotional intelligence and exhibiting a high level of transformational leadership ability.

Leaders with higher emotional intelligence are more functional in managing their moods and emotions. Such leaders are better able to “repair negative moods” which

may limit flexibility and creativity (Mayer et al, 1991). When a leader expresses confidence in their following they will be more likely to exhibit positive emotions and be an ally to the goals and objectives of the leader (Gardner & Avolio, 1998).

Emotional intelligence abilities that are utilized may assist individuals in employing effective leadership skills, and others have found a significant predictive relationship between transformational leadership and emotional intelligence (Goleman, 1998; Leban & Zulauf, 2004; Mandell & Pherwani, 2003; Barling et al, 2000; Gardner & Stough, 2002). Additionally these researchers found that EI and effective leadership are closely tied (Higgs & Aitken, 2003; Sosik & Megerian, 1999). In all the cases there is a stronger correlation between emotional intelligence and transformational leadership in self-reports versus rater reports.

When leaders possess strong interpersonal skills there is a greater likelihood of exhibiting transformational behavior. Bass (1990a) established that there is a positive correlation between leadership and self-confidence, conviction, self control, ability to handle conflict, and tolerance for stress. Goleman (1995) identified motivation as a characteristic possessed by all effective leaders. Bass (1990) confirmed this as a characteristic defining transformational leadership. In addition others confirmed empathy, self awareness and self confidence as transformational leadership traits (Bass, 1985; Burns, 1978; Ross & Offerman, 1997). Many have reported that self awareness leads to greater leader performance (Atwater & Yammarino, 1992; Barling et al 2000;

Church, 1997; Shipper & Dillard, 1994; Sosik & Megerain, 1999). Goleman says these qualities are sub components of emotional intelligence.

Emotional intelligence cannot be seen solely as the understanding of feelings, but must be examined from a functional perspective as in the exhibition of leadership skills and behaviors. If there is a relationship between emotional intelligence and transformational leadership, leaders can be assisted in their emotional intelligence competencies thus expanding their behavior and improving their leadership ability. Identifying areas of low emotional intelligence competence can result improved training and support of employees.

Questions continue to be raised when a gap is seen in the stated values of an organization and the actions of employees, particularly administrators' behavior. Cherniss (2000) stated that ninety percent of the optimal competencies for leadership roles are born of a social or emotional trait. "Two-thirds of companies linked superior performance to emotional or social qualities such as self-confidence, flexibility, persistence, empathy, and the ability to get along with others" (Cherniss, 2000, p.449). The majority of characteristics of transformational leadership and emotional intelligence are consistent with the values of Texas AgriLife Extension Service. If there is a relationship between the two, there is likelihood to align those qualities with the organizational values.

This study explored the potential relationship between EI and the leadership style used by Texas AgriLife Extension Service mid-managers. If there is a specific

relationship of EI and transformational leadership qualities, the literature suggests that mid-managers could develop the skill to be better leaders and employees.

Objectives of the Study/Hypotheses

The purpose of the study was to examine the potential relationship between EI and the leadership styles used by Texas AgriLife Extension Service mid-managers. The following objectives guided the study:

1. Describe Texas AgriLife Extension Service mid-managers in terms of their gender, age, current title, years in current position, total years of employment in Extension, as an agent, total years of employment as a specialist and total years of employment as an educator.
2. Describe Texas AgriLife Extension Service mid-managers in terms of their emotional intelligence as measured by the BarOn EQ-i instrument.
3. Describe Texas AgriLife Extension Service mid-managers in terms of their leadership styles as measured by the Multifactor Leadership Questionnaire.
4. Describe the statistical relationship between Texas AgriLife Extension mid-managers leadership styles and their emotional intelligence scores.

The following research hypothesis generated from the literature review was tested.

- H₀ 1. There is no statistically significant difference in EI scores between AgriLife Extension mid-managers with high Transformational Leadership behaviors with those having low Transformational Leadership behaviors.

H₀ 2. There is no statistically significant difference in EI scores between AgriLife Extension mid-managers with high Transactional Leadership behaviors with those having low Transactional Leadership behaviors.

Definition of Terms

Emotional Intelligence

Emotional intelligence is an “array of non-cognitive capabilities, competencies and skills that influence one’s ability to succeed in coping with environmental demands and pressures (Bar-On, 2002, p.2).” The BarOn Emotional Quotient Inventory Test (EQ-i) relates to the potential rather than performance in the area of emotional intelligence.

Leadership behaviors

There are many facets to the study of leadership, but one of the most studied and valued is transformational leadership. The full range model was developed to broaden the range of leadership styles investigated. The MLQ 5x was developed by Avolio and Bass (2004) and is an easy to understand model. The model consists of nine subscales which broadens the continuum of leadership behaviors versus other models.

Transformational leadership is not simply an exchange relationship between the leader and the follower; it is the motivation of the learner to achieve self-actualized higher goals (Burns, 1978). The five factors of transformational leadership include: idealized influence, attributed, idealized influence behavior, inspirational motivation, intellectual stimulation, and individualized consideration (Avolio & Bass, 2004).

Bass (1990a) described this leadership style as outward behaviors exhibited to others. This form of leadership style may be seen as a contingent reward and or management by exception being either active or passive in nature (Avolio & Bass, 2004).

Limitations of Study

One of the limitations to this study is the sample used in this study. The mid-managers involved in this study were district Extension directors, county Extension directors, program directors and associate department heads. These individuals were identified from the directory listed on the Texas AgriLife Extension Service web site that was deemed to be a reliable data source. As with all published directories, there is a potential for error from data entry or lack of recent updating of the directory. In addition, the size of the sample was small which impacted statistical power and the potential use of other inferential data analysis methods or modeling with this data.

A second limitation of the study was with the data collection processes. The respondents contribute their data through a self-rated instrument versus a subordinate rated instrument or utilize an assessment center or outside source. Further, the study utilized an EI mixed-method model and did not assess the real or perceived leadership effectiveness of the participants. In addition there is a potential for common method bias with administering the EI and MLQ instruments simultaneously.

Time was also considered as a limitation in the study. The sample population has extensive work responsibilities and may have had limited time to respond. The researcher determined the time to complete the instrument to be 30 to 45 minutes and

use the Internet to collect data to provide potential participants with a time saving means to respond that also allow for greater flexibility and convenience. While this may have limited the time burden on the respondents, it would not have eliminated the problem.

Basic Assumptions

The researcher based validity and reliability determinations of the instruments implemented on reports provided by the individual instrument provider. The researcher has assumed that these validity and reliability values will stand true for this administration of the instruments.

Emotional intelligence as measured by the BarOn Emotional Quotient Inventory Test (EQ-i) is data that is of an ordinal scale in that a higher number represent a higher level of intelligence. However, the intervals between the numbers on this scale are not necessarily equal. The individual ordinal statements are then added together to create the unique EI constructs. In the creation of these constructs, the summated score is deemed to be interval in nature. In the statistical analysis of this study, EI scores are considered to be interval in nature, representing an order and equal number of unit.

The last assumption made by the researcher is that all respondents answered the questions openly and honestly. The basis of the research instrument being a self-rater is that they did respond honestly.

Significance of the Problem

To the researcher's knowledge, there are currently less than ten studies focusing on the relationship between EI and transformational leadership while assessing it with BarOn's EQ-i and the MLQ 5x instruments. This study will further research in this area and contribute to the knowledge base. This study is also of interest regarding the identification and development of leaders within the researcher's agency and field. This research may provide additional dialog and development for future leaders within Extension.

Chapter II

Review of Literature

Researchers and scientists have been challenged for many years to define intelligence. It “is one of the most discussed topics in both scientific and popular literature” (Averill, 2004, 228). Bar On states, “emotional intelligence addresses the emotional, personal, social and survival dimensions of intelligence, which are often more important for daily functioning than the more cognitive aspects of intelligence” (Bar On, 2002). An overview of this theory is outlined in this chapter. A second track of research and related literature that was reviewed is leadership. More specifically transformational, transactional, and laissez-faire leadership styles will be the major components discussed. This chapter begins with providing the reader with an understanding of the context of this study: the Texas AgriLife Extension Service.

The Cooperative Extension System

The Smith-Lever Act established the Extension Service that completed the triad of the land-grant system consisting of the university, experiment station and outreach arm known as the Cooperative Extension System (Vines & Anderson, 1976). Today the National Institute of Food and Agriculture is an agency within the U.S Department of Agriculture. Over the last century, the Cooperative Extension System has adapted to changing times and continues to address a wide range of issues both in rural and urban areas (Vines & Anderson).

Texas AgriLife Extension Service

As part of USDA's Cooperative Extension Service, the Texas AgriLife Extension Service has a mission to improve the lives of Texans with quality, relevant outreach and continuing education programs and services. It is a state and federal supported agency of the Texas A&M University System. Texas AgriLife Extension Service mission is to serve Texans through community-based education. This is achieved through programming in 4-H and youth development, agriculture and natural resources, community economic development and family and consumer sciences through the goals of (Texas AgriLife Extension Service Strategic Plan):

- Ensure a sustainable, profitable, and competitive food and fiber systems in Texas
- Enhance natural resource conservation and management
- Build local capacity for economic development in Texas communities
- Improve the health, nutrition, safety and economic security of Texas families
- Prepare Texas youth to be productive, positive and equipped with life skills for the future
- Expand access to Extension education and knowledge resources.

Studies targeting Extension leadership have been conducted within different respondent groups (Cobb, 1989; Holder, 1990; Lowery, 1996; Moore & Jones, 2001; Sykes, 1995; Moore & Rudd, 2006). The majority of these studies have focused on county-based faculty. Therefore questions remain as to the preferred leadership styles of Extension administrators.

Moore and Rudd (2006) found that senior administrative leaders were somewhat similar in terms of their self-identified leadership style. These leaders were described as being engaged in transactional leadership style behaviors “once in a while” to “sometimes” and engaged in transformational leadership styles “fairly often” to “frequently if not always.” These leaders used transformational more often than transactional which only augments the effects of transactional behaviors.

Woodrum and Safrit (2003) utilizing the MLQ questionnaire with West Virginia University Extension Agents working 4-H and Youth Development programs found that four out of the five transformational leadership constructs were identified to being used more often. Those constructs include: Idealized Influence – Attributed, Idealized Influence – Behavior, Inspirational Motivation, and Intellectual Stimulation. The highest transactional construct was Individual Consideration.

Sinasky and Bruce (2006) investigated leadership styles through a self-rated instrument and a supervisor rated instrument. Utilizing the transformational leadership constructs educators ranked themselves highest in individual consideration and supervisors ranked them highest in Idealized influence-attributed. Both educators and supervisors rated contingent reward as the most used skill in the transactional leadership construct.

To date leadership studies have been primarily focused on county-based Extension faculty with a limited number on Extension administration. Methods have

included self-rating and supervisor rated instrumentation. There has been limited understanding from research on Texas Extension administration leadership.

Leadership

When examining the literature beyond the context of the Extension leadership, you will find that leadership is one of the most researched and debated areas in organization research and sciences. Sometimes this area is more of a creation in the minds of followers than the attributes of the person in the leadership role (Meindle, 1990). Building good relationships with followers and a lack of trust may be seen through leaders who experience anger frequently (Jones & George, 1998). Correspondingly a leader who experiences a lot of positive moods may not take notice of performance shortfalls. A diversity of feelings influences the effectiveness of leaders, both through emotions and moods (George, 1995; George & Bettenhausen, 1990).

Leaders who exhibit greater empathy show greater degrees of intellectual stimulation and individual consideration (Barbuto & Burbach, 2006). Further expanding on those attributes leaders with intellectual stimulation, individual consideration, inspirational motivation and idealized influence will experience greater employee performance, effort, satisfaction and organizational effectiveness (Lowe, Kroeck, & Sivasubramaniam, 1996).

The transformational and transactional leadership models were first introduced by Burns in 1978. This groundbreaking work initiated extensive research supporting the distinction between, expressions of leadership, and the impact of the field (Bass, 1999).

Transformational leadership has been described as being among one of the most researched leadership theories over the past 20 years (Barbuto & Burbach, 2006). Despite this popularity, researchers know less about its antecedents and much more about its outcomes.

Transformational leadership is rooted in Confucian and Socratic philosophy focusing on virtue and moral character (Bass, 1999). Transformational leadership is not simply an exchange relationship between the leader and the follower; it is the motivation of the learner to achieve self-actualized higher goals (Burns, 1978). Burns also classified transformational as a higher order of needs and being more closely associated with the moral fiber of a person. Two decades later researchers have found that other aspects besides internal motivation relate more so to transformational leadership unlike what past studies have suggested (Barling et al, 2000; Gibbons, 1986; Howell & Avolio, 1993; Sosik & Megerian, 1999). “Transformational leadership occurs when leaders broaden and elevate the interests of employees, while generating awareness and acceptance of the purposes and mission of the group, they stir their employees to look beyond their own self-interest for the good of the group” (Bass, 1990b, p.20)

Transformational leaders have been identified to possess “strong forces of leadership” (Avolio & Bass, 1988; Conger & Kamungo, 1988). Strong forces are defined as the ability to motivate others to perform, the leader’s vision enables a shift in outlook and perspective and often this force is apparent in times of crisis and despair.

Transformational leadership does not replace transactional leadership it “augments” it in succeeding the goals of those involved (Waldman & Bars, 1986; Howell & Avolio, 1993; Waldman, Bass, & Yammarino, 1990).

Transactional leadership exhibits a mutual dependency with both being recognized and rewarded through their contribution. Bass (1990) described this leadership style as outward behaviors exhibited to others. Transactional leadership concentrates more on lower order needs such as food, shelter, safety and need for affiliation. Transactional leadership results in lower levels of performance or non-significant change in several large-scale surveys (Bass & Avolio, 1993a; Avolio & Bass, 1988; Hoover, 1987; Love et al, 1996; Murray, 1988; Onnen, 1987). If a leader relies on passive management intervening only when tasks or standards are not met, they prove to be ineffective (Bass, 1985). Equally ineffective are discipline threats attempting to bring a group up to standard and are often counterproductive in the end.

When transformational leadership is greater than transactional qualities one can predict higher employee ratings of satisfaction and effectiveness (Hatter & Bass, 1988). An additional finding from the same researchers was the top performing manager’s exhibit more transformational leadership styles than “ordinary” managers. In group settings, certain aspects of transformational leadership can predict higher group performance (Keller, 1995). It has also been discovered that visioning, communicating and enacting the vision through subordinates is the result of change implemented by transformational leadership (Hemphey, 2002). On the flip side when levels of

transformational leadership are lower there is a greater level of frustration among employees and lower performance (McCall-Kennedy & Anderson, 2002)

Reviewing past research on the differences of leadership styles between men and women, the results are inclusive. One study did find that women are consistently evaluated in a negative manner in comparison to men when they utilize an autocratic leadership style (Eagly, Makhijani, & Klonsky, 1992). Evaluation through the MLQ instrument has found that age is unrelated to the female leaders rank. In addition they found that female leaders rank higher in transformational leadership than transactional leadership than their male counterparts (Eagly, Johannesen-Schmidt, & Van Engen, 2003; Bass, Avolio, & Atwater, 1996).

Leadership and Organizational Culture

An organizations culture is highly influenced by the leadership of all its workers. High quality interpersonal relationships are the goal of most organizations. Leaders can create a positive environment through enthusiasm, excitement and optimism along with an atmosphere of trust. Organizational leadership positions often deal with a fast past, hectic work schedule, ever-changing environments and stress (Kanter, 1983; Minteborg, 1973). It is very important that leaders meet these demands as they deal with conflict and promote cooperation and trust. Constructive thinking as Estein (1990) refers to it is essential to solving problems with the least amount of stress.

In creating an organizational vision one must execute creativity, thinking, and flexibility. A positive mood facilitates this process to a higher level. Some research has

linked positive moods to creativity (Isen et al, 1987). Furthermore people in positive moods have been identified as flexible, more integrative, utilizing broader categories and approaching problems (Isen & Buron, 1991; Isen & Daubman, 1984; Isen et al, 1985; Murray, 1988).

Cherniss (2000) stated that ninety percent of the optimal competencies for leadership roles are born of a social or emotional trait. “Two-thirds of companies linked superior performance to emotional or social qualities such as self-confidence, flexibility, persistence, empathy, and the ability to get along with others” (Cherniss, 2000, p.449). Up to eighty percent of companies acknowledge using training funds to promote emotional intelligence. The most essential educational objectives include “greater emotional self awareness, self management, and empathy as well as building social skills” (Cherniss, 2000, p. 449).

Emotional Intelligence

What is emotional intelligence? Daniel Goleman defines it as:

... a different way of being smart. It includes knowing what your feelings are and using your feelings to make good decisions in life. It’s being able to manage distressing moods well and control impulses. It’s being motivated and remaining hopeful and optimistic when you have setbacks in working toward goals. It’s empathy, knowing what the people around you are feeling. And it’s social skill – getting along well with other people, managing emotions in relationships, being able to persuade or lead others (Goleman, 1998, p. 10).

Emotional intelligence brings the two worlds of intellect and emotions together. The popularity of emotional intelligence has increased greatly in recent years and with that has come debate (Matthews, Zeidner, & Roberts, 2004). Through much of history

the Western culture has “viewed reason and intellect as opposing forces to supposedly non-rational phenomena like passion, intuition, feeling and emotions” (Matthews, Zeidner, & Roberts, 2004, p. 81).

Feelings are seen as something that inhibits effective decision-making and rationality (Albrow, 1992). In reality feelings are a “central role” in the leadership process, not an additional factor to consider (Fineman, 1993; Forgas, 1995). In addition feelings are necessary for making good decisions in neurological studies (Damasio, 1994; Goleman, 1995).

Moods are “generalized feeling states” that are not tied to circumstances or events, which might cause a mood (Morris, 1989). In general a low intensity mood will not interrupt ongoing activities. Positive moods may have an advantageous result such as more favorable perceptions and evaluations, more likely to remember positive information, more self assured, tendency to take credit for success and avoid blame, more helpful to others and increase inductive reasoning (Bower, 1981; Cunningham et al, 1980; Forgas et al, 1984, 1990; George, 1991; Isen et al, 1976, 1978; Rosenhahl, et al, 1981). Negative moods may foster deductive reasoning, and more critical and comprehensive evaluation (Salovey et al, 1993; Sinclair & Mark, 1992). George (1995) found in workgroups if people experience positive moods, there is a positive pro-social behavior performed by group members. He also found when negative moods were experienced there was a direct connection to higher group turnover rates. Complex

problems call for careful processing and systematic judgment. Sinclair (1988) and Sinclair and Mark (1992) found that negative moods foster such behavior.

The term “emotional” in emotional intelligence refers to both moods and emotions. Emotions actually sometimes feed into moods. Emotions are “high intensity feelings” triggered a specific stimulus, evoke attention and interrupt cognitive processing or behaviors (Forgas, 1992; Morris, 1989; Simon, 1982). Damasio (1994) found that intense emotional reaction could interfere with effective decision making stating that a “reduction in emotion may constitute an equally important source of irrational behavior” (p. 53).

Ambivalence in emotional expression can deter an individual from developing positive interpersonal relations. Ambivalence can be expressed by people who want to express their emotions, agonize over it, and then fail to act (Emmons & Colby, 1995). Others may express ambivalence by showing their emotion but then regret doing it (King & Emmons, 1991). Both examples are linked to anxiety, depression, psychiatric disorders, less social support and lower well-being (Emmons & Colby, 1995; Kate & Campbell, 1994; King & Emmons, 1990, 1991).

Intelligence Quotient (IQ) is the most recognized and used predictor of a person’s success, current research has shown that Emotional Intelligence (EI) is a better presage to “success” than traditional methods of cognitive intelligence (EQ University, 2004). Emotional intelligence is teachable as proven in research (Goleman, 1998). Pool (1997) discovered IQ predicts only 20 percent of career success and he inferred that

while emotional intelligence predicts about 80 percent of a person's success in life.

Although Goleman (1998) states one cannot make that comparison.

Cognitive ability and use of that ability is not always the predictor of success in life. Many intelligent (cognitively) people struggle and sometimes fail at life. On the contrary some less cognitively intelligent people flourish and succeed. Robert Thorndike (1920) was the first to distinguish among more than one form of intelligence. He outlined the three areas of intelligence to be abstract, social and mechanical. Social intelligence was related to interpersonal relationships and one's ability to understand and to manage others. Thorndike spent more than twenty years trying to define and measure this area of intelligence. He personally doubted in the end that a means for measuring social intelligence was to be found (Zirkel, 2000). David Wechsler focused on general intelligence which did include a "non-intellective aspect" (Wechsler, 1940). His work was based on Edgar Doll's theory to assess social competence through the Vineland Social Maturity Scale (Doll, 1935). Wechsler later wrote (1958) that he was "convinced that intelligence is most usefully interpreted as an aspect of the total personality" (p. vii).

Constructivism is a "broad conceptual framework in philosophy and science based on the study of cognition." (Bruner, 1960, p. 63). Bruner's main principles include readiness focusing on the "experiences and contexts that make the student willing and able to learn." The spiral organization targets an instruction approach that "can be

easily grasped by the student.” The last principle goes beyond the information given for instruction to “facilitate extrapolation and or fill in the gaps.” (Bruner, 1960, p. 65).

Constructivism is a broad group of theories that offers insight to how people learn. This concept is based upon learning from previous experiences and knowledge. The constructivist helps to facilitate learning rather than simply acquiring information (Carlisle & Jordan, 2005).

Implications of Constructivism for Practice (Carlisle et al., 2004, p. 17).

- approach material from the learner’s perspective and values;
- acknowledge and accommodate student diversity (ability, age, gender, culture, nationality);
- encourage reflection through the use of learning journals etc;
- present an overview of the topic including purpose and objectives;
- explain the relevance of the topic;
- build on what it is already known;
- encourage active and discovery and independent learning;
- give timely feedback on performance; and
- constructively align objectives, strategies and assessment.

Constructivism is interested in the whole mind as a part of the affective domain. Special emphasis has been given to volition and emotion in learning. In learning volition is more important than intellect (Barnett, 2004). More emphasis should be put towards

improving volition and motivation by learners with paying special attention to the value set forth by the individual.

Gardner (1999a) who speaks from a Constructivist perspective places the greatest value on a diversity of intelligence versus a single intelligence. His Multiple Intelligence (MI) theory possesses a number of intelligence rather than one overarching intelligence approach. According to Gardner, individuals develop a profile from their potential, experience, practice and motivation. The MI Theory, like learning styles incorporates a range of teaching strategies and assessment strategies, enabling the learner to identify and build on their strength.

Goleman (1995) had a great interest in brain and behavior research. He set the pace for EI in the early nineties with his book *Emotional Intelligence*. Goleman trained at Harvard with David McClelland among others. It was McClelland's early work (1973) that pinpointed what little traditional cognitive intelligence tests tell what it takes to be successful in life. Goleman first recognized Salovey and Mayers (1993) five broad categories. He has since paired it down to four competences: (a) Self-awareness, (b) Social awareness, (c) Recognition, and (d) Regulation.

The mixed model theories are an evolution authored first by Daniel Goleman (1995) and followed by Reuben Bar-On (1997). Their models differed but "included elements ranging from motivation, cognition, neurobiology, personality, social operation, character and disposition" (Meredith, 2007). The mixed model theories focus on feelings, moods, self-awareness, character and overall social skills. It is a mix of

skills and traits (Bar-On, 1997; Goleman, 1995; Petrides, 2004; Schutte et al, 1998).

According to Mandell and Pherwani (2003), it's an "ability with social behaviors, traits, and competencies" (p. 389).

In contrast, the EI ability model targets emotionally connected processes, beyond personality and looks at how it affects behavior (Salovey, Brackett, & Mayer, 2004). It is more aptitude focused (Mayer & Salovey, 1997). Mandell and Pherwani (2003) identify it as a "set of abilities that involves perceiving and reasoning abstractly with information that emerges from feelings" (page 389). These concepts are further defined in Figure 1.

Mayer & Salovey Ability Model	Bar On Mixed Model	Goleman Mixed Model
Definition	Definition	Definition
<p>“Emotional intelligence is the set of abilities that account for how people’s emotional perceptions and understanding vary in their accuracy. More formally, we define emotional intelligence as the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion in the self and others.” Mayer and Salovey (1997)</p>	<p>“Emotional intelligence is...an array of non-cognitive capabilities, competencies, and skills that influence one’s ability to succeed in coping with environmental demands and pressures.” Bar-On (1997)</p>	<p>“The abilities called emotional intelligence, which include self control, zeal and persistence, and the ability to motivate oneself.” “There is an old fashioned word for the body of skills that emotional intelligence represents: character.” Goleman (1995)</p>
Major areas of Skills and Specific Skills	Major areas of Skills and Specific Skills	Major areas of Skills and Specific Skills
<p>Perception and Expression of Emotion: -Identifying and expressing emotions in one’s physical states, feelings, and thoughts. -Identifying and expressing emotions in other people, artwork, language, etc. Assimilating Emotion in Thought: -Emotions prioritize thinking in productive ways. -Emotions generate aids to judgment and memory. Understanding and Analyzing Emotion: -Ability to label emotions simultaneous feelings. -Ability to understand relationships associated with shifts of emotion. Reflective Regulation of Emotion: -Ability to stay open to feelings -Ability to reflectively monitor and regulate emotions.</p>	<p>Intrapersonal Skills: -Emotional self-awareness, -Assertiveness, -Self regard, -Self Actualization, -Independence. Interpersonal Skills: -Interpersonal Relationships, -Social Responsibilities, -Empathy. Adaptability Scales: -Problem Solving, -Reality Testing, -Flexibility. Stress-Management Scales: -Stress Tolerance, -Impulse, -Control. General Mood: -Happiness, Optimism.</p>	<p>Knowing One’s Emotions: -Recognizing a feeling as it happens. -Monitor feelings from moment to moment. Manage Emotions: -Handling feelings so they are appropriate, ability to soothe oneself, ability to shake off rampant anxiety, gloom, or irritability. Motivating Oneself: -Marshalling emotions in the service of a goal. -Delaying gratification and stifling impulsiveness, being able to get into the “flow” state. Recognizing Emotions in Others: -Empathic awareness and attunement to what others need or want. Handling Relationships: -Skill in managing emotions in others. -Interacting smoothly with others.</p>

Figure 1. Three Models of Emotional Intelligence (as adapted from Meredith, 2007)

Bar-On's model has five categories that are subdivided further. Intrapersonal skills are broken into self regard, emotional self awareness, assertiveness, independence, and self-actualization. Interpersonal skills encompass empathy, social responsibility, and interpersonal relationship. Adaptability focuses on reality testing, flexibility, and problem solving. Stress management includes stress tolerance, and impulse control. Lastly, general mood covers optimism and happiness.

The BarOn EQ-I Technical Manual (Bar-On, 2002, p. 15-18) describes each of the factorial components as follows:

Intrapersonal Skills Subscales:

Self regard (SR): Self regard is the ability to respect and accept oneself as basically good.

Emotional Self-Awareness (ES): Emotional self-awareness is the ability to recognize one's feelings.

Assertiveness (AS): Assertiveness is the ability to express feelings, beliefs, and thoughts and to defend one's right in a nondestructive manner.

Independence (IN): Independence is the ability to be self-directed and self controlled in one's thinking and actions and to be free of emotional dependency.

Self-Actualization (SA): Self-actualization pertains to the ability to realize one's potential capabilities.

Interpersonal Skills Subscales:

Empathy (EM): Empathy is the ability to be aware of, to understand, and to appreciate the feelings of others.

Social Responsibility (RE): Social responsibility is the ability to demonstrate oneself as a cooperative, contributing and constructive member of one's social group.

Interpersonal Relations (IR): Interpersonal relations skill involves the ability to establish and maintain mutually satisfying relationships that are characterized by intimacy and by giving and receiving affection.

Adaptability Subscale:

Reality Testing (RT): Reality testing is the ability to assess the correspondence between what is experienced and what objectively exists.

Flexibility (FL): Flexibility is the ability to adjust one's emotions, thoughts and behavior to changing situations and conditions.

Problem Solving (PS): Problem-solving aptitude is the ability to identify and define problems as well as to generate and implement potentially effective solutions.

Stress Management Subscale:

Stress Tolerance (ST): Stress tolerance is the ability to withstand adverse events and stress situations without 'falling apart' by actively and positively coping with stress.

Impulse Control (IC): Impulse control is the ability to resist or delay an impulse, drive or temptation to act.

General Mood Subscale:

Optimism (OP): Optimism is the ability to look at the brighter side of life and to maintain a positive attitude even in the face of adversity.

Happiness (HA): Happiness is the ability to feel satisfied with one's life, to enjoy oneself and others, and to have fun.

Emotional Intelligence and Leadership

Leaders with higher emotional intelligence are more functional in managing their moods and emotions. Such leaders are better able to “repair negative moods” which may limit flexibility and creativity (Mayer et al, 1991). When a leader expresses confidence in their following they will be more likely to exhibit positive emotions and be an ally to the goals and objectives of the leader (Gardner & Avolio, 1998).

Emotional intelligence abilities that are utilized may assist individuals in employing effective leadership skills, and others have found a significant predictive relationship between transformational leadership and emotional intelligence (Goleman, 1998; Leban & Zulauf, 2004; Mandell & Pherwani, 2003; Barling et al, 2000; Gardner & Stough, 2002). Additionally researchers have found that EI and effective leadership are closely tied (Higgs & Aitken, 2003; Sosik & Megerian, 1999). In all the cases there is a stronger correlation between emotional intelligence and transformational leadership in self reports versus rater reports.

When leaders possess strong interpersonal skills there is a greater likelihood of exhibiting transformational behavior. Bass (1990a) established that there is a positive correlation between leadership and self-confidence, conviction, self control, ability to

handle conflict, and tolerance for stress. Goleman (1995) identified motivation as a characteristic possessed by all effective leaders. Bass (1990) confirmed this as a characteristic defining transformational leadership. In addition others confirmed empathy, self-awareness and self confidence as transformational leadership traits (Bass, 1985; Burns, 1978; Ross & Offerman, 1997). Many have reported that self-awareness leads to greater leader performance (Atwater & Yammarino, 1992; Barling et al, 2000; Church, 1997; Shipper & Dillard, 1994; Sosik & Megerain, 1999). Goleman says these qualities are sub components of emotional intelligence.

There is not a significant relationship between gender and emotional intelligence as a predictor of transformational leadership (Mandell & Pherwani, 2003). Mandell and Pherwani also found there is no difference in the relationship of emotional intelligence and transformational leadership styles of males and females. However, they did find a significant difference in emotional intelligence scores of female versus male managers. But there was not a significant relationship that was a prediction of transformational leadership.

Measuring Emotional Intelligence and Leadership

The two primary assessment instruments identified by the researcher are the BarOn Emotional Quotient Inventory (BarOn EQ-I) and the Multifactor Leadership Questionnaire (MLQ). Both instruments are widely used, scientific and reliable (BarOn, 1997; Bass & Avolio, 2004).

The *BarOn EQ-I*, provides a total emotional quotient (EQ) score and five EQ composite scale scores comprising 15 subscale scores (Bar-On, 2000). This instrument was developed by clinical psychologist Reuven Bar On and was the first empirically constructed test of emotional intelligence (Bar On, 2002). The five scales are intrapersonal EQ, interpersonal EQ, stress management EQ, adaptability EQ, and general mood EQ — each with its own set of subscales (Bar-On, 2000). The instrument is comprised of 133 items and employs a five-point response set, ranging from “not true of me” to “true of me.” Approximately 30 to 40 minutes are needed to complete the instrument; however, there are no imposed time limits. The assessment renders four validity scale scores, a total emotional quotient (EQ) score, five composite scale scores, and 15 EQ subscale scores. The scoring structure to this instrument is very similar to that of the intelligence quotient assessment (Bar-On, 2002). Since the development of the instruments, it has been translated into 22 languages and normative data has been collected in more than 15 countries. The *EQ-I* has previously been shown to demonstrate sufficient test-retest reliability (.85 after one month and .75 after four months; Bar-On, 1997).

The MLQ (5X Short) is a 45-question instrument used in field and laboratory research studies of transformational, transactional and passive/avoidant leadership styles. It has been used extensively in research and commercial environments. It is a strong predictor of leadership performance throughout many organizations, levels and

cultures. Bass and Avolio (2000) have used 14 samples to validate the MLQ with Cronbach's alphas ranging from .91 to .94.

The original MLQ model was created to assess transactional and transformational leadership attributes (Bass, 1985). The original model was a seven-factor scale encompassing charisma, inspirational, intellectual stimulation, individualized consideration, contingent reward, management by exception, and laissez-faire. Bycio, Hackett, and Allen (1995) revised the model further by combining charisma and inspiration for a six-factor model. Bass and Avolio (1993b, 1994) subsequent research revised the concept to include a nine or "full range" model. Six parameters used previously with three being newly created. These adaptations have not negated the theoretical significance of the original six-factor model (Avolio & Bass, 2004).

Summary

IQ and technical skills are baseline needs for executive. Without emotional intelligence well-trained managers won't be great leaders (Goleman, 1998). Goleman goes on to report EI is increasingly more important in the highest levels of an agency versus the technical skill levels. Even with all of this data there are still some unanswered questions regarding the potential relationship between emotional intelligence and the use of transformational leadership. With limited studies being conducted with Extension faculty and even fewer with mid managers as the target audience, there are still some remaining questions regarding what kind of leaders are in these positions.

Chapter III

Procedures

The study considered the relationship between emotional intelligence and transformational leadership of mid-managers of Texas AgriLife Extension Service. This population experiences a busy daily schedule with extensive responsibilities and travel requirements. They are an influential group within their own agency and with collaborative partners. A greater understanding of their skill set related to emotional intelligence and leadership can have an overall positive impact on the workforce.

Research Design

The design for the study was correlational with the goal of identifying any relationships between emotional intelligence and transformational leadership behaviors. The independent variable is the emotional intelligence factors. The dependent variables are the nine factors of the full range leadership model. Both variables are assessed with a self-rating instrument.

Subject Selection

The population for this study was mid-managers of Texas AgriLife Extension Service as listed in the state Extension directory on January 15, 2010. Mid-managers are defined as individuals who supervise and guide county Extension agents, other county based personnel and Extension specialist on Extension programs in the areas of 4-H and youth development, agriculture and natural resources, community resource and economic development, and family and consumers sciences.

Mid-managers involved in this study include district Extension administrators, county Extension directors, program directors and associate department heads. Positions within the mid-manager ranks are administratively and programmatically focused. These individuals are located off and on the main site for Texas AgriLife Extension Service that is headquartered at Texas A&M University in College Station, Texas. There were 48 individuals identified from the database as being the population for the study.

Participation in the study was voluntary. Participants who withdrew from the study had the right to not let any information obtained about them be used. One respondent emailed and said they declined to participate in the study. No information had been secured from that individual. The omission rate for this study was six percent. There were six of the 42 responses that fell into this category.

Outcome Measures

This research project was a correlational survey design. Data was collected regarding emotional intelligence and preferred leadership style using two commercially available instruments.

The BarOn EQ-I's is a unique instrument as it "combines an eclectic assortment of existing observations, theories, methodological strategies, research findings, and a comprehensive, multifactorial nature" (BarOn, 2004, p. 7). A statistical procedure called item analysis has been used which is based on the opinions of experienced practitioners

and human resource professionals. Lastly, it is the first commercially available empirically constructed test of EI.

Some of the advantages of using the BarOn instrument are its supported by 17 years of research, based on a large North American sample of over 4,000 people, versatile in its implementation, adjusted positive and negative responses based on the correction factors and has excellent statistical reliability and validity. The assessment renders four validity scale scores, a total emotional quotient (EQ) score, five composite scale scores, and 15 EQ subscale scores.

Since the development of the exam, the instrument has been translated into 22 languages and normative data has been collected in more than 15 countries. The *EQ-I* has previously been shown to demonstrate sufficient test-retest reliability (.85 after one month and .75 after four months; Bar-On, 1997). Additional details regarding validity and reliability are available in the BarOn Emotional Quotient Inventory User's Manual (BarOn, 2002). Permission to use the EQ-I instrument was secured by the researcher on November 25, 2009 and expires in one year.

Bar-On's model has five composites that serve as the dependent variables. *Intrapersonal skills* are broken into self regard, emotional self-awareness, assertiveness, independence, and self-actualization. *Interpersonal skills* encompass empathy, social responsibility, and interpersonal relationship. *Adaptability* focuses on reality testing, flexibility, and problem solving. *Stress management* includes stress tolerance, and impulse control. Lastly, *general mood* covers optimism and happiness.

The scoring structure to this test is very similar to that of the intelligence quotient assessment (Bar-On, 2002). The assessment renders four validity scale scores, a total emotional quotient (EQ) score, five composite scale scores, and 15 EQ subscale scores.

The MLQ (5X Short) is a 45-question instrument used in field and laboratory research studies of transformational, transactional and passive/avoidant leadership styles. The instrument is comprised of eleven subsets and the 45 questions use a Likert-type scale ranging from "0" (not at all) to "4" (Frequently, if not always).

The three leadership behaviors have been divided into a series of sub-factors. The transformational factors include: (a) idealized influence attributed, (b) idealized influence behavior, (c) inspirational motivation, (d) intellectual stimulation, (e) individual consideration. Transactional factors include: (a) contingent reward, (b) management by exception (active), (c) management by exception (passive). The Laissez-Faire sole factor is laissez-faire leadership (Bass, 1988, 1997; Bass & Avolio, 1990). These nine factors comprise the full-range leadership model.

A cross-validation examination of the MLQ 5x survey was conducted. Validity was improved by the addition of a fifth transformational scale that captured non-behavioral and/or impact items (Avolio & Bass, 2004). It has been used extensively in research and commercial environments. The last 20 years has provided the best validation evidence for the MLQ and now the 5x. It is a strong predictor of leadership performance throughout many organizations, levels and cultures. Bass and Avolio

(2000) discussed the reliability of the instrument and used 14 samples to validate the MLQ with Cronbach's alphas ranging from .91 to .94. Permission to use the Multifactor Leadership Questionnaire was obtained by the researcher through Mind Garden, Inc. on November 17, 2009.

Conditions of Testing

A web-based data collection process was chosen for this study for several reasons. All potential respondents are provided through their position with Extension the hardware and software that would be necessary to complete a web-based instrument. In addition, each potential respondent has Internet access within his or her offices and while traveling for business. It is also very unlikely that data collection would be impacted based on the respondent's inability to operate the computer or canvas the web. In addition, the cost to implement the study will be less via web versus a mixed-mode approach using face-to-face or hard copy instruments.

All email addresses and personal information was kept confidential. The study used Instant Survey at the web-based data collection system. The items of the two instruments as well as the additional data collection items were entered into the system by the researcher. The license for the software is through Texas AgriLife Extension Service. This system has a global data infrastructure for enhanced security. Instant Survey is a member of the Council of American Survey Research Organizations and adheres to CASRO Code of Standards and Ethics for Survey Research for data and personal information, collection, storage and dissemination.

The researcher used two initial recruitment approaches. First, the administration of Texas AgriLife Extension sent an electronic letter promoting and encouraging mid-managers to be a part of the research study. Five days later, the researcher sent an invitation with a web link to the survey asking for participation in the study. The web link remained active for three weeks. The targeted population was sent a reminder after the 14th day, and a final reminder after the 21st day. Each supervisor of the various subsets of the population sent the final reminder. This email reminded the population that their responses were optional and would be held confidential and encouraged each of them to participate in the final phase of the research study.

Treatment

Prior to beginning the study a field test was completed to ensure the website and test functioned effectively. Field test members' included a university professor, communication specialist, and an administrative assistant. Upon completion of the online field test, each participant was interviewed to determine if the various pieces of the website functioned correctly. Adaptations to the instrument included adding a progress bar, correcting typographical errors, grammatical errors, and reformatting the EI and MLQ questions to include only fifteen questions per page.

Three instruments were used to collect research data. Initially participants received instructions on how to proceed through the web based instrument. A general questionnaire about demographics and work history was the first section of the instrument to complete. This instrument was based on the instrument used by

Meredith (2007). The BarOn EQ-i questionnaire and Bass's MLQ 5X leadership questionnaire were accessed using a website designed specifically for this study. Participants were directed to the website through an instructional email. They began with demographic data and answered a series of questions related to their current title, and work history and experiences. They then completed the MLQ Form 5X indicating their leadership style data and then the BarOn EQ-I assessment.

The demographic component of the assessment focused on years experience in the workforce, years experience in the position, years experience in Extension, years experience as an agent, specialist, administrator or other Extension positions, and age. Additionally two open-ended questions regarding the leadership challenges faced by the agency were included.

The second phase of the instrument was the MLQ 5x that provides a 360-degree measurement of leadership styles related to transformational leadership, transactional leadership, non-transactional leadership styles, and outcomes of leadership. The revised MLQ 5x has strong validity and reliability and has been used extensively in research and commercial applications. It has proven to be a strong predictor of leader performance across a broad range of organizations.

The *BarOn EQ-I*, provides a total emotional quotient (EQ) score and five EQ composite scale scores comprising 15 subscale scores (Bar-On, 2000). This test was developed by clinical psychologist Reuven Bar On and was the first empirically constructed test of emotional intelligence (Bar On, 2002). The five scales are

intrapersonal EQ, interpersonal EQ, stress management EQ, adaptability EQ, and general mood EQ — each with its own set of subscales (Bar-On, 2000). The test is comprised of 133 items and employs a five-point response set, ranging from “not true of me” to “true of me.” Approximately 30 to 40 minutes are needed to complete the exam; however, there are no imposed time limits. The assessment renders four validity scale scores, a total emotional quotient (EQ) score, five composite scale scores, and 15 EQ subscale scores.

The MLQ (5X Short) is a 45-question instrument used in field and laboratory research studies of transformational, transactional and passive/avoidant leadership styles. The three leadership behaviors have been divided into a series of sub-factors. The transformational factors include: (a) idealized influence attributed, (b) idealized influence behavior, (c) inspirational motivation, (d) intellectual stimulation, (e) individual consideration. Transactional factors include: (a) contingent reward, (b) management by exception (active), (c) management by exception (passive). The Laissez-Faire sole factor is laissez-faire leadership (Bass, 1988, 1997; Bass & Avolio, 1990).

Data Analysis

The data analysis of the study will include a variety of statistical processes. Data were analyzed using the SPSS statistical software created for Windows. The general questionnaire, EQ-I survey and MLQ questionnaire all provided a foundation for descriptive statistics. Descriptive statistics was conducted for the demographic information related to current title, tenure in various positions, years in workforce, age

and gender. Descriptive data was also yielded from the open-ended questions related to the most important leadership traits needed and the biggest leadership challenges facing Texas AgriLife Extension. The statements were segmented and coded first by rank order and then grouped by common theme identified through the literature review.

The EQ-I questions which totaled 133 required 64 of them to be reverse coded. Questions are worded in a survey that a high score reflects the highest value of the theoretical construct. Other questions are worded that a low score reflects the high values of the construct.

A compute process was employed to determine individual scores for transformation, transactional and laissez-faire leadership styles. The transformation leadership score variable represented the average of the following subsets: (a) idealized influence attributed, (b) idealized influence behavior, (c) inspirational motivation, (d) intellectual stimulation, (e) individual consideration. The transactional leadership score variable represented the average of the following subsets: (a) contingent reward, (b) management by exception (active), (c) management by exception (passive). The laissez-faire score was a compute of the laissez-faire subset.

An independent *t*-test was calculated comparing the mean score of transformational leadership score, transactional leadership score and laissez-faire leadership score with the seventeen subscales of the EQ-I assessment. The mean difference between pairs of scores was divided by the standard error of those

differences. A Levene's test was conducted to ensure the variances within the variables are equal.

Non-response error can be a threat to external validity when the response rate is less than 100% (Lindner, Murphy, & Briers, 2000). To address non-response error in this project, early and late respondents were compared for statistical differences (Ary, Jacobs, & Razaveih, 1996; Linder et al; Miller & Smith, 1983). Late responders were defined as the later 50% of the respondents (Linder, et al). There was no statistically significant difference between early and late responders.

Chapter IV

Results

This purpose of the study was to examine the potential relationship between emotional intelligence and the leadership styles used Texas AgriLife Extension Service mid-managers? The following objectives guided the study:

1. Describe Texas AgriLife Extension Service mid-managers in terms of their gender, age, current title, years in current position, total years of employment in Extension, as an agent, total years of employment as a specialist and total years of employment as an educator.
2. Describe Texas AgriLife Extension Service mid-managers in terms of their emotional intelligence as measured by the BarOn EQ-i instrument.
3. Describe Texas AgriLife Extension Service mid-managers in terms of their leadership styles as measured by the Multifactor Leadership Questionnaire.
4. Describe the statistical relationship between Texas AgriLife Extension mid-managers leadership styles and their emotional intelligence scores.

The following research hypothesis generated from the literature review was tested.

- H₀ 1. There is no statistically significant difference in EI scores between AgriLife Extension mid-managers with high Transformational Leadership behaviors with those having low Transformational Leadership behaviors.

H₀ 2. There is no statistically significant difference in EI scores between AgriLife Extension mid-managers with high Transactional Leadership behaviors with those having low Transactional Leadership behaviors.

The survey included general demographic information, the BarOn EQ-i and the Multi-Leadership Questionnaire (MLQ) via an instant survey created by the researcher. A total of 48 mid-managers were the population for this study. Of these, 42 responded to the demographic section with 36 also completing the MLQ and EQ-i sections. What follows are the results organized by the objectives of this study.

Descriptive Statistics

Objective 1

The majority of the respondents were female with 28 completing the assessment. The age of participants was varied with the majority of participants being in the 41-60 year old range ($n = 37$). Table 1 shows the respondents breakdown by gender and age.

Table 1: Gender and Age Characteristics of Texas AgriLife Extension Mid-Managers

Characteristic	<i>f</i>	%	Mode
Gender			Female
Female	28	66.7%	
Male	14	33.3%	
Age			51-60
31-40	3	7.1%	
41-50	16	38.1%	
51-60	21	50.0%	
61 or above	2	4.8%	

Participants held their current positions from one to over thirty years, with the majority ($n = 25$; 59.5%) being in their current role for just one to five years. Although tenure in the current position was relatively short, the data showed a longer tenure of time with Extension with completing 16-20 years of service ($n = 6$; 14.3%) or 21-25 years of Extension service ($n = 14$; 33.3%).

Examination of the positions held within Extension revealed that 31 of the 42 respondents (73.8%) served as an agent within Extension for a period of time. Twenty-one of the respondents (50.0%) served Extension as a specialist. Of the mid-managers responding to this study, eight (19.0%) never served as an agent while 50.0% ($n = 21$) have not served as a specialist. Of the respondents, fifty percent ($n = 21$) have served in an administrative role for five years or less (Table 2).

Table 2: Respondents Years in Current Position, with Extension, and in Specific Extension Roles

Years	<u>In position</u>		<u>With Extension</u>		<u>As an Agent</u>		<u>As a Specialist</u>		<u>As an Administrator</u>	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
1 - 5	25	59.5%	1	2.4%	5	11.9%	5	11.9%	21	50.0%
6 - 10	12	28.%	0	0.0%	7	16.7%	2	4.8%	12	28.6%
11 - 15	1	2.4%	3	7.1 %	9	21.4%	7	16.7%	5	11.9%
16 - 20	2	4.8%	6	14.3%	3	7.1%	3	7.1%	3	7.1%
21 - 25	0	0.0%	14	33.3%	6	14.3%	3	7.1%	0	0.0%
26 - 30	1	2.4%	7	16.7%	1	2.4%	0	0.0%	0	0.0%
> 30	1	2.4%	7	16.7%	0	0.0%	1	2.4%	1	2.4%
Not Applicable	0	0.0%	0	0.0%	8	19.0%	21	50.0%	0	0.0%

The managers participating in the study identified through an open ended question, the most important leadership traits needed by a leader. They delineated the following top four traits: (a) communication including written, verbal, and listening skills; (b) common mission and vision; (c) ability to motivate, inspire, empower and encourage; (d) honesty and trustworthiness. The responses were grouped into the following four themes: visionary leader, management of staff and teams, customer center skills, self-management skills. A comprehensive list is available in Appendix E.

The study participants identified the greatest leadership challenges confronting the agency currently. The most frequent answer was budget with seven respondents

identifying it as the primary challenge. The range of issues regarding budget included lack of funding, economic security, maintaining and increasing funding, and transitioning to state supported from state funded. The need for individuals to be trained as leaders was the next common response with four. Specifically, individuals trained and ready to assume leadership roles. The third greatest was moral with four responses. This issue was most closely related to low salaries, decreasing budgets and uncertain economic times. The economic times and the decreasing state and federal budgets are obvious factors in the results of these questions. Other challenges were mentioned at a minimum, but the ones above represent the most frequent leadership challenges identified by participants. Appendix F provides additional data in addition to specific management level comments.

Objective 2.

Descriptive statistics were determined for each of the emotional intelligence components. The top five components as identified through a mean score were interpersonal relationship (37.78), social responsibility (35.92), empathy (31.08), optimism (31.64) and self regard (29.97) (Table 3). The weakest mean scores were identified in independence (13.31), impulse tolerance (17.14), assertiveness (19.06), flexibility (20.11), and self-actualization (25.14).

Table 3: Mean Standard Deviation, and Range of EI Subscales

EI Variable	<i>M</i>	<i>SD</i>	<i>Range</i>
Intrapersonal			
Self Regard	29.97	2.13	8
Self Awareness	25.25	3.11	14
Self Actualization	25.14	2.10	9
Assertiveness	19.06	1.86	7
Independence	13.31	3.42	12
Interpersonal			
Interpersonal Relationship	37.78	3.08	13
Social Responsibility	35.92	2.29	9
Empathy	31.08	2.77	13
Adaptability			
Problem Solving	29.78	2.51	11
Reality Testing	25.47	3.72	20
Flexibility	20.11	2.76	12
Stress Management			
Stress Tolerance	28.56	2.47	11
Impulse Tolerance	17.14	4.91	20
General Mood			
Optimism	31.64	2.72	11
Happiness	28.47	2.52	12

^aScale: 1= Very seldom or Not true of me, 2=Seldom true of me, 3=Sometimes true of me, 4=Often true of me, 5=Very often true of me or True of me. ^bMean = Compute scores completed with reverse coding.

The Multifactor Leadership Questionnaire (MLQ) is a self-report instrument where individuals pick descriptive statements regarding their leadership style. The 45

questions “identify and measure key leadership and effectiveness behaviors shown in prior research to be strongly linked with both individual and organizational success” (Avolio & Bass, 2004, p. 12). Descriptive statistics were determined for the Multifactor Leadership Questionnaire and its components. The results are outlined in table 4 with the mean, mode and standard deviation detailed for each of the three leadership styles, transformational, transactional and laissez-faire.

Table 4: Mean, Mode, Standard Deviation, and Range of Leadership Styles

MLQ Variable	<i>M</i>	<i>Mode</i>	<i>SD</i>	<i>Range</i>
Transformational				
Individual Consideration	17.36	18	1.69	8
Inspirational Motivation	16.69	16	1.75	7
Idealized Influence (Behavior)	16.66	15	1.97	9
Intellectual Stimulation	16.19	17	1.65	6
Idealized Influence (Attributed)	15.83	15	1.95	8
Transactional				
Contingent Reward	16.47	17	1.46	6
Management by Exception (Active)	10.36	8	3.37	14
Management by Exception (Passive)	8.61	8	2.33	10
Laissez-faire	6.16	4	1.87	6

^aScale: 1= Not at all, 2=Once in a while, 3=Sometimes, 4=Fairly often, 5=Frequently, if not always

Based on the MLQ questionnaire results, compute scores were ran for each of the three leadership styles identified by respondents. Transformational leadership behavior was the predominant component recognized by participants with a mean score of 82.75, followed by transactional leadership behavior mean score of 35.44 and then laissez-faire with a mean score of 6.17. This data is further explained in Table 5.

Table 5: Mean, Mode, Standard Deviation, and Range of Leadership Styles

Leadership Style	<i>M</i>	<i>Mode</i>	<i>SD</i>	<i>Range</i>
Transformational	82.75	84	6.9	36
Transactional	35.44	33	3.9	19
Laissez-Faire	6.17	4	1.9	6

The mid-managers in the study were relatively new to their current position or administrative position although they are a highly tenured group in relation to Extension tenure. The economic times and decreasing budgets were an underlying theme of the written descriptors when respondents were asked about the future leadership challenges. Results showed that the mid-managers had a high use of inTERpersonal relations in emotional intelligence and a lower use of inTRApersonal relations.

Objective Four.

Objective four sought to describe the statistical relationship between Texas AgriLife Extension mid-managers leadership styles and their emotional intelligence scores. The results related to this objective will be reported by the two proposed statistical hypotheses.

Hypothesis One.

H₀ 1. There is no statistically significant difference in EI scores between AgriLife Extension mid-managers with high Transformational Leadership behaviors with those having low Transformational Leadership behaviors.

An independent samples *t* test was performed to assess whether the mean emotional intelligence subscales scores for the high transformational leadership group differed significantly from the low transformational leadership group. A Levene test was used to assess the assumption of homogeneity of variance for each *t* test conducted. The alpha was established as equal to .05, meaning the results will be tested for a significant difference at $p < .05$. Effect size indexes for *t* were hand calculated and a Pearson's correlation coefficient *r* will be reported (Field, 2005).

Self Regard EI Score.

An independent samples *t* test was performed to assess whether mean self regard differed significantly for a group of 19 mid-managers who displayed a high transformational leadership behavior score compared to a group of 17 mid-managers who displayed a lower transformational leadership behavior score. The assumption of homogeneity of variance was assessed by the Levene test, $F = .003$, $p = .958$; this indicated no significant violation of the equal variance assumption. Therefore, the pooled variances version of the *t* test was used.

The mean self regard scores differed significantly, $t(34) = -2.430$, $p = .021$, two-tailed (Table 7). The mean self regard score for the high transformational leadership behavior group ($M = 30.74$, $SD = 1.91$) was higher than the mean self-awareness score for the low transformational leadership behavior group ($M = 29.12$, $SD = 2.09$). The effect size was medium ($r = .39$) (Table 6).

Table 6: Transformational Leadership Group Statistics for Self regard EI Subscale

Transformational Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
Low	17	29.12	2.088	.506
High	19	30.74	1.910	.438

NOTE: Effect size: $r = .39$ (medium effect)

Table 7: Independent Samples Test for the Self Regard EI Subscale of High and Low Transformational Leadership Behavior Groups

	<i>t</i>	<i>df</i>	<i>p</i>
Self regard	-2.430	34	.021*

NOTES: Leven’s test for equality of variances was $F = .003$, $p = .958$; * = significant at $p < .05$ level

Self-awareness EI Score.

An independent samples *t* test was performed to assess whether mean self-awareness differed significantly for a group of 19 mid-managers who displayed a high transformational leadership behavior score compared to a group of 17 mid-managers who displayed a lower transformational leadership behavior score. The assumption of homogeneity of variance was assessed by the Levene test, $F = .127$, $p = .724$; this indicated no significant violation of the equal variance assumption. Therefore, the pooled variances version of the *t* test was used.

The mean self-awareness scores did not differ significantly, $t(34) = -.665$, $p = .510$, two-tailed (Table 9). The mean self-awareness score for the high transformational

leadership behavior group ($M = 25.58, SD = 3.01$) was higher than the mean self-awareness score for the low transformational leadership behavior group ($M = 24.88, SD = 3.28$) though this difference was not statistically significant, the effect size was small ($r = .11$) (Table 8).

Table 8: Transformational Leadership Group Statistics for Self-Awareness EI Subscale

Transformational Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
Low	17	24.88	3.276	.795
High	19	25.58	3.006	.690

NOTE: Effect size: $r = .11$ (small effect)

Table 9: Independent Samples Test for the Self-Awareness EI Scores of High and Low Transformational Leadership Behavior Groups

	<i>t</i>	<i>df</i>	<i>p</i>
Self-awareness	-.665	34	.510

NOTE: Leven’s test for equality of variances was $F = .127, p = .724$.

Self-actualization EI Score.

An independent samples *t* test was performed to assess whether mean self-actualization differed significantly for a group of 19 mid-managers who displayed a high transformational leadership behavior score compared to a group of 17 mid-managers who displayed a lower transformational leadership behavior score. The assumption of homogeneity of variance was assessed by the Levene test, $F = .466, p = .500$; this indicated no significant violation of the equal variance assumption. Therefore, the pooled variances version of the *t* test was used.

The mean self-actualization scores did not differ significantly, $t(34) = -1.177, p = .247$, two-tailed (Table 11). The mean self-actualization score for the high transformational leadership behavior group ($M = 25.53, SD = 2.170$) was higher than the mean self-awareness score for the low transformational leadership behavior group ($M = 24.71, SD = 1.993$) though this difference was not statistically significant, the effect size was small ($r = .20$) (Table 10).

Table 10: Transformational Leadership Group Statistics for Self-Actualization EI Subscales

Transformational Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
Low	17	24.71	1.993	.483
High	19	25.53	2.170	.498

NOTE: Effect size: $r = .20$ (small effect)

Table 11: Independent Samples Test for the Self-Actualization EI Scores of High and Low Transformational Leadership Behavior

	<i>t</i>	<i>df</i>	<i>p</i>
Self-actualization	-1.177	34	.247

NOTE: Leven's test for equality of variances was $F = .466, p = .500$.

Assertiveness EI Score.

An independent samples *t* test was performed to assess whether mean assertiveness differed significantly for a group of 19 mid-managers who displayed a high transformational leadership behavior score compared to a group of 17 mid-managers who displayed a lower transformational leadership behavior score. The assumption of

homogeneity of variance was assessed by the Levene test, $F = .210$, $p = .649$; this indicated no significant violation of the equal variance assumption. Therefore, the pooled variances version of the t test was used.

The mean assertiveness scores did not differ significantly, $t(34) = -.363$, $p = .719$, two-tailed (Table 13). The mean assertiveness score for the high transformational leadership behavior group ($M = 18.95$, $SD = 1.810$) was lower than the mean assertiveness score for the low transformational leadership behavior group ($M = 19.18$, $SD = 1.976$) though this difference was not statistically significant, the effect size was small ($r = .06$) (Table 12).

Table 12: Transformational Leadership Group Statistics for Assertiveness EI Subscale

Transformational Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
Low	17	19.18	1.976	.479
High	19	18.95	1.810	.415

NOTE: Effect size: $r = .06$ (small effect)

Table 13: Independent Samples Test for the Assertiveness Emotional Intelligence Scores of High and Low Transformational Leadership Behavior Groups

	<i>t</i>	<i>df</i>	<i>p</i>
Assertiveness	.363	34	.719

NOTE: Leven's test for equality of variances was $F = .210$, $p = .649$.

Independence EI Score.

An independent samples *t* test was performed to assess whether mean independence differed significantly for a group of 19 mid-managers who displayed a high transformational leadership behavior score compared to a group of 17 mid-managers who displayed a lower transformational leadership behavior score. The assumption of homogeneity of variance was assessed by the Levene test, $F = 1.522$, $p = .226$; this indicated no significant violation of the equal variance assumption. Therefore, the pooled variances version of the *t* test was used.

The mean independence scores did not differ significantly, $t(34) = -.368$, $p = .715$, two-tailed (Table 15). The mean independence score for the high transformational leadership behavior group ($M = 13.11$, $SD = 3.857$) was lower than the mean independence score for the low transformational leadership behavior group ($M = 13.53$, $SD = 2.939$) though this difference was not statistically significant, the effect size was small ($r = .06$) (Table 14).

Table 14: Transformational Leadership Group Statistics for Independence EI Subscale

Transformational Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
Low	17	13.53	2.939	.713
High	19	13.11	3.857	.885

NOTE: Effect size: $r = .06$ (small effect)

Table 15: Independent Samples Test for the Independence EI Scores of High and Low Transformational Leadership Behavior

	<i>t</i>	<i>df</i>	<i>p</i>
Independence	.368	34	.715

NOTE: Leven's test for equality of variances was $F = .1.522$, $p = .226$.

Interpersonal Relationship EI Score.

An independent samples *t* test was performed to assess whether mean interpersonal relationships differed significantly for a group of 19 mid-managers who displayed a high transformational leadership behavior score compared to a group of 17 mid-managers who displayed a lower transformational leadership behavior score. The assumption of homogeneity of variance was assessed by the Levene test, $F = .00$, $p = .995$; this indicated no significant violation of the equal variance assumption. Therefore, the pooled variances version of the *t* test was used.

The mean interpersonal relationship scores differed significantly, $t(34) = -2.325$, $p = .026$, two-tailed (Table 17). The mean interpersonal relationship score for the high transformational leadership behavior group ($M = 38.84$, $SD = 2.713$) was higher than the mean interpersonal relationship score for the low transformational leadership behavior group ($M = 36.59$, $SD = 3.104$). The effect size was medium ($r = .37$) (Table 16).

Table 16: Transformational Leadership Group Statistics for Interpersonal Relationships EI Subscale

Transformational Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
Low	17	36.59	3.104	.753
High	19	38.84	2.713	.622

NOTE: Effect size: $r = .37$ (medium effect)

Table 17: Independent Samples Test for the Interpersonal Relationships EI Scores of High and Low Transformational Leadership Behavior Groups

	<i>t</i>	<i>df</i>	<i>p</i>
Interpersonal Relationships	-2.325	34	.026*

NOTES: Leven’s test for equality of variances was $F = .000, p = .995$; * = significant at $p < .05$ level

Social Responsibility EI Score.

An independent samples *t* test was performed to assess whether mean social responsibility differed significantly for a group of 19 mid-managers who displayed a high transformational leadership behavior score compared to a group of 17 mid-managers who displayed a lower transformational leadership behavior score. The assumption of homogeneity of variance was assessed by the Levene test, $F = 1.573, p = .218$; this indicated no significant violation of the equal variance assumption. Therefore, the pooled variances version of the *t* test was used.

The mean social responsibility scores did not differ significantly, $t(34) = -1.579, p = .124$, two-tailed (Table 19). The mean social responsibility score for the high

transformational leadership behavior group ($M = 36.47, SD = 1.867$) was higher than the mean self-awareness score for the low transformational leadership behavior group ($M = 35.29, SD = 2.592$) though this difference was not statistically significant, the effect size was small ($r = .26$) (Table 18).

Table 18: Transformational Leadership Group Statistics for Social Responsibility EI Subscales

Transformational Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
Low	17	35.29	2.592	.629
High	19	36.47	1.867	.428

NOTE: Effect size: $r = .26$ (small effect)

Table 19: Independent Samples Test for the Social Responsibility EI Scores of High and Low Transformational Leadership Behavior Groups.

	<i>t</i>	<i>df</i>	<i>p</i>
Social responsibility	-1.579	34	.124

NOTE: Leven’s test for equality of variances was $F = .1.573, p = .218$.

Empathy EI Score.

An independent samples *t* test was performed to assess whether mean empathy differed significantly for a group of 19 mid-managers who displayed a high transformational leadership behavior score compared to a group of 17 mid-managers who displayed a lower transformational leadership behavior score. The assumption of homogeneity of variance was assessed by the Levene test, $F = 3.961, p = .055$; this

indicated no significant violation of the equal variance assumption. Therefore, the pooled variances version of the *t* test was used.

The mean empathy scores differed significantly, $t(34) = -2.068, p = .046$, two-tailed (Table 21). The mean empathy score for the high transformational leadership behavior group ($M = 31.95, SD = 1.80$) was higher than the mean empathy score for the low transformational leadership behavior group ($M = 30.12, SD = 3.37$). The effect size was medium ($r = .33$) (Table 20).

Table 20: Transformational Leadership Group Statistics for Empathy EI Subscale

Transformational Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
Low	17	30.12	3.371	.817
High	19	31.95	1.779	.408

NOTE: Effect size: $r = .33$ (medium effect)

Table 21: Independent Samples Test for the Empathy EI Scores of High and Low Transformational Leadership Behavior Groups.

	<i>t</i>	<i>df</i>	<i>p</i>
Empathy	-2.068	34	.046*

NOTES: Leven's test for equality of variances was $F = .127, p = .724$; * = significant at $p < .05$ level

Problem Solving EI Score.

An independent samples *t* test was performed to assess whether mean problem solving differed significantly for a group of 19 mid-managers who displayed a high transformational leadership behavior score compared to a group of 17 mid-managers

who displayed a lower transformational leadership behavior score. The assumption of homogeneity of variance was assessed by the Levene test, $F = 1.965$, $p = .170$; this indicated no significant violation of the equal variance assumption. Therefore, the pooled variances version of the t test was used.

The mean problem solving scores did not differ significantly, $t(34) = -1.521$, $p = .137$, two-tailed (Table 23). The mean problem solving score for the high transformational leadership behavior group ($M = 30.37$, $SD = 2.087$) was higher than the mean self-awareness score for the low transformational leadership behavior group ($M = 29.12$, $SD = 2.826$) though this difference was not statistically significant, the effect size was small ($r = .25$) (Table 22).

Table 22: Transformational Leadership Group Statistics for Problem Solving EI Subscale

Transformational Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
Low	17	29.12	2.826	.685
High	19	30.37	2.087	.479

NOTE: Effect size: $r = .25$ (small effect)

Table 23: Independent Samples Test for the Problem Solving EI Scores of High and Low Transformational Leadership Behavior Groups.

	<i>t</i>	<i>df</i>	<i>p</i>
Problem solving	-1.521	34	.137

NOTE: Leven’s test for equality of variances was $F = 1.965, p = .170$.

Reality Testing EI Score.

An independent samples *t* test was performed to assess whether mean reality testing differed significantly for a group of 19 mid-managers who displayed a high transformational leadership behavior score compared to a group of 17 mid-managers who displayed a lower transformational leadership behavior score. The assumption of homogeneity of variance was assessed by the Levene test, $F = .079, p = .780$; this indicated no significant violation of the equal variance assumption. Therefore, the pooled variances version of the *t* test was used.

The mean reality testing scores did not differ significantly, $t(34) = -.535, p = .596$, two-tailed (Table 25). The mean reality testing score for the high transformational leadership behavior group ($M = 25.79, SD = 4.263$) was higher than the mean self-awareness score for the low transformational leadership behavior group ($M = 25.12, SD = 3.100$) though this difference was not statistically significant, the effect size was small ($r = .09$) (Table 24).

Table 24: Transformational Leadership Group Statistics for Reality Testing EI Subscale

Transformational Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
Low	17	25.12	3.100	.752
High	19	25.79	4.263	.978

NOTE: Effect size: $r = .09$ (small effect)

Table 25: Independent Samples Test for the Reality Testing EI Scores of High and Low Transformational Leadership Behavior Groups.

	<i>t</i>	<i>df</i>	<i>p</i>
Reality testing	-.535	34	.596

NOTE: Leven's test for equality of variances was $F = .079$, $p = .780$.

Flexibility EI Score.

An independent samples *t* test was performed to assess whether mean flexibility differed significantly for a group of 19 mid-managers who displayed a high transformational leadership behavior score compared to a group of 17 mid-managers who displayed a lower transformational leadership behavior score. The assumption of homogeneity of variance was assessed by the Levene test, $F = 1.816$, $p = .187$; this indicated no significant violation of the equal variance assumption. Therefore, the pooled variances version of the *t* test was used.

The mean flexibility scores did not differ significantly, $t(34) = .252$, $p = .802$, two-tailed (Table 26). The mean flexibility score for the high transformational leadership behavior group ($M = 20.00$, $SD = 2.261$) was lower than the mean self-awareness score

for the low transformational leadership behavior group ($M = 20.24$, $SD = 3.289$) though this difference was not statistically significant, the effect size was small ($r = .04$) (Table 27).

Table 26: Transformational Leadership Group Statistics for Flexibility EI Subscale

Transformational Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
Low	17	20.24	3.289	.798
High	19	20.00	2.261	.519

NOTE: Effect size: $r = .04$ (small effect)

Table 27: Independent Samples Test for the Flexibility EI Scores of High and Low Transformational Leadership Behavior Groups.

	<i>t</i>	<i>df</i>	<i>p</i>
Flexibility	.252	34	.802

NOTE: Leven’s test for equality of variances was $F = 1.816$, $p = .187$.

Stress Tolerance EI Score.

An independent samples *t* test was performed to assess whether mean stress tolerance differed significantly for a group of 19 mid-managers who displayed a high transformational leadership behavior score compared to a group of 17 mid-managers who displayed a lower transformational leadership behavior score. The assumption of homogeneity of variance was assessed by the Levene test, $F = .033$, $p = .857$; this indicated no significant violation of the equal variance assumption. Therefore, the pooled variances version of the *t* test was used.

The mean stress tolerance scores differed significantly, $t(34) = -2.042$, $p = .049$, two-tailed (Table 28). The mean stress tolerance score for the high transformational leadership behavior group ($M = 29.32$, $SD = 2.45$) was higher than the mean stress tolerance score for the low transformational leadership behavior group ($M = 27.71$, $SD = 2.26$). The effect size was medium ($r = .33$) (Table 29).

Table 28: Transformational Leadership Group Statistics for Stress Tolerance EI Subscale

Transformational Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
Low	17	27.71	2.257	.547
High	19	29.32	2.451	.562

NOTE: Effect size: $r = .33$ (medium effect)

Table 29: Independent Samples Test for the Stress Tolerance EI Scores of High and Low Transformational Leadership Behavior Groups.

	<i>t</i>	<i>df</i>	<i>p</i>
Stress tolerance	-2.042	34	.049*

NOTES: Leven’s test for equality of variances was $F = .033$, $p = .857$; * = significant at $p < .05$ level

Impulse Control EI Score.

An independent samples *t* test was performed to assess whether mean impulse control differed significantly for a group of 19 mid-managers who displayed a high transformational leadership behavior score compared to a group of 17 mid-managers who displayed a lower transformational leadership behavior score. The assumption of homogeneity of variance was assessed by the Levene test, $F = .727$, $p = .400$; this

indicated no significant violation of the equal variance assumption. Therefore, the pooled variances version of the *t* test was used.

The mean impulse control scores did not differ significantly, $t(34) = -.699, p = .489$, two-tailed (Table 31). The mean impulse control score for the high transformational leadership behavior group ($M = 17.68, SD = 5.303$) was higher than the mean impulse control score for the low transformational leadership behavior group ($M = 16.53, SD = 4.515$) though this difference was not statistically significant, the effect size was small ($r = .12$) (Table 30).

Table 30: Transformational Leadership Group Statistics for Impulse Control EI Subscales

Transformational Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
Low	17	16.53	4.515	1.095
High	19	17.68	5.303	1.216

NOTE: Effect size: $r = .12$ (small effect)

Table 31: Independent Samples Test for the Impulse Control EI Scores of High and Low Transformational Leadership Behavior Groups.

	<i>t</i>	<i>df</i>	<i>p</i>
Impulse control	-.699	34	.489

NOTE: Leven’s test for equality of variances was $F = .727, p = .400$.

Optimism EI Score.

An independent samples *t* test was performed to assess whether mean optimism differed significantly for a group of 19 mid-managers who displayed a high

transformational leadership behavior score compared to a group of 17 mid-managers who displayed a lower transformational leadership behavior score. The assumption of homogeneity of variance was assessed by the Levene test, $F = .001, p = .976$; this indicated no significant violation of the equal variance assumption. Therefore, the pooled variances version of the t test was used.

The mean optimism scores differed significantly, $t(34) = -3.516, p = .001$, two-tailed (Table 32). The mean optimism score for the high transformational leadership behavior group ($M = 32.95, SD = 2.46$) was higher than the mean optimism score for the low transformational leadership behavior group ($M = 30.18, SD = 2.24$). The effect size was large ($r = .52$) (Table 33).

Table 32: Transformational Leadership Group Statistics for Optimism EI Subscale

Transformational Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
Low	17	30.18	2.243	.544
High	19	32.95	2.460	.564

NOTE: Effect size: $r = .52$ (large effect)

Table 33: Independent Samples Test for the Optimism EI Scores of High and Low Transformational Leadership Behavior Groups.

	<i>t</i>	<i>df</i>	<i>p</i>
Optimism	-3.516	34	.001*

NOTES: Leven's test for equality of variances was $F = .001, p = .976$; * = significant at $p < .05$ level

Happiness EI Score.

An independent samples *t* test was performed to assess whether mean happiness differed significantly for a group of 19 mid-managers who displayed a high transformational leadership behavior score compared to a group of 17 mid-managers who displayed a lower transformational leadership behavior score. The assumption of homogeneity of variance was assessed by the Levene test, $F = .001, p = .977$; this indicated no significant violation of the equal variance assumption. Therefore, the pooled variances version of the *t* test was used.

The mean happiness scores differed significantly, $t(34) = -3.502, p = .001$, two-tailed (Table 35). The mean happiness tolerance score for the high transformational leadership behavior group ($M = 29.68, SD = 2.34$) was higher than the mean happiness tolerance score for the low transformational leadership behavior group ($M = 27.12, SD = 2.03$). The effect size was large ($r = .52$) (Table 34).

Table 34: Transformational Leadership Group Statistics for Happiness EI Subscale

Transformational Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
Low	17	27.12	2.027	.492
High	19	29.68	2.335	.536

NOTE: Effect size: $r = .52$ (large effect)

Table 35: Independent Samples Test for the Happiness EI Scores of High and Low Transformational Leadership Behavior Groups.

	<i>t</i>	<i>df</i>	<i>p</i>
Happiness	-3.502	34	.001*

NOTES: Leven’s test for equality of variances was $F = .001, p = .977$; * = significant at $p < .05$ level

Hypothesis Two.

H₀ 2. There is no statistically significant difference in EI scores between AgriLife Extension mid-managers with high Transactional Leadership behaviors with those having low Transactional Leadership behaviors.

An independent samples *t* test was performed to assess whether the mean emotional intelligence subscales scores for the high transactional leadership group differed significantly from the low transactional leadership group. A Levene test was used to assess the assumption of homogeneity of variance for each *t* test conducted. The alpha was established as equal to .05, meaning the results will be tested for a significant difference at $p < .05$. Effect size indexes for *t* were hand calculated and a Pearson’s correlation coefficient *r* will be reported (Table 34) (Field, 2005).

Low positive relationships are noted for all of the Emotional Quotient categories compared to transactional leadership styles of Texas AgriLife Extension mid-managers. However, social responsibility revealed a statistically significant ($p < .05$), moderate, positive relationship and empathy was not statistically significant ($p < .05$) but showed a moderate positive relationship. Therefore these data do support rejecting the null hypothesis that states, there is no statistically significant difference in EI scores between AgriLife Extension mid-managers with high Transactional Leadership behaviors with those having low Transactional Leadership behaviors.

Table 36: Pearson Product Moment Correlation Coefficients Between Emotional Intelligence Quotients and Transactional Leadership Styles.

Transactional Leadership		
Emotional Intelligence	r	p
Self regard	.01	.94
Self Awareness	.22	.19
Self Actualization	.23	.18
Assertiveness	.15	.38
Independence	.05	.78
Interpersonal Relationship	.05	.77
Social Responsibility	.33	.05*
Empathy	.32	.06
Problem Solving	.04	.82
Reality Testing	.17	.33
Flexibility	.00	.99
Stress Tolerance	.03	.85
Impulse Control	.28	.10
Optimism	.11	.54
Happiness	.04	.80

*Significant at the .05 level

Chapter V

Discussion

This chapter is intended to summarize the study with discussion regarding through the dialogue of conclusions, limitations and recommendations for future studies. Recommendations will be summarized for research focusing on the relationship of emotional intelligence and transformational leadership styles. This study has found some relationship among transformational and transactional leadership and certain emotional intelligence constructs. The findings from this study utilizing the BarOn EQ-I and Bass' MLQ indicate a prosperous area for further research.

Summary of Respondent Demographics

The respondents were represented by a majority of female mid-managers ($n = 28$, 67%) with the mode for age being 51-60 years of age ($n = 21$, 50%) followed closely by 41-50 year olds ($n = 16$, 38%). Participants held their current positions from one to over thirty years, with the majority ($n = 25$; 60%) being in their current role for just one to five years. Although tenure in the current position was relatively short, the data showed a longer tenure of time with Extension with completing 16-20 years of service ($n = 6$; 14%) or 21-25 years of Extension service ($n = 14$; 33%).

Mid-managers were asked two open ended questions one related to leadership traits needed by a leader and the other was based on the challenges they identified

facing Texas AgriLife Extension. The leadership traits coded and grouped by theme with the results encompassing visionary leadership, management of staff and teams, customer-center skills, and self-management skills. The biggest leadership challenge identified was economic security related to shrinking state and federal budgets and lack of funding.

EI Profile

Descriptive data outlined the mean score in EI for the mid-managers. These particular mid-managers had strengthens in the areas of interpersonal with mean scores including interpersonal relations (37.78), social responsibility (35.92), and empathy (31.08), and stress tolerance (28.56). Their intrapersonal strength was in the area of self regard (29.97). Lastly, in the general mood component they scored highest in the area of optimism (31.64) and happiness (31.64).

Implications

In this study, an increased level of emotional intelligence is linked to the higher use of transformational leadership behaviors in AgriLife Extension mid-managers. The findings from this study indicate that leaders can develop and strengthen emotional intelligence and in doing so, can more likely exhibit the use of transformational leadership behaviors. As a result, if leaders are trained in EI and those skills are fostered, they will be more likely to utilize transformational leadership, further resulting in organizational effectiveness and follower satisfaction.

A review of the BarOn EQ-I definitions of traits will help outline the mid-managers profile and strengths. The EQ-I handbook details the seven crucial characteristics to a mid-manager's profile in the following way:

General Mood EQ

Optimism suggests *individuals who are able to look at the brighter side of life and maintain a positive attitude, even in the face of adversity*. Optimistic people approach life with hope and keep their expectations balanced for the future. This trait also plays an important role in self actualization, problem solving, and stress tolerance (BarOn, 2006).

Happiness is shown by *individuals who are able to feel satisfied with their lives, genuinely enjoy the company of others, and have the ability to derive pleasure from life*. These individuals often feel at ease both at leisure and work and are able to "let their hair down." Happiness is a by-product of one's "overall degree of emotional intelligence and emotional functioning" (BarOn, 2006).

Interpersonal EQ

Empathy is exhibited by people *who are aware of and can appreciate the feelings of others*. Typically they can "emotionally read" other people. They are the type of people that care about others and exhibit interest and concern for others. Members of this group have an understanding of others, show consideration and give proper regard to others (BarOn, 2006).

Interpersonal relationships are held by *people able to establish and maintain mutually satisfying relationships generally obtain high scores on this subscale*. These individuals show a desire to foster intimacy and give and receive affection. The strength with this trait is effective communication and to positively exchange feelings, ideas and information (BarOn, 2006).

Intrapersonal EQ

Self regard respondents *have good feelings about themselves and tend to accept and respect others*. They have a good sense of who they are and a positive sense of self identity (BarOn, 2006).

Stress Management EQ

Stress tolerance is shown by individuals who are able to withstand adverse events and stress situations, without “falling apart.” Typically they are able to withstand difficult situations without being overwhelmed. A higher level of stress tolerance creates a lower level of anxiety in these individuals.

The findings of the study found a relationship with statistical significance among those who scored high on the transformational leadership score and the above six EI components. These self-identified emotional intelligence quotients were found to positively influence mid-manager’s self-identified transformational leadership styles. The null hypothesis that there is no statistically significant difference in EI scores between AgriLife Extension mid-managers with high Transformational Leadership behaviors with those having low Transformational Leadership behaviors was rejected.

The findings of the study revealed a relationship with statistical significance among those who scored high on the transactional leadership score and the EI component of social responsibility. This self-identified emotional intelligence quotient was found to positively influence the mid-manager's self-identified transactional leadership styles.

Social responsibility identifies people who are cooperative, contributing and constructive members of their social groups. These individuals have a "social consciousness" and concern for others. Socially responsible people typically have positive feelings towards a social group and can identify with that group.

The null hypothesis that there is no statistically significant difference in EI scores between AgriLife Extension mid-managers with high Transactional Leadership behaviors with those having low Transactional Leadership behaviors is rejected.

The results of this study support the findings of other researchers in the field of emotional intelligence and transformational leadership behaviors. Cherniss (2000) found a relationship between empathy and interpersonal relationships. This study as did Bass (1990) found a direct relationship between self regard and stress tolerance abilities and exhibiting positive leadership traits. Barbuto and Burbach (2006) found a positive statistical relationship in empathetic response with each of the subscales of transformational leadership. These findings are consistent with past studies that show a positive significant relationship between transformational leadership and emotional intelligence (Barling et al, 2000; Gardner & Stough, 2002; Barbuto & Burbach, 2006).

The study found that more emotional intelligence quotients were related to transformational leadership styles than transactional leadership styles as self-determined by the participants. Participants reported engaging in both transactional and transformational leadership styles. Transformational leadership literature says that it is expected that individuals would engage in both. Participants in this study used transformational leadership more often which augments the effects of transactional leadership, a major premise to transformational leadership.

Study Limitations

The study has a few limitations that should be clearly stated. Some of the limitations may be addressed in future studies with the adaption of the research design. The limitation outlined will be in the area of the sample and response rate. This is in addition to the limitations already detailed in Chapter 1.

In relation to the sample of the study, the researcher cannot assume that the 36 complete respondents were representative of the population. There is also not an assumption for those who didn't respond to the research study. Another limitation falls in the self-selection of those mid-managers that participated in the study.

Recommendations for Practice

Respondents of the study showed higher scores in two subscales of interpersonal relationships including empathy and interpersonal relationships. A strong ability in interpersonal skills is needed for individuals in management and leadership roles. The second strongest emotional quotient was in the general mood scale.

Respondents identified a stronger ability in optimism and happiness. These qualities are instrumental in interacting with others and assist the person in creating an uplifting and positive atmosphere in the workplace. This study did not find significant ability identified in the adaptability scale. This was not identified as a future training need as the respondents possessed an average potential ability in this scale and type of mid-management position held by respondents does not lend itself to the need for a high level of adaptability. People typically achieving a higher level of adaptability are engaged in research and development and technical support areas.

The most immediate implication of these results would be to implement training of current mid-managers in the areas of interpersonal, intrapersonal and general mood. These three scales relate most closely to the job descriptions for a Texas AgriLife Extension Service mid-manager. A number of organizations seek to improve performance often focusing on weaknesses. Gallup (2010) says organizations should focus on employee strengths and develop those attributes. Research indicates that people who are not operating from their strengths dread going to work, have more negative interactions with co-workers, achieve less on a daily basis and have fewer creative and positive moments.

Recommendations for Future Study

The research topic of emotional intelligence and transformational leadership affords itself many potential areas of study. Replicating the study with Extension is a simple first step to testing and validating the current findings. Additional factors to

consider in subsequent research that could provide greater understanding would include the user rater feedback or observation used in conjunction with the self rated, an organizational assessment method, and the testing of training and its relationship to job and life satisfaction. The MLQ also offers a colleague assessment instrument that could be completed by four to six co-workers. Additionally, an ability-based test could be used to further assess the EI quotients.

In regards to the broader leadership knowledge base, the study could be replicated with other populations. Replication may prove more valuable and could facilitate generalizing the findings to a broader group. More studies of EI and leadership with multiple sources of data would further strengthen and confirm any relationships. There may also be value in expanding future investigations to include other variables such as cultural background, leadership coursework and training completed, and the type of work setting.

Summary

This study has demonstrated a relationship between emotional intelligence and transformational leadership. Leaders with higher emotional intelligence are more likely to exhibit transformational leadership behaviors. Those with lower EI scores are less likely to exhibit transformational traits but more likely to exhibit transactional leadership behaviors. In this study six emotional intelligence quotients were found to be significantly relational to transformational leadership behavior. Those included self regard, interpersonal relationships, empathy, stress tolerance, optimism and happiness.

The findings from this study indicate that leaders can develop and strengthen emotional intelligence and in doing so can more likely exhibit the use of transformational leadership behaviors. As a result if leaders are trained in EI and those skills are fostered, they will be more likely to utilize transformational leadership further resulting in organizational effectiveness and follower satisfaction. The relationship of EI and transformational leadership has been shown, but what remains is how to foster and train for this skill development and witness the application of such knowledge.

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Appendix A: IRB Approval



December 22, 2009

Dr. D L Doerfert
Ag Ed & Communications
Mail Stop: 2131

Regarding: 502204 The Relationship between EI and Transformation Leadership Behavior in Texas AgriLife Extension Service Mid Managers

Dr. D L Doerfert:

The Texas Tech University Protection of Human Subjects Committee approved your claim for an exemption for the proposal referenced above on December 21, 2009.

Exempt research is not subject to continuing review. However, any modifications that (a) change the research in a substantial way, (b) might change the basis for exemption, or (c) might introduce any additional risk to subjects must be reported to the IRB before they are implemented.

To report such changes, you must send a new claim for exemption or a proposal for expedited or full board review to the IRB. Extension of exempt status for exempt projects that have not changed is automatic.

The IRB will send annual reminders that ask you to update the status of your research project. Once you have completed your research, you must inform the Coordinator of the Committee either by responding to the annual reminder or by notifying the Coordinator by memo or e-mail (donna.peters@ttu.edu) so that the file for your project can be closed.

Sincerely,

A handwritten signature in cursive script that reads "Rosemary Cogan".

Rosemary Cogan, Ph.D., ABPP
Protection of Human Subjects Committee

Appendix B: General Questionnaire

Current Position Title:

District Administrator County Director Program Director

Regional Program Director Associate Department Head/Program Director

Years in current Position

1-5 6-10 11-15 16-20 21-25 26-30 More than 30

Years in Workforce:

1-5 6-10 11-15 16-20 21-25 26-30 More than 30

Years in Extension

1-5 6-10 11-15 16-20 21-25 26-30 More than 30

Years Experience as an Agent

1-5 6-10 11-15 16-20 21-25 26-30 More than 30

Years Experience as a Specialist

1-5 6-10 11-15 16-20 21-25 26-30 More than 30

Years Experience as an Administrator

1-5 6-10 11-15 16-20 21-25 26-30 More than 30

Age:

20-30 31-40 41-50 50-60 61 or above

Gender

Male Female

Education completed (highest level)

___ Bachelors Degree ___ Masters Degree ___ Doctoral Degree ___ Post
Doctoral

What do you believe are the most important leadership traits needed as a leader?

1. _____
2. _____
3. _____

Please rank these leadership styles in order of effectiveness. 1= most effective, 6= least effective

- Authoritative (come with me) _____
- Coercive (do what I say) _____
- Affiliative (people come first) _____
- Democratic (what do you think) _____
- Pacesetting (do as I do, now) _____
- Coaching (try this) _____

What do you consider the greatest leadership challenge facing Extension?

Thanks for completing the questionnaire. Click below to move to the Multifactor Leadership Questionnaire.

Appendix C: Promotion Email for Research

To: Texas AgriLife Extension Service Mid-Managers

You have been selected as an employee of Texas AgriLife Extension Service to take part in a doctoral research study being conducted by Angela Burkham. The project title is: The Relationship of Emotional Intelligence and Transformational Leadership Behavior of Mid Managers of Texas AgriLife Extension Service. This study is being conducted through the Department of Agricultural Education and Communications at Texas Tech University.

Within a few days you will be receiving notification of this research in the mail and then just a few days later an email with specifics on how to be a part of the study. We are in no way requiring you to complete this web based questionnaire. We are encouraging that you support this project through completing the survey. We hope the results of this study will improve the recruitment, training and retention of mid managers in our agency.

Sincerely,

Kyle L. Smith
Texas AgriLife Extension Service
Executive Associate Director

Appendix D: Invitation Email for Research

To: Texas AgriLife Extension Service Mid Managers

You have been selected to participate in a doctoral research study through the Agricultural Education and Communications Department at Texas Tech University. The project title is: The Relationship of Emotional Intelligence and Transformational Leadership Behavior of Mid Managers of Texas AgriLife Extension Service. Similar studies have been done with executive in the business, medical field and nonprofit sector. Such a research project has not been done with administrators and executives within the Cooperative Extension system. The results of this project is very important to Extension administration as the agency seeks ways to effectively identify, recruit, train and retain administrators within the agency.

Your participation is voluntary, but extremely important to the overall success of the project. Mid managers who serve in the roles of district Extension administrators, county Extension directors, program directors and associate department heads have been identified for this study. The responses from the web based questionnaire will be aggregated and analyzed through a statistical software package and will not reveal specific responses from any individual respondent, so study will be confidential. If you choose to withdraw from the study you have the right to tell us not to use any information you have given us.

The questionnaire should only take approximately 30-40 minutes to complete. The instrument consists of three sections: 1) General questionnaire regarding demographics and work experience; 2) Emotional Intelligence self assessment; 3) Leadership self assessment. You can access the questionnaire at <http://> . The targeted completion date for the study is **March 27, 2010**. It would be greatly appreciated if your responses were received by that date.

For questions about your rights as a subject, please contact the Texas Tech University Institutional Review Board for the Protection of Human Subjects, Office of Research Services, Texas Tech University, Lubbock, Texas 79409. Or you can call 806-742-3884.

Again thank you for your time and participation in this project and research efforts of Texas AgriLife Extension Service. If you have any questions, please give me a call at 806-341-4884, email at ab.burkham@ttu.edu . You may also contact my committee chair, Dr. David Doerfert, Professor and Graduate Studies Coordinator, Agricultural Education and Leadership, (806)742-2816 or email at david.doerfert@ttu.edu.

Sincerely

Angela B. Burkham

**Appendix E: Most Important Leadership Traits
(Number of Responses)**

Visionary Leader

- Common mission and vision (16)
- Motivate, inspire, empower and encourage (15)
- Innovative/open to new/ Risk taker (5)
- Strategic Plan (3)
- Bigger picture (1)
- Consistency (1)

Management of Staff and Teams

- Role model/ lead by positive example (7)
- Coach/Mentor (6)
- Team Builder/Oriented (3)
- Understanding Employees (2)
- Management (1)
- Negative effects of bureaucracy on employee efficiency (1)
- Professional development for members of teams (1)
- Use work teams/committees (2)
- Identify and celebrate success (1)

Customer-Center Skills

- Honesty and trustworthiness (14)
- Fairness and evenness (8)
- Integrity (8)
- Relate to others (3)
- Respect (4)
- Responsible (4)
- Knowledge/IQ (3)
- Positive attitude/optimistic (3)
- Passionate and enthusiasm (3)
- Compassion (1)
- Dedication (1)

Self-Management Skills

- Communication (written, verbal and listening (10) (28)

Set expectations and high standards (5)
Clear goals (4)
Accountability/Follow through (3)
Empathy (2)
Assertiveness (2)
Confidence (2)
Solve problems (1)
Delegation (1)
Manage conflict / slow to anger (2)
Manage stress (2)
Organization (2)
Adaptable/flexible (2)
Self motivated (1)
Servant (2)
Adaptable (1)
Consistency (1)
Competent (1)

Appendix F: Greatest leadership challenge facing Extension?

Top Seven

Budget/Funding /Economic Security (maintaining and increasing, state funded to state supported) 7

Individuals trained and ready to assume leadership roles 4

Morale (due to low salaries, budget or uncertain economic times) 4

Leading a new workforce (that's not willing to exceed expectations or act in an ethical manner) 2

Diversity 2

Time (too busy to think big picture or vision, caught up in the day to day) 2

Away from doing what we have always done or think 2
(referencing to staffing patterns can't make best choices base on tunnel vision and historical perspective)

General comments with one vote

Trust

Minutia (paperwork, reporting, permits and bureaucracy)

Consider all side of an issue and to act responsible and ethically for greater good

Consistency

Meeting the needs of traditional programs and people while positioning our agency to be in the forefront.

Fast pace. Reactive versus proactive.

Respond to all we need to coordinate with

Educational background we require

Communication

Avoid group thinking leadership

Apathy among audiences

Ability of our agency to quantify social sciences in terms of economic benefits (especially youth development and family development areas)

Comments regarding specific management level (one vote each)

County based	Mid Manager based	Upper Management based
Good people paying low salaries with declining budget	Training provided to adm to develop desired leadership and management skills.	Clear commitment by senior administration on expectations of adm.
Strong effective, productive, professional educators.		Perceived lack of support from upper administration .
Realize the importance of addressing issues that are important to local citizens.	Adm leadership through tough times	Adm leadership through tough times
Develop programs and have subject matter expertise.	Distance to the employee	Does not respect any position below them
Vast job and variety of employees may require a variety of techniques		Leadership style is somewhere between bullying and coercive. Doesn't inspire much faith or willingness from the troops.
Employing and retaining the "right" people.		