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The Effects of Increased Emotional Intelligence on Information Technology Professionals

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Abstract

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MS, Wilmington University, 2008

BS, Goldey-Beacom, 2001

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Industrial/Organization Psychology

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Abstract

Information technology professionals effectively manage complex, tactical processes and procedures for internal and external customers. At the time of this study there was a gap in the literature regarding the effects of emotional intelligence on information technology professionals. An organization's internal and external customers may become dissatisfied with the information technology professionals because of their communication style lacking an increased level of emotional intelligence. The purpose of this quantitative study was to research the effects of increased emotional intelligence by surveying 315 information technology professionals. Data were collected using 3 electronic surveys including a general questionnaire to collect demographic data, the Multifactor Leadership Questionnaire, and the EQ-i. 2.0 questionnaire to capture the relationships between leadership styles (transformational, transactional and Laissez-Faire) of information technology professionals and gender, race, or levels of emotional intelligence. Using descriptive, multiple regression, and independent-samples *t* tests, the results indicated there were no statistically significant difference in levels of emotional intelligence with transformational (.615) and transactional (.068) leadership where $p <$ .005. There was a statistically significant difference with Laissez-Faire leadership results of .004 ($p < .005$). The study findings indicated that the variables investigated provided only predictive value with the Laissez-Faire leadership style of information technology professionals. This study contributes towards positive social change within the information technology community by supporting the value of emotional intelligence, regardless of leadership styles.

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Dedication

I dedicate this dissertation to my husband, children and grandchildren for their unconditional love and unwavering faith in me. They gave me the strength to believe in myself and that I could realize my dreams. I also dedicate this dissertation to God and his many angels who led me down this path. He has sustained me with health, faith, and talent throughout this journey to be able to reach my dreams.

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I would like to express my heartfelt appreciation and gratitude to those individuals who guided and encouraged me throughout my doctoral program. I would like to thank God, who gave me health, faith, and talent to be able to reach my dreams. I would like to acknowledge my extraordinary husband, Mark, my daughter, Heather and my son, Chad and their families for their love and support which made all the difference in me accomplishing my goal of becoming Dr. Reba Businsky. I am especially grateful to my special friend, Dr. Brenna Doran, who gave me unwavering support and encouragement throughout the program. I would like to thank my dissertation Chair, Dr. Reba Glidewell, who through the entire program provided her expertise and guidance with kindness that greatly contributed to the finished product. I would also like to thank my dissertation Committee Member, Dr. Marlon Sukal, whose detailed reviews and comments helped raise my dissertation to a higher level. I would especially like to thank Reggie Ezeh from Data Value and Paul McMurray from Insight Management Consulting for their priceless guidance on my data collection and statistical analysis. Lastly, I want to give a huge thanks to my special friends, Patty, Trish, Michelle and Leila for always being there whenever I needed someone to listen to my challenges of balancing family, work, and my dissertation.

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Chapter 1 - Introduction to the Study

Introduction

In today's ever-changing world, technology is more critical than ever before. Information technology leaders must not only be involved in the day-to-day activities of their company, but they must also efficiently provide a vision that will lead, inspire, and motivate their employees (Bennett, 2009). They must assist their employees to embrace change and provide guidance that encourages their employees to take on more ownership of issues and problems, to think creatively to solve business concerns, and to demonstrate self-sacrifice for the good of the team and company (Bennett, 2009). Information technology leaders have to be personally involved with their employees, have to keep up with organizational and departmental goals, and have to keep up with the technological advancements taking place each day. Many believe that a transformational leader with a high level of emotional intelligence is the key to an organization' future success (Batool, 2013).

Emotional intelligence should enable leaders to address their followers empathically, thus building high-quality leader-follower relations and strengthening followers' identification and trust in the leader (Batool, 2013). Although emotions are non-cognitive, people can learn to recognize what they feel (Berman & West, 2008). Joseph and Newman (2010) stated that in an organization, emotion regulation relates to job performance. Leaders with high levels of emotional intelligence are key to organizational success (Batool, 2013). Leaders must have the capacity to sense employees' feelings in their work environment, to intervene when problems arise, to manage their emotions to gain trust, and to understand the political and social

conventions with an organization (Batool, 2013). A manager can transform into a leader who has a close engagement with their employees (Huang & Wang, 2009). Researchers investigating the effects of transformational leadership have found that transformational leadership predicts high ratings of effectiveness and satisfaction, higher group performance, and increased effort on the part of subordinates (Batool, 2013). Managers who are engaged with their employees can influence them to perform up to and beyond the organization's requirements (Metsler & Vigoda-Gadot, 2010).

Emotional intelligence involves developing a relationship between emotion and cognition. Increased emotional intelligence leads to improved personal and professional human interactions, which leads to a higher level of job satisfaction of the employees (Batool, 2013). Increasing the emotional intelligence of manager and non-manager employees assists in increasing job satisfaction and employee engagement (Batool, 2013). The ability-based theory involves a continuous pattern in which emotional perception must causally precede emotional understanding, which in turn precedes conscious emotional regulation and job performance (Joseph & Newman, 2010). Joseph and Newman (2010) suggested that the ability-based theory may assist management teams in emotional processing and thus with employee job satisfaction.

Berman and West (2008) measured the effects of emotional intelligence training for managers in U.S. cities having a population of at least 50,000. They conducted mail surveys followed up with phone interviews with the city managers and chief administrative officers of the cities selected. There were 662 cities included in the study with a 32.5% response rate. The study showed that 61.8% of the managers attended

teamwork training and 60.0% of the managers attended ethics training. Among the seven least frequently used training topics was emotional intelligence (Berman & West, 2008).

The need for management training and development programs to include emotional intelligence training is especially crucial for information technology management teams. Information technology managers were selected for the sample population because this population generally focuses on the tactical and not the emotional aspects of management. This population naturally focuses on the tactical versus the emotional aspects of management. With the ever-changing technology in organizations, information technology managers must continuously develop their technical skills to assist their staff with necessary technical changes (Batool, 2013).

Promotion within the same department is a challenge for most information technology managers; they were successful as technical support but now have to manage their peers. This creates situations that without senior management support and proper management training and development could prove detrimental to both new managers and their employees. In information technology managers' previous positions, they may have formed close friendships with their peers, so changing into a management role could provoke all types of feelings for both the new information technology manager and the employees. Inter-department promotions are another situation in which having a higher level of emotional intelligence would benefit the new information technology manager. Being able to identify and adapt to their feelings and also the feelings/emotions of their new employees could make the transition much more pleasant for everyone involved.

Both technical and managerial skills are necessary to the success of an information technology manager (Batool, 2013). It is essential to support information

technology employees with technical knowledge as well as general human resource management. The technical knowledge includes knowledge of the latest training on information systems. The human resource management would include being able to assist employees with their personal career goals and development as well the department and company goals. The professional development portion of management involves the recruitment and retention of valuable employees. Before creating a development plan with an employee, the manager needs to identify the personal desires and goals of an employee. Employee perceptions of their manager affect the manager's ability to identify the employees' desires and expectations for their career development (Kotze & Venter, 2011). Kotze and Venter (2011) emphasized the importance of educating leaders integrally and holistically and of nourishing the leaders' emotional well-being through understanding the importance of emotional intelligence and their emotional patterns. The research study examines how the emotional intelligence of information technology managers impacted the performance of their employees.

Statement of the Problem

The purpose of this study was to determine the effects of information technology leaders' levels of emotional intelligence on the job satisfaction of management and non-management employees. Recent research has indicated that information technology managers must keep abreast both of the constant technological changes needed for an organization and of the personal and professional goals of their employees (Kotze & Venter, 2011). Information technology managers' knowledge of the latest technology is necessary for the tactical support of their employees to ensure they have the skills and tools to be successful in their positions. Information technology managers are

responsible for identifying what motivates and inspires their employees to increase their levels of engagement. Increasing managerial emotional intelligence does not necessarily require that organizations develop new mechanisms, but rather that existing practices and mechanisms include emotional intelligence (Berman & West, 2008). Management and non-management employees' attitudes and motivational level will change significantly after the management team participates in an emotional intelligence developmental training program (Berman & West, 2008).

Emotional intelligence is the ability to recognize emotions in oneself and others and to use this knowledge for improved self-management and relationships with others (Berman & West, 2008). If information technology managers have increased emotional intelligence, they could potentially have better awareness and understanding of their emotions and be more prepared to handle personal and work-related situations. Emotional intelligence enables managers to have an increased awareness and understanding of their employees' emotions, which helps them provide a more positive influence on the work environment.

Kotze and Venter (2011) stated that a crucial aspect of leadership research is to determine why some individuals perform efficiently in leadership roles while others demonstrate average or low levels of effectiveness. They conducted a study to see if there was a significant difference between effective and ineffective leaders resulting from their levels of emotional intelligence. The sample population included 114 mid-level managers. The managers rated themselves and their subordinates rated them as well. Kotze and Ventor (2011) used the Bar-On Emotional Quotient Inventory (EQ-i) as a measure of emotional intelligence, and they used Spangenberg and Theron's Leadership

Behavior Inventory to determine leadership effectiveness. The EQ-i includes five key components: (a) awareness and understanding of one's emotions, feelings, and ideas; (b) awareness and understanding of others' emotions and feelings; (c) the ability to cope with stress; (d) the ability to be flexible and alter one's feelings with changing situations; and (e) the ability to control emotions (Kotze & Ventor, 2011). The Spangenberg and Theron's Leadership Behavior Inventory comprises four phases or stages of leadership effectiveness: (a) environmental orientation, (b) vision formulation, and sharing, (c) organizational preparation for vision implementation, and (d) vision implementing (Kotze & Ventor, 2011). Kotze and Ventor (2011) found that poor personal judgment in decision-making resulted from lower levels of emotional intelligence, even though the subjects were of average to above-average cognitive intelligence.

In 2011, the EQ-i was replaced by the EQ-i 2.0. EQ-i 2.0's objective was to incorporate theoretical and empirical advancements regarding emotional intelligence since the publication of the original version of the measure (DiPerna & Sandilos, 2011). The EQ-i 2.0 is a self-report measure which includes 133 items, each with five response options (never, occasionally, sometimes, often, always/almost always) (DiPerna & Sandilos, 2011). It uses a multifactor model composed of five primary scales (Self-Perception, Self-Expression, Interpersonal, Decision-Making, and Stress Management) each of which is further divided into three subscales (DiPerna & Sandilos, 2011). The EQ-i 2.0 also includes two indicator scales (Happiness and Response Style) (DiPerna & Sandilos, 2011).

Educating managers about the importance of emotional intelligence and their emotional patterns could assist them in managing situations and in getting people to work

together in a positive, productive work environment. A positive work environment enables both managers and non-managers to feel more engaged and valued as employees. Employees who work in a positive work environment tend to have higher levels of trust and confidence in their management teams (Joseph & Newman, 2010). In these environments employees feel they can share their thoughts and ideas with managers without the fear of rejection or humiliation. Sharing thoughts and ideas enables employees to feel more engaged in their work, thereby increasing their feeling of empowerment and ownership of their responsibilities.

Nature of Study

This quantitative study used descriptive research methods to obtain data from information technology professionals. Information technology professionals were selected to complete three online questionnaires; a demographics questionnaire, the Multifactor Leadership Questionnaire (MLQ5X) questionnaire and the EQ-I 2.0 questionnaire. Each questionnaire allowed anonymity for each participant, creating a non-threatening environment and one that enabled each participant to respond openly and truthfully. It was imperative to use questionnaires that were comprehensive but not too confusing or complicated for the users. My primary goal in using the questionnaires was to gain better insight as to how the environment of an information technology department would reflect the relationship between the emotions of the leaders and the emotions of the employees.

Research Question and Hypotheses

The following research question is used to guide this study: Will information technology professional realize the benefits of having an increased level of emotional

intelligence with their employees' level of job satisfaction and engagement towards their job responsibilities.

(H_0^1): Job satisfaction is not significantly predicted based on gender, years of experience, or level of emotional intelligence of information technology professionals.

(H_a^1): Job satisfaction is significantly predicted based on at least one of the following: gender or years of experience or level of emotional intelligence.

(H_0^2): There is no significant difference in levels of emotional intelligence between information technology professional men and information technology professional women.

(H_a^2): There is a significant difference in levels of emotional intelligence between information technology professional men and information technology professional women.

(H_0^3): There is no significant difference in levels of emotional intelligence between information technology professionals with different years of experience.

(H_a^3): There is a significant difference in levels of emotional intelligence between information technology professionals with different years of experience.

(H_0^4): There is no significant difference in levels of Emotional Intelligence between Information Technology Professional ethnic groups.

(H_a^4): There is a significant difference in levels of Emotional Intelligence between Information Technology Professional ethnic groups.

Purpose of the Study

The purpose of this research was to extend prior studies regarding emotional intelligence, and the positive influence information technology managers can have on

their employees when they recognize their emotions and the emotions of their employees. When information technology managers realize the benefits of emotional intelligence, they have an opportunity to increase the job satisfaction of their employees with feelings of empowerment and value as an essential element of their work environment. Increasing job satisfaction has the potential to increase productivity and reduce absenteeism. Increased productivity results from keeping abreast of the constant technological changes needed for an organization and of the personal and professional goals of employees (Kotze & Venter, 2011).

Having information technology management teams with a higher level of emotional intelligence increases the opportunity to create positive work environments where employees feel they can trust managers with their thoughts and ideas (Joseph & Newman, 2010). Kotze and Ventor (2011) mentioned that having a management team with a higher level of emotional intelligence assists in getting people to work together in a more positive environment. This type of environment enables all employees to have a feeling of empowerment and ownership of their positions within the organization. Berman and West (2008) stated that an organization does not have to recreate its management training program; it could just integrate more emotional intelligence segments into the current program.

Conceptual Framework

Emotional intelligence involves developing a relationship between emotion and cognition. The four emotion-processing abilities are (a) awareness of one's own and others' emotions, (b) emotional facilitation, (c) emotional understanding and (d) management of one's own and others' emotions (Jordan & Lawrence, 2009). The ability-

based theory educates the managers on emotional processing and the association with employee job satisfaction. This theory involves a continuous pattern in which the emotion perception must causally precede emotion understanding, which in turn precedes conscious emotion regulation and job performance (Joseph & Newman, 2010). Increased emotional intelligence leads to improved personal and professional human interactions.

Operational Definitions

Cognition – The action of acquiring knowledge and understanding through thought, experience, and the senses (Jordan & Lawrence, 2009)

Emotion – A feeling of an individual and their feelings, psychological and biological states, and range of propensities to act (Goleman, 1995).

Emotional intelligence – The ability to recognize emotions in oneself and others and to use this knowledge for improved self-management and relationships with others (Berman & West, 2008)

Intelligence Quotient – Consists of knowledge, skills, and experience of an individual (Wilson, 2009)

Information technology – Consists of skilled and trained computer and information systems workers within an organization (Abdullah, Ligon & Talukder, 2007)

Intelligence – A representation of the capacity to carry out abstract thought, as well as the general ability to learn and adapt to the environment (Mayer, Salovey, & Caruso, 2004).

Leadership – The act of establishing a clear vision, sharing that vision with others so that they will follow willingly, provides the information, knowledge, and methods to

realize that vision; and coordinates and balances the conflicting interests of all employees (Kotze and Ventor, 2011)

Management – The organization and coordination of the activities of business to achieve defined objectives (Mayer et al., 2004)

Motivation – Results of the interaction of both conscious and unconscious factors such as the (a) intensity of desire or need, (b) incentive or reward value of the goal, and (c) expectations of the individual and his or her peers (Jordan & Lawrence, 2009)

Professional – A person, formally certified by a professional body of belonging to a distinct profession by having completed a required course of studies and practice (Ismail, Mohamed, Mohamed, Sulaiman & Yusuf, 2011)

Questionnaire – Survey tool used to measure data through a series of relevant questions about the research conducted (Ismail et al., 2011)

Assumptions, Limitations, and Delimitations

While using a quantitative method of research, there were assumptions, limitations, and delimitations within the study. Questionnaires were used to gather information from participants within the information technology industry. The assumption was that the participants were answering the questions truthfully regarding their level of emotional intelligence.

The limitations of this study included the number of participants completing all three questionnaires: a demographics questionnaire, MLQ 5X questionnaire, and EQ-I 2.0 questionnaire. During the distribution of the emails, the participants may not have been available. The confidentiality of the questionnaires was a concern of some participants. The handling of the data collected from the questionnaires was with strict

confidence. To link all three questionnaires together, the participants were asked to enter the ID Number as the first three letters of their last name and their zip code. The electronic distribution of the emails, including the link to the specially created webpage containing the link to the questionnaires, ensured all responses were anonymous. The positive impact of the study was communicated in such a way that the benefits of the study far outweigh the risks (Ismail et al., 2011).

Delimitated to information technology professionals who (a) lived in the United States, (b) had a formal information technology degree or certification and (c) were currently working or had recently worked in an information technology department.

Significance of the Study

Researchers and organizations could use findings from this study to develop programs to increase managers' emotional intelligence, thereby improving overall work environments and productivity. This increased emotional intelligence would apply to all levels of management, which should create positive effects by having the feeling of empowerment and value in their positions, which increases their job satisfaction. With managers having increased feelings of empowerment and value, it is easier for them to relay the same feelings to their employees. As a result, employees may have increased job satisfaction, which increases productivity and reduces absenteeism. The positive mood that supervisors and co-workers create at the workplace can lead to job satisfaction which directly helps employees to have a better work-personal life balance (Shahid, Amdan, Alwi, Syazreena & Hassan, 2016). The achievement of work-life balance can yield benefits for employers in the form of a more motivated, productive, and less stressed workforce that feels valued (Shahid et al., 2016). Four ways that employers can

show employees that they are valued and appreciated are by: being reliable when things get terrible at work; being willing to listen to work-related problems; being helpful with getting employees work completed; and being an excellent listener to employees' personal concerns (Shahid, et al., 2016). All of these ways indicate to employees that they are valuable and appreciated. A manager demonstrating these ways of showing concern for their employees would have a higher level of emotional intelligence than one who did not show such concern.

Employee job satisfaction is improved by having a culture within the working environment that is supportive and offers guidance (Malos, 2011). To many employees, the workplace is a safe-haven where they feel valued and appreciated. Employees who are engaged and empowered in their positions are more productive than those who are not; and having productive employees increases profits for the organization (Batool, 2013). For information technology managers, employee successes and challenges are one of their essential priorities (Malos, 2011).

Summary

An organization's management team members benefit both personally and professionally by attending a management-training that integrates emotional intelligence into the program. The managers gain a better understanding of their emotions, which assists them in handling situations where their own emotions would negatively affect the work environment. Likewise, the managers gain a better understanding of their employees' emotions, which assists the employees in handling stressful situations. Training also increases the level of trust and confidence between the management team

and the employees. The higher the level of respect typically results in higher employee engagement and elevated productivity and job satisfaction.

In Chapter 2 of this study, a comprehensive review and synthesis of literature on management and emotional intelligence. Chapter 3 discusses the method of research used and offer a full description of the research tools incorporated in the study. Chapter 4 includes the statistical analysis in both prose form and visually using tables and figures of the information gathered during the research study. Finally, Chapter 5 discusses and interprets the findings of the study and makes recommendations for future research practices.

Chapter 2: Literature Review

This chapter includes five sections regarding emotional intelligence and information technology management. The first section includes the general history of emotional intelligence and an overview of the scholarly definitions of emotion and intelligence. The second section reviews the different emotional intelligence models. The third section consists of general history of leadership and management. The fourth section synthesizes the literature on emotional intelligence with that on informational technology management. The fifth section serves as a summary of the literature review.

The literature review provides better understanding of how information technology managers' emotional intelligence effects both management and non-management employees. Emotional intelligence is "the ability to perceive and express emotions, to assimilate emotion in thought, to understand and judge with the help of emotions and to regulate one's own emotions and those of others" (Hahn, Sabou, Toader, & Radulescu, 2012, p.745).

Current literature has shown that information technology managers face the challenges of keeping abreast both of the constant technological changes needed for an organization and of the personal and professional goals of their employees (Kotze & Venter, 2011). The new reality for information technology managers involves a shift from organizational stability to change and crisis management, from control to empowerment, from competition to collaboration, from uniformity to diversity and from self-centered focus to a high purpose (Sahoo & Mohanty, 2010).

Information technology managers' knowledge of the latest technology is necessary for the tactical support of their employees to ensure they have the skills and

tools to be successful in their positions. Information technology managers are also responsible for identifying what motivates and inspires their employees to increase their level of engagement. Increasing managerial emotional intelligence does not necessarily require that organizations develop new mechanisms, but rather that they integrate the topic into existing practices and knowledge (Berman & West, 2008). Management and non-management employees' attitudes and motivational level can change significantly after the management team participates in an emotional intelligence developmental training program (Berman & West, 2008).

Emotional intelligence is the ability to recognize emotions in oneself and others and to use this knowledge for improved self-management and relationships with others (Berman & West, 2008). There are four related emotion-processing abilities associated with emotional intelligence: a) awareness of own and others' emotions, b) emotional facilitation, c) emotional understanding and d) management of one's own and others' emotions (Jordan & Lawrence, 2009). It includes the abilities to accurately perceive emotions, to access and generate emotions to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions to promote emotional and intellectual growth (Mayer et al., 2004). Emotional intelligence is the ability to connect with other people on an emotional level to form lasting relationships (Finley, 2008). Finley (2008) stated that emotional intelligence is not just about relationships with other people; it is also about the relationship you have with yourself.

With the information technology managers having an increased emotional intelligence integrated into their management training programs, they would have better knowledge and understanding of their own emotions to be able to handle personal and

work-related situations. It would also enable them to have a better understanding of their employees' emotions, which would equip them to provide a positive influence on the work environment.

An active leader cannot afford to ignore the emotional elements of organizational behavior (Sahoo & Mohanty, 2010). Sahoo and Mohanty (2010) found leadership literature is replete with a description of leaders who despite having long-term vision, highly analytical mind, excellent training and an endless supply of innovative ideas have failed miserably as effective leaders. Emotional intelligence is the ability to handle employee relations matters so that they are efficiently expressed, enabling individuals to work together smoothly against their general objectives (Jorfi, Jorfi, Yaccob, & Shah, 2011).

Individuals with high emotional intelligence are more capable of reading the moods and needs of others (Fall, Kelly, MacDonald, Primm & Holms, 2013). These individuals may be adaptable and able to avoid the physical and physiological effects of communication apprehension. They are perceived to be more competent and intelligent, which are two particular characteristics of emerging young professionals (Fall et al., 2013). Personality traits viewed as human characteristics change less often over time (Di Fabio, Palazzeschi, & Bar-On, 2012). Core self-evaluation and emotional intelligence factors are more malleable and possibly improve through training and a myriad of didactive methods within a relatively short period (Di Fabio et al., 2012).

Negative emotions limit employees' abilities to competently perform their jobs, while positive emotions enhance the overall performance of the employees resulting in efficient performance overall for the organization. Effective leaders realize it is more

beneficial to recognize and control their emotions and the emotions of their employees rather than to ignore them. Researchers have shown that prefrontal cortex activity and the number of pathways sending calming signals to the amygdala determine just how quickly a person will bounce back from adversity (Davidson & Begley, 2012). Davidson and Begley (2012) reported that through these two mechanisms; our "thinking brain" can calm our "feeling" self, enabling the brain to plan and act effectively without being distracted by negative emotion (p.118).

While individual emotional intelligence skills can be applied directly to the teams' environment, organizations are more complicated, and thus the objective is broader (Hahn et al., 2012). An organization accomplishes their goals by encouraging emotional intelligence leadership, extensively and intensively, on every level (Hahn et al., 2012). It is systematically creating the norms and culture to foster confidence and transparency, integrity, empathy and stable relationships between all employees (Hahn et al., 2012). In the workplace, two of the principal applications of emotional intelligence are in management and leadership skills, and motivation and teamwork (Wilson, 2009). Emotional intelligence is the intangible "something" in each individual that incites how she or he manages behavior, navigates social complexities, and makes personal decisions that achieve positive results (Bradberry & Greaves, 2005). Intelligence quotient is something individuals are born with, and emotional intelligence is flexible and can be enhanced and developed even further with the proper training.

Evolution of Emotional Intelligence and its Theoretical Foundation

From Darwin to the present, most descriptions, definitions, and conceptualizations of emotional-social intelligence have included one or more of the following principal components:

- The ability to recognize, understand and express emotions and feelings;
- The ability to understand how others feel and relate to them;
- The ability to manage and control emotions;
- The ability to manage change, adapt and solve problems of a personal inter-personal nature;
- The ability to generate positive affect and be self-motivated (Bar-On, 2006).

Alfred Binet and Differences in Intelligence

Attempts to measure intelligence, as defined by an individual's cognitive abilities, date back to Alfred Binet's work in 1905. Binet (1857-1911), developed an application of his psychology of individual differences and it evolved over the course of the 1900s, connecting diverse disciplines such as psychiatry and pedagogy, new technologies, and new theoretical-methodological points of view (Cicciola, Foschi, & Lombardo, 2013). Binet and his contemporaries were in search of a reliable and structured technique to measure individual differences in intelligence (Cicciola et al., 2013). The concept of intelligence has evolved over time and thus has been modified to include not only general cognitive ability but also more specific skills such as planning and attention. While cognitive abilities have been measured for greater than 100 years, the study of emotional intelligence is relatively new.

Edward Thorndike and Social Intelligence

By 1920, Edward Thorndike, and some of his contemporaries were concerned about the narrowness of the instruments used to measure intelligence (Landy, 2005). Thorndike believed that intelligence came in many different forms and many different modes of intelligence: mechanical, abstract, and social (Landy, 2005). In 1920, Thorndike reported the possibility of a form of intelligence he termed "social intelligence" that was distinct from abstract or academic intelligence (Landy, 2005). Landy (2005) stated that Thorndike's definition of social intelligence has cognitive and social elements at work in the individual's ability to understand and manage people. Social intelligence is different from the theoretical verbal and concrete mechanical aspects of intelligence. Thorndike offered an inclusive definition of social intelligence as the ability to perceive one's own and others' internal states, motives, and behaviors, and to act toward them optimally by using that information (Salovey & Mayer, 1989).

Maslow and Self Actualization

In the 1950's Maslow conducted studies on self-actualization. The participants of his initial studies were adult subjects among personal acquaintances, friends, and public and historical figures. The individuals were selected based on two sets of criteria: the absence of psychopathology, and the positive evidence of self-actualization (Bar-On, 1988). These individuals demonstrated "full use and exploitation of talents, capacities and potentialities" and appeared to be "fulfilling themselves and doing the best they are capable of doing" (Bar-On, 1988, p. 32). They had "developed or are developing to the full stature of which they are capable" (Bar-On, 1988, p. 32).

Marie Jahoda and Psychological Well-Being

In the late 1950's, Marie Jahoda was charged by the U.S. Joint Commission on Mental Illness and Health to conduct a large-scale research project aimed at reviewing and summarizing existing concepts of psychological health (Bar-On, 1988). In her study, she arrived at six main areas which she thought summarized the significant components of mental health. These areas were (a) positive attitude towards the self, (b) growth, development, and self-actualization, (c) personality integration, (d) autonomy, (e) efficient perception of reality and 6) environmental mastery (Bar-On, 1988). The influence of the information gathered in Jahoda's study served to expand the whole concept of psychological well-being.

Bar-On and Emotional/Social Intelligence

According to Bar-On (1988), most descriptions, definitions, and conceptualizations of EI, ranging from Darwin to the present, have shared essential components, all of which his ESI model includes. In the early 1960s, the humanistic movement was becoming an influential force in psychology though still overshadowed by psychoanalysis and behaviorism (Bar-On, 1988). A general discontent existed among the psychologists, and they were starting to witness a phenomenon of counterculture studies where there was a quest for a society characterized by justice, love, and respect for human life (Bar-On, 1988). The consensus among psychologists was that each area of someone's physical and mental well-being was a different concern. Using the information gathered and shared regarding the counterculture studies confirmed "the biomedical-psychosocial-sociocultural approach to psychological health cannot separate into three parts but should be considered together as an individual's mental health and

well-being" (Bar-On, 1988, p. 42). According to Bar-On (1988), the multi-determinant approach had been supported by some health professionals, theorists, and researchers. Some individuals were (Hartman 1939, 1960, & 1964; Kardiner, 1939 & 1945; Erikson, 1950-b & 1959; Kubie, 1954; Grinker, 1956, & 1963; Knapp, 1963; Leiderman and Shapiro, 1964; Kohut, 1971; Offer, D., Freedman & Offer, J.L., 1972; Gedo and Goldberg, 1973; and Offer and Sabshin, 1974) (Bar-On, 1988, p.44).

The Bar-On Model describes a cross-section of interrelated emotional and social competencies, skills, and facilitators that impact intelligence behavior, measured by self-report within a potentially broad multi-modal approach including interviewing and multi-rater assessment (Bar-On, 2006). Ultimately, being emotionally and socially intelligent means to efficiently manage personal, social, and environmental change by realistically and flexibly coping with the immediate situation, solving problems, and making decisions (Bar-On, 2006). In Bar-On's (2006) opinion to do this, we need to manage emotions so that they work for us and not against us, and we need to be sufficiently optimistic, confident, and self-motivated.

Salovey & Mayer and Emotional Intelligence

Salovey and Mayer (1989) defined emotional intelligence as the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions. These abilities require awareness and appraisal of one's own and others' tone of voice, facial expression, body posture, and gestures, as well as an individuals and groups' ability to think about or reflect on their emotions (LaMothe, 2010). The four

primary elements believed to comprise emotional intelligence are self-awareness, self-management, social awareness, and relationship management (Goleman, 2011).

Gardner and Multiple Intelligence Theory

During 1993, Gardner used social intelligence concept to identify personal intelligence as one of the seven forms of intelligence in his multiple intelligence theory. Gardner explains that he bases his conceptualization of personal intelligence on intrapersonal (emotional) intelligence and interpersonal (social) intelligence (Bar-On, 2006).

Goleman and Emotional Intelligence

By 1995, Goleman defined emotional intelligence as abilities such as being able to motivate oneself and persist in the face of frustrations; to control impulse and delay gratification; to regulate one's moods and keep distress from swamping the ability to think; to empathize and to hope (Sadri, 2012). Self-awareness is one's ability to be aware of and understand his or her feelings and thus to empathize with the emotions of others (Goleman, 2011). An individual must be aware of his/her feelings before recognizing other individuals' feelings and emotions. Self-management is awareness of one's internal feelings and the ability to recognize one's competencies, thus allowing the individual to achieve goals, become more adaptable and take the initiative (Goleman, 2011). Social awareness refers to the ability to sense and be aware of others' feeling and emotions. Lastly, relationship management refers to one's ability to shape the feelings of others.

A study completed by Goleman, Boyatzis, and McKee concludes that a leader's emotional intelligence has a more significant influence on team performance than the leader's intellectual capability (Lee, Park & Lee, 2013) and that there are apparent

correlations between emotional intelligence, leadership styles, and organizational performance. The emotionally stable behavior of the manager help team members to focus and concentrate on project tasks at hand without distractions caused by emotional instability of leaders (Lee et al., 2013).

Understanding Emotions and Intelligence Separately

Various researchers have discussed emotion and intelligence extensively. However, it is essential to summarize their discussions to provide better clarification of the concept of emotional intelligence.

Emotion

Emotions refer to a feeling of an individual and their thoughts, psychological and biological states, and range of propensities to act (Goleman, 1995). There are hundreds of combinations of emotions when including the different variations and blends of the primary emotions. According to Goleman (1995) here are some of the basic emotions and their characteristics.

- Anger*:* fury, outrage, resentment, wrath, exasperation, indignation, vexation, acrimony, animosity, annoyance, irritability, hostility and perhaps at the extreme, pathological hatred and violence
- Sadness*:* grief, sorrow, cheerlessness, gloom, melancholy, self-pity, loneliness, dejection, despair and when severe pathological depression
- Fear*:* anxiety, apprehension, nervousness, concern, consternation, misgiving, wariness, edginess, dread, fright, terror and as a psychopathology, phobia, and panic

- Enjoyment*:* happiness, joy, relief, contentment, bliss, delight, amusement, pride, sensual pleasure, thrill, gratification, satisfaction, ecstasy and at the far edge, mania
- Love*:* acceptance, friendliness, trust, kindness, affinity, devotion, adoration, and infatuation
- Surprise*:* shock, astonishment, amazement, and wonder
- Disgust*:* contempt, disdain, scorn, distaste, and revulsion
- Shame*:* guilt, embarrassment, chagrin, remorse, humiliation, regret and contrition (Pgs. 289-290)

Intelligence

Intelligence can be a representation, primarily, of the capacity to carry out abstract thought, as well as the general ability to learn and adapt to the environment (Mayer et al., 2004). Intelligence involves such capacities as seeing the similarities and differences among objects, being able to analyze parts and appreciate their relationship to each other and as a whole, and generally, being able to reason validly within and across content domains (Mayer et al., 2004).

Intelligence is the existence of one or more primary information-processing operations or mechanisms, which can deal with specific kinds of input (Gardner, 2011). Reason, intelligence, logic, knowledge are not synonymous (Gardner, 2011). Gardner (2011) explains there are three distinct uses of the term intelligence. The first is the property of all human beings (all of us possess these 8 or 9 bits of intelligence) (Gardner, 2011). The second is a dimension on which individuals differ (no two people possess the

same profile of intelligence). The third is the way in which one carries out a task in virtue of one's goals (Gardner, 2011).

Gardner (2011) identified seven different bits of intelligence: linguistic intelligence, logical-mathematical intelligence, musical intelligence (valued in schools); bodily-kinesthetic intelligence, spatial intelligence (associated with the arts) and interpersonal intelligence and intrapersonal intelligence (referred to as personal intelligence). Here is a break-down of Gardner's multiple intelligence:

- Linguistic Intelligence: involves sensitivity to spoken and written language, the ability to learn languages and the capacity to use language to accomplish specific goals
- Logical-Mathematical Intelligence: consists of the capability to analyze problems logically, carry out mathematical operations, and investigate issues scientifically
- Musical Intelligence: involves skill in the performance, composition, and appreciation of musical patterns which also includes the capacity to recognize and compose musical pitches, tones and rhythms
- Bodily-Kinesthetic Intelligence – entails the potential of using one's whole body or parts of the body to solve problems including the ability to use mental abilities to coordinate bodily movement
- Spatial Intelligence: involves the potential to recognize and use the patterns of ample space and more confined areas

- Interpersonal Intelligence: includes the capacity to understand the intentions, motivations, and desires of other people which allow people to work efficiently with others
- Intrapersonal Intelligence - entails the capability to understand oneself, to appreciate one's feelings, fears, and motivations similar to having a useful working model of ourselves and having the ability to use such information to regulate our lives (Gardner, 2011)

Mayer, Panter, and Caruso (2012) included hot intelligence and cool intelligence with their theory of multiple intelligences (pg. 124). The hot intelligence such as the emotional, social and practical involve reasoning about information that is personally relevant and that often elicits painful or positive reactions (Mayer et al., 2012). The cool intelligence would include verbal comprehension and perceptual organization; involve reasoning about relatively neutral and objective information such as vocabulary, sentence meanings and abstract patterns (Mayer et al., 2012).

Finally, (Mayer et al., 2012) defines intelligence as one's ability to learn from experiences and to adapt to, shape, and select environments (pg. 501). Adapting refers to one's changing oneself to suit the environment; shaping refers to ones changing the environment to fit oneself; selection means the choice of a new environment often after adaptation and shaping have failed (Mayer et al., 2012). The testing of the multiple areas of intelligence demonstrated different results across generations and ethnic and socioeconomic groups (Sternberg, 2012).

Emotional Intelligence Models

Emotional intelligence has been researched and defined by many researchers and trained practitioners. Yildirim (2007) defines emotional intelligence as a way to achieve one's goals through the ability to manage one's feelings and emotions, to be sensitive to and influence and to balance one's motives and drives with honest and ethical behavior. Emotional intelligence does not guarantee the development of emotional competencies; it only shows that there is a potential to improve emotional competencies (Yildirim, 2007). Mayer et al., (2004) define emotional intelligence as the capacity to reason about emotions, and of emotion to enhance thinking. It includes the abilities to perceive emotions accurately, to access and generate emotions to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions to promote emotional and intellectual growth (p.197). Reuven Bar-On (2010) describes emotional intelligence as an array of interrelated emotional and social competencies and skills that impact intelligent behavior. Goleman (2013) states that emotional intelligence focuses inward on yourself, focuses constructively on others and have a fuller understanding of how he/she focuses on the wider world can improve their ability to devise a strategy, innovate and manage organizations.

There are three major models for emotional intelligence: Goleman's Emotional Competency Inventory (ECI), Bar-On's Emotional Quotient Inventory (EQ-i), and the Mayer, Salovey, Caruso Emotional Intelligence Test (MSCEIT) (Mishar & Bangun, 2014). The EQ-i and the ECI are subjective, self-report measurements of emotional intelligence. The MSCEIT is objective and performance-based measurements of emotional intelligence. A measure of one's emotional intelligence is an indication of

their ability to both emotions and cognitive skills to interact and function in life (Mishar& Bangun, 2014).

Mayer, Salovey, and Caruso's Emotional Intelligence Test (MSCEIT)

To address a growing need in psychology for a framework to organize the study of individual differences in abilities related to emotion Mayer and Salovey proposed the Four-Branch Model of Emotional Intelligence (Salovey & Grewal, 2005). The Salovey-Mayer model defines this construct as the ability to perceive, understand, manage and use emotions to facilitate thinking, measured by an ability-based measure (Batool, 2013). The initial findings indicated that emotional intelligence affects essential life outcomes such as forming satisfying personal relationships and achieving success at work (Salovey & Grewal, 2005). Salovey and Mayer (1990) proposed a formal definition of emotional intelligence as the ability to monitor one's own and others' feelings, to discriminate among them and to use this information to guide one's thinking and action (p. 189). Mayer and Salovey (1990) have divided the abilities and skills of emotional intelligence into four branches: the ability to (a) perceive emotion, (b) use emotion to facilitate thought, (c) understand emotions, and (d) manage emotion.

The first two branches, perception, and facilitation are termed "Experimental Emotional Intelligence" because they relate most closely to feelings, and they involve first the capacity to perceive emotions in other accurately and second the ability to use emotions to enhance how we think (Batool, 2013). The third and fourth areas of emotional intelligence skills are termed "Strategic Emotional Intelligence" because they pertain to calculating and planning with information about emotions (Batool, 2013). The third area understanding emotions involve knowing how emotions change in and of

themselves, as well as how they will change people and their behaviors over time (Batool, 2013). Batool (2013) continues to the fourth area Emotional Management focuses on how to integrate logic and emotion for effective decision-making (p.86).

Salovey and Grewal (2005) explained the four different abilities/branches.

1. Perceiving emotions: This is the capability to detect and decipher emotions in faces, pictures, voices, and cultural artifacts and the ability to identify one's emotions (Salovey & Grewal, 2005).

2. Facilitating emotions: This is the capability to harness emotions to facilitate various cognitive activities, such as thinking and problem solving (Salovey & Grewal, 2005). This branch includes the regulation of the mood of an individual; whereas a slightly sad mood helps people conduct careful, meticulous work and a happy mood can stimulate creative and innovative thinking.

3. Understanding emotions: This is the ability to comprehend emotion language to appreciate complicated relationships among emotions. Understanding emotions include being sensitive to slight variations in emotions, such as the difference between happy and ecstatic and include how emotions evolve, such as how shock can turn into grief (Salovey & Grewal, 2005).

4. Managing emotions: This branch consists of the ability to regulate emotions in both ourselves and others. Emotions manage the context of the individual's goals, self-knowledge, and social awareness (Salovey & Grewal, 2005).

Table 1

Mayer-Salovey-Caruso Emotional Intelligence Test – Four Branch Ability Model

Branch	Component	Areas Affected
Branch 1 – Perceiving	Reflects the perception of emotion and involves the capacity to recognize emotion in others' facial and postural expressions. It involves nonverbal perception and expressions of emotion in the face, voice, and related communication channels.	Perceiving Emotions is through (a) Faces - participants are asked to identify the emotions in faces; (b) Pictures - participants are requested to identify the emotions conveyed by landscapes and designs
Branch 2 – Facilitating	Involves the capacity of emotions to assist thinking and the knowledge of the link between emotions and thinking can be used to direct one's planning.	Using Emotions to Facilitate Thought, is measured by c) Sensations - participants compare emotions to other tactile and sensory stimuli and (d) Facilitation - participants identify the emotions that would best facilitate a type of thinking.
Branch 3 – Understanding	Understanding of emotions reflects the capacity to analyze emotions, appreciate their apparent trends over time, and understand their outcomes; this is an area that is continuously growing and developing.	Understanding Emotions - is measured through e) Emotion Management - which tests a person's ability to know what circumstances emotional intensity lessens and increases and how one emotional state changes into another.
Branch 4 – Managing	Reflecting the management of emotions in the context of the individual's goals, self-knowledge, and social awareness; emotional self-management includes the ability to avoid feelings or to reframe appraisals to reassure oneself or achieve equanimity.	Managing Emotions - measured thought g) Emotional Management - which involves presenting participants with hypothetical scenarios and asking how they would maintain or change and h) Emotion Relationships - which involves asking participants how to manage others' feelings so that the desired outcome occurs.

(Mayer et al., 2004)

The order of the branches, from perception to management, represents the degree to which the ability integrates with the rest of the individuals' major psychological subsystems – that is, within his or her overall personality (Mayer et al., 2004). The order of the branches is significant due to the developmental progression of skills from the more basic to the more sophisticated (Mayer et al., 2004). Salovey-Mayer's model defines emotional intelligence as the ability to perceive, understand, manage and use emotions to facilitate thinking, measured by an ability-based measure (Mishar & Bangun, 2014).

Bar-On's Emotional Quotient Inventory (EQ-i)

The Bar-On model provides the theoretical basis for the EQ-i, which indicates emotional-social intelligence is a cross-section of interrelated emotional and social competencies, skills, and facilitators that determine how effectively we understand and express ourselves, understand others and relate to them and cope with daily demands (Bar-On, 2006). The basis of this model is in one's personal ability to be aware of oneself, to understand one's strengths and weaknesses, and to express one's feeling and thought nondestructively (Bar-On, 2006). The Bar-On model describes a cross-section of interrelated emotional and social competencies, skills, and facilitators that impact intelligent behavior, measured by self-report within a potentially flexible multi-modal approach including interview and multi-rater assessments (Batool, 2013). The EQ-i also includes the other person level, being emotionally, and socially intelligent encompasses the ability to be aware of others' emotions, feeling, and needs, and to establish and maintain cooperative, constructive and mutually satisfying relationships by realistically

and flexibly coping with the immediate situation, solving problems and making a decision. It includes a mixture of abilities and personality traits
that also measures stress tolerance, problem-solving ability, and level of happiness (Bar-On, 2006). In principle, the EQ-i model paints a picture of the emotionally and socially intelligent individual as one who can adequately understand and express himself, understand and relate well with others and successfully cope with daily demands, challenges, and pressures (Kornacki, 2010). It was the first measure of its kind published by a psychological test publisher, the first such measure to be peer-reviewed in the Buros Mental Measurement Yearbook and the most widely used measure of emotional-social intelligence as of 1997 (Bar-On, 2006). The EQ-i contains 133 items in the form of short sentences and employs a 5-point response scale with a textual response format ranging from “very seldom or not true of me” (1) to “very often true for me” (5) (Bar-On, 2006, p.5).

Table 2

The Bar-On EQ-I scales and what they assess

EQ - i scales	The EI competencies and skills assessed by each scale
Intrapersonal	**Self-awareness and self-expression:**
Self-regard	To accurately perceive, understand and accept oneself
Emotional self-awareness	To be aware of and understand one's emotions
Assertiveness	To effectively and constructively express one's emotions
Independence	To be self-reliant and free of emotional dependency on others
Self-actualization	To strive to achieve personal goals and actualize one's potential
Interpersonal	**Social awareness and interpersonal relationship:**
Empathy	To be aware of and understand how others feel
Social Responsibility	To identify with one's social group and cooperate with others
Interpersonal Relationship	To establish mutually satisfying relationships and relate well with others
Stress Management	Emotional management and regulation:
Stress Tolerance	To effectively and constructively manage emotions
Impulse Control	To effectively and constructively control emotions
Adaptability	**Change management**
Reality-Testing	To objectively validate one's feelings and thinking with external reality
Flexibility	To adapt and adjust one's feelings and thinking to new situations
Problem-Solving	To effectively solve problems of personal and inter-personal nature
General Mood	**Self-motivation:**
Optimism	To be positive and look at the brighter side of life
Happiness	To feel content with oneself, others and life in general

(Bar-On, 2006 & Monselise et al., 2013)

The EQ-i solicits individual responses that render a total EQ score and scores on the following five composite scales that comprise 15 subscale scores: Intrapersonal

(comprising Self-Regard, Emotional Self-Awareness, Assertiveness, Independence, and Self-Actualization); Interpersonal (comprising Empathy, Social Responsibility, and Interpersonal Relationship): Stress Management (comprising Stress Tolerance and Impulse Control); Adaptability (comprising Reality-Testing, Flexibility, and Problem-Solving); and General Mood (comprising Optimism and Happiness) (Bar-On, 2006). The raw score is tabulated and converted into standard scores based on a mean of 100 and standard deviation of 15 (Bar-On, 2006). The higher the scores, the more positive the prediction for efficient functioning in meeting daily demands and challenges and the lower the scores suggest an inability to manage and the possible existence of emotional, social and behavioral problems (Bar-On, 2006). Emotional intelligence is a cross-section of interrelated emotional and social competencies, skills, and facilitators that impact on intelligence behavior, and measured by self-report (Mishar & Bangun, 2014).

Goleman's Emotional Competency Inventory (ECI)

Daniel Goleman began to conduct his research in the area and eventually wrote Emotional Intelligence (1995), the landmark book that familiarized both the public and private sectors with the idea of emotional intelligence (Mishar & Bangun, 2014). The Goleman model indicates emotional intelligence in an array of competencies and skills that drive organizational performance, measure by multi-rate assessment (Mishar & Bangun, 2014). The ECI outlines four main emotional intelligence constructs; self-awareness, self-management, social awareness and relationship management (Mishar & Bangun, 2014).

The first construct, self-awareness, is the ability to read one's emotions and recognize their impact while using gut feelings to guide decisions. The second

construct, self-management involves controlling one's emotions and impulses and adapting to changing circumstances. The third construct, social awareness includes the ability to sense, understand, and react to other's emotions while comprehending social networks. Finally the fourth construct, relationship management entails the capability to inspire, influence and develop others while managing conflict (Mishar & Bangun, 2014)

Table 3

Goleman's Emotional Intelligence Competencies

	SELF (Personal Competence	OTHER (Social Competence)
Recognition	Self-Awareness	Social Awareness
	Emotional Self-Awareness	Empathy
	Accurate Self-Assessment	Service Orientation
	Self-confidence	Organizational Awareness
Regulation	Self-Management	Relationship Management
	Self-control	Developing others
	Trustworthiness	Influence
	Conscientiousness	Communication
	Adaptability	Conflict Management
	Achievement Drive Initiative	Change Catalyst
		Building Bonds
		Teamwork & Collaboration

(Mishar & Bangun, 2014)

Goleman includes a set of emotional competencies within each construct of emotional intelligence (Mishar & Bangun, 2014). Individuals are not born with these attributes. Individuals are born with general emotional intelligence, and these characteristics determine how quickly they will be able to develop the constructs of emotional intelligence. Mishar and Bangun (2014) explain that the organization of the competencies under the various constructs is not random; they appear in synergistic clusters or groupings that support and facilitate each other.

Daniel Goleman developed the Emotional Competency Inventory (ECI) as a measure of emotional intelligence based on his emotional intelligence competencies for managers, executives, and leaders (Mishar & Bangun, 2014). The Emotional Competency Inventory is a multi-rater (360 degrees) instrument that provides self, manager, direct report and peer ratings on a series of behavioral indicators of emotional intelligence (Mishar & Bangun, 2014). It measures 20 competencies, organized into the four constructs: self-awareness, social awareness, self-management and social skills. Mishar and Bangun (2014) state that each respondent is asked to describe themselves or the other person on a scale from 1 to 7 for each item, and, in turn, these items compose ratings for each of the competencies. There would be two ratings after the evaluation is complete: a self-rating and a total other- rating (made up of an average of all other ratings) (Mishar & Bangun, 2014).

Goleman reformulated emotional intelligence regarding a theory of organizational and job performance (Batool, 2013). Batool (2013) reiterates Goleman's philosophy that a leader's primary job is to get results and even with all the leadership training programs and expert advice available, effective leadership still eludes many people and organizations (p.85). After this theory had appeared, many businesspeople understood success in the workplace depends largely on emotional intelligence. Besides intellect, an employees' needs other qualities as well; perseverance, self-control, motivation, interpersonal skills mean an increased emotional intelligence (Hahn et al., 2012). Having employees within an organization take the EQ-i there may be the risk that employees would try and skew their answers to look more favorable. The EQ-i test has four validity indicators included that look for missed responses, occurrences of inconsistencies and

tendencies toward over-positive or over negative answers to the questions (Wilson, 2009).

High scores on the EQ-i test indicate a person who functions well regarding relationships and social exchanges while low scores suggest some difficulties that might include a distorted perception of reality, an inability to solve problems, low-stress tolerance, and difficulty with controlling impulses when under stress (Wilson, 2009). Different jobs require different emotional skills to be successful. Wilson (2009) gave an example of putting a highly successful sales director into a job where she has to manage a team of information technology engineers, and she may very soon start exhibiting a lower tolerance to stress and difficulty in controlling her frustration with their different way of thinking. Similarly, put an information technology executive in charge of a team of salespeople, and both sides will be quickly complaining. Success depends on not only emotional intelligence but also emotional intelligence based on competencies. Emotional competencies indicate the level of individuals' work performance (Yildirium,2007).

Discussion and Comparison of Emotional Intelligence Models

The three emotional intelligence models are illustrated below in a comparison chart. There are two different categories of these emotional intelligence models: ability and a mixed model. Mayer and Salovey have the ability-based model, and Bar-On (EQ-i), and Goleman (ECI) are mixed models. The ability-based model focuses on cognitive aptitudes, and the mixed model focuses on things attributed to optimism and persistence (Kornacki, 2010). All of these models have been tested hundreds of time by expert researchers in the field of psychology. Each of these models can be used separately or in

combination to determine the best leadership development program needed for an organization.

Table 4
Comparison of the Emotional Intelligence Models

1990	1995	1988
Mayer, Salovey & Caruso	Goleman	Bar-On
Ability Model	Mixed Model	Mixed Model
Definition		
The capacity to reason about emotions, and of emotions to enhance thinking	Abilities such as being able to motivate oneself and persist in the face of frustrations; to control impulse and delay gratification; to regulate one's moods and keep distress from swamping the ability to think; to empathize and to hope	An array of interrelated emotional and social competencies and skills that impact intelligent behavior
Components		
Ability to perceive emotion	Self-awareness	Intrapersonal
Ability to use emotion to facilitate thought	Self-regulation	Interpersonal
Ability to understand emotion	Motivation	Stress management
Ability to manage emotion		Adaptability
Skills		
Recognizing facial expressions in others and interpreting what those expressions mean	Knowing one's internal states, preferences, resources and intuitions	Social awareness and interpersonal relationships
Involves labeling emotions and understanding the relationships associated with shifts in emotion	Managing one's internal states, impulses, and resources	Emotional management and regulation

Calming down after being angry, or being able to alleviate the anxiety of another person	Emotional tendencies that guide or facilitate reaching goals	Change management and self-motivation

(Sadri, 2012)

Myths about Emotional Intelligence Benefits

Despite the proponents of emotional intelligence that claim individuals can enjoy happier and more fulfilled lives if they are aware of both their emotions and those of other people, the scientific investigation of an identified construct of emotional intelligence is sparse (Zeidner, Matthews & Roberts, 2004). Zeidner et al., (2004) claim that systematic scientific research is just the beginning and that emotional intelligence could indeed mature into a construct that is theoretically meaningful, empirically relevant, and practically useful (p. 179). Here are seven myths that were identified by Zeidner et al., (2004). Each will be addressed to review whether it is reasonable to overcome the barriers.

Myth #1 – Definitions of emotional intelligence are conceptually coherent: an examination of the literature suggests there is no precise, accepted definition of emotional intelligence and the multitude of qualities covered by the concept appears at times overwhelming (Zeidner et al., 2004). Conceptualizations of emotional intelligence range from an ability for processing information applied to emotions, subject to principles governing the intellect to a complex interaction of qualities of emotions, mood, personality and social orientation used in both interpersonal and intrapersonal situations (Zeidner et al., 2004). There are differing opinions on the definition of emotional intelligence between the three major contributors of emotional intelligence: Mayer and Salovey; Goleman and Bar-On. Mayer and Salovey construed emotional intelligence as

the capacity to reason about emotions that would include the ability to perceive accurately, appraise and express emotions (Salovey & Mayer, 1990). Goleman defined emotional intelligence by exclusion – emotional intelligence represents all those positive qualities that are not IQ (Goleman, 1995). Finally, Bar-On characterized emotional intelligence as an array of non-cognitive capabilities, competencies, and skills that influence one's ability to succeed in coping with environmental demands and pressures (Bar-On, 1998).

There are also three main issues that could be problematic for all of these various conceptualizations. First, the causal status of emotional intelligence as an influence on behavior is often unclear, and the distinction between cause and effect is blurred (Zeidner et al., 2004). Second, it is assumed that emotional intelligence generalizes across qualitatively different kinds of event and challenge (e.g., that a person who is adept at managing anger is also capable in dealing with situations that evoke fear, sexual attraction or boredom) (Zeidner et al., 2004). The third issue is that most models of emotional intelligence assume assessment via declarative knowledge; either individuals can directly report on those personal qualities that constitute emotional intelligence, or they can describe their evaluations of emotional stimuli and what actions they might take in response to such stimuli (Zeidner et al., 2004).

With a similar problem over the precise definition of intelligence, there were two critical conferences where there was a debate regarding the concept of cognitive intelligence, and a modicum of agreement concerning the definition (Zeidner et al., 2004). Perhaps a similar series of debates, involving luminaries in the field of both emotions and intelligence, could lead to a more general agreement concerning the frames

of reference under which the concept of emotional intelligence might be investigated (Zeidner et al., 2004).

Table 5

Emotional Intelligence Conceptualization, Examples and Possible Assessment Techniques

Conceptualization	Examples of High EI Qualities	Possible Assessment Techniques
Temperament	A basic tendency to be positive, optimistic, and agreeable	Personality questionnaires
Character	Self-control, motivation, integrity, and morality	Personality questionnaires, assessments of moral values may be problematic
Basic aptitudes for processing emotions	Fast and accurate perception, memory-retrieval, and reasoning	Objective performance on information-processing task
Adaptiveness	Successful coping with life challenges and demands that elicit emotion	Questionnaire or observation-based assessment of coping resources
Acquired implicit skills	Accurate unconscious processing of culture-specific events, nonverbal behaviors that support social interaction	Uncertain - Two possibilities are (a) observation and/or measurement of relevant behaviors, and (b) use of unconscious priming techniques
Acquired explicit skills	Knowledge of other people's beliefs about emotion, availability of consciously accessible strategies for emotion regulation	Standardized tests assessing specific beliefs
Insightful self-awareness	Consciously accessible self-beliefs and metacognitions that support personalized emotion regulation	Uncertain - Some beliefs may be assessed by questionnaires; others may require "clinical" interview
Good emotional person – environment fit	Congruence of personal knowledge of emotion with the beliefs of the surrounding culture	Uncertain - Cultural environment must be assessed independently from personal attributes

(Zeidner et al., 2004).

Myth #2 – Measures of emotional intelligence meet standard psychometric criteria (Zeidner et al., 2004). Since the term emotional intelligence first appeared, Zeidner et al., (2004) conclude there has been a rapid propagation of measures to assess the construct and the content of each of these tests tend to vary as a function of the theoretical conceptualization. There are two families of assessment tools: self-report (a combination of both ability and personality traits); and performance-based measures (maximal) (p.181). The criterion for determining the content validity, reliability, predictive validity, and construct validity of each of the measurement tools need a consensus of the elements included with each measurement tool regardless if it is a self-report assessment or a performance-based assessment.

Myth #3 – Self-report emotional intelligence is distinct from existing personality constructs (Zeidner et al., 2004). With the self-report methodology, the self-perceptions of emotional intelligence can be inaccurate, being vulnerable to the range of response sets and social desirability factors afflicting self-report measure, as well as deception and impression management (Zeidner et al., 2004). Zeidner et al., (2004) conclude that the questionnaire measures tend to be deficient in both convergent validity (correlation with other intelligence factors are too low) and divergent validity (correlation with personality factors too high) (p.184).

Myth #4 - Ability tests for emotional intelligence meet criteria for cognitive intelligence (Zeidner et al., 2004). Proponents of emotional intelligence claim that available data support the notion that emotional intelligence meets conceptual, psychometric, and developmental criteria needed before emotional intelligence can be considered to constitute legitimate scientific domain and thus a legitimate form of

intelligence (Zeidner et al., 2004). Although there has been a significant improvement in the tests for emotional intelligence none of them show excellent scoring reliability across different methods, it is still uncertain whether the latent construct is genuinely an intelligence (Zeidner et al., 2004).

Myth #5 – Emotional intelligence relates to emotion as IQ relates to cognition (Zeidner et al., 2004). Zeidner et al., (2004) indicate that a performance-based test of emotional intelligence to rank order individuals on some continuum of emotional adaptiveness, two logically distinct steps in construct validation are necessary. First, the score must be linked to individual differences in processing and second; it must show that the processing characteristics of high emotional intelligence do confer some definite advantage in real-world emotional encounters (p.187). It is unclear that individual differences in self-regulation reduced to a single dimension of efficacy; however, investigating such self-regulative processes will be an educational and basing theory on an artificial separation between emotion and cognition is unlike to be productive (Zeidner et al., 2004).

Myth #6 – Emotional Intelligence predicts adaptive coping (Zeidner et al., 2004). Proponents of emotional intelligence claim that successful coping with stressful encounters are central to the construct, and the EQ-i relates to a self-reported preference for the use of task-focused rather than emotion-focused strategies (Zeidner et al., 2004). The problem with defining emotional intelligence regarding adaptation is that emotional, or interpersonal situations could be too broad and ill-defined to constitute a coherent adaptive challenge (Zeidner et al., 2004). Alternatively, the differences in the extent to which emotions support or obstruct the pursuit of personal goals can vary across the

different challenges of human life (Zeidner et al., 2004). Zeidner et al., (2004) suggest for future research to include research on the relationship between emotional intelligence and coping in general and between emotional intelligence and coping under various environmental conditions (p.189).

Myth #7 - Emotional intelligence is critical to real-world success (Zeidner et al., 2004). It is claimed, often with limited evidence, that emotional intelligence competencies are vital for the successful negotiation of demands, constraints, and opportunities necessary to succeed in such contexts (Zeidner et al., 2004). There is also a question as to whether emotional intelligence gives individuals the skills necessary to deal with problems that arise in applied settings such as the workplace; assist with well-being and avoid behavior problems. There is little research showing whether programs touted as emotional intelligence interventions are effective in enhancing the kinds of skills included in the current model of emotional intelligence (Zeidner et al., 2004).

Evolution and Theoretical Foundation of Leadership Theories

A sophisticated understanding of the past is one of the most influential tools we have for shaping the future (Seaman & Smith, 2012). Once leaders recognize this truth about how history shapes culture, the importance of learning lessons from the past becomes apparent. Great leaders were invaluable in the development of civilized societies, and attention focused on civilization and the emergence of leadership, with its ability to shape leaders and leaders who had the same ability to shape civilization (Landis, Hill & Harvey, 2014). Landis et al., (2014) found, in the early 1920s, the theorist expressed the idea that leaders should possess qualities that are evident to those around them, and this idea developed the conceptual framework for the trait theories of

leadership (p.98). In the 1940s, this theory was criticized and asserted that the person and the situation must be considered as well, which is when the situational theory was thought to affect leadership. A few years later the political theory emerged with the concept that the wealthy, military, state and church should rule and lead the masses. The political leader must compete for approval from the people and recognize the wants and needs of potential followers (Landis et al., 2014). Several theories of leadership emerged throughout history in the United States with many illustrated in the table below.

Table 6

Evolution of Leadership Theories

Evolution of Leadership Theories	
Trait Theory	Leaders should possess qualities that are evident to those around them
Situational Theory	Leaders must consider the situation
Personal-situational Theory	Leaders who understood demand attention paid to traits and motives of the leader as a man
Political Theory	The idea that the wealthy, military, state, and church should rule and lead the masses
Theory X	People directed will not produce unless coerced or made to produce in an organization
Theory Y	Assumption that followers will fulfill the needs of the organization because they are already motivated
Maturity-Immaturity Theory	The individual's nature being that of self-discipline and the organization providing the means where individuals can make a creative contribution
Maslow's Theory of Eupsychian Management	The importance of managers supporting their subordinates and contributing positively to their self-esteem
Leader-role Theory	The concept that situations and individuals combine or interact in such a way to bring about the emergence of leaders
Fiedler's Contingency Theory	The effectiveness of leaders who were task oriented and relations-oriented coordinated with the demands of the situation
Exchange Theory	Leaders receive status from the group in exchange for goal accomplishment
Behavioral Theory	Identified the need to replace the conception that leadership is due to influence or persuasion with analysis of the observable behavior of leaders that change the behavior of followers
Communication Theory	Based upon the use of rhetoric in small groups in regards to the emergence of a leader
Attribution Theory	The behavior of the leader must first be understood, along with their thought process to the situation, they are experiencing at the time

(Landis et al., 2014)

A quarter of a century ago, in the early 1980s, most of the business leaders were traditionalists – individuals used to close-knit communities, shaped by a post-WWII world and the growth in white-collar jobs (Deegan, 2009). Deegan (2009) explained that the leaders and managers had all the power and made all the decisions, and there was a concern with their upward mobility (p.45). Two of the more significant leadership theories are transactional leadership and transformational leadership. Transactional leadership focuses on the exchanges that occur between leaders and followers where these exchanges allow leaders to accomplish their performance objectives (McCleskey, 2014). These include completing required tasks, maintaining the current organizational situation, motivating followers through a contractual agreement, directing behavior of followers toward achievement of established goals, emphasizing extrinsic rewards, avoiding unnecessary risks, and focusing on improving organizational efficiency (McCleskey, 2014).

McCleskey (2014) explained that transactional leadership allows followers to fulfill their self-interest, minimize workplace anxiety, and concentrate on clear organizational objectives such as increased quality, customer service, reduced costs, and increased production (p.122). While the modern view of transactional leadership is outdated and ineffective, it can add value by establishing a foundation and structure for project teams and contributed to improved performance in virtual teams (Quisenberry & Burrell, 2012). Some of the problems with transactional leaders are their focus on the organization as opposed to the employees. Their focus is short term in getting the task completed in the most efficient, cost-effective way regardless of how it affected the

employees. This type of leadership disregards situational and contextual factors related to organizational challenges (McCleskey, 2014).

The transactional leader is one whom rewards (or disciplines) staff by their performance (Batool, 2013). They emphasize work standards, task completion, and employee compliance while relying heavily on organizational rewards and punishments to influence employee performance (Batool, 2013). Batool (2013) explained that researchers investigating the effects of transformational and transactional leadership have found that transformational leadership predicts higher ratings of effectiveness and satisfaction, higher group performance and higher amount of effort on the part of subordinates compared to transactional leadership (p.84).

Transformational leadership is another essential leadership theory that emerged over the past 30 years. The transformational leader is one who raises the followers' level of consciousness about the importance and value of desired outcomes and the methods of reaching those outcomes by transcending their self-interest for the sake of the organization (McCleskey, 2014). While elevating the followers' level of need on Maslow's hierarchy of lower-level concerns for safety and security to higher-level needs for achievement and self-actualization (McCleskey, 2014). Organizations that thrive on trust have transformational leaders, are flattened, are project-oriented, are diverse, are dispersed and are more open typically conducive environments (Quisenberry & Burrell, 2012).

The transformational leader exhibits each of these four components to varying degrees to bring about desired organization outcomes through their followers: idealized influence, inspirational motivation, intellectual stimulation and individualized

consideration (McCleskey, 2014). Idealized influence incorporates two separate aspects of the follower relationship: follower attributes the leader with certain qualities that followers wish to emulate, and the leaders impress followers through their behaviors (McCleskey, 2014). Inspirational motivation involves behavior to motivate and inspire followers by providing a shared meaning and a challenge (McCleskey, 2014). Intellectual stimulation allows leaders to increase their followers' efforts at innovation by questioning assumptions, reframing known problems, and applying new frameworks and perspectives to old and stable situations and challenges (McCleskey, 2014). Individualized consideration involves acting as a coach or mentor to assist followers in reaching their full potential and providing learning opportunities and a supportive climate (McCleskey, 2014).

Transformational leader stimulates interest among colleagues, inspires a different outlook on the work, generates an awareness of the goals of the organization, develops others to the higher level of ability and motivates others to consider the interests of the group over their interest (Batool, 2013). Transformational leadership refers to behaviors that define and sustain vision, elicit inspiration from followers, and stimulate change (Pearce, Sims, Jr. Cox, Ball, Schnell, Smith, & Trevino, 2003). Batool (2013) found through his research that leaders now need to manage and lead an empowered workforce and go beyond the consultative, cooperative and popular styles of today (p.87).

The research also found these new demands (Batool, 2013):

- Consultation and involvement but leaders still get criticized for not having and communicating a compelling vision and purpose

- Autonomy and freedom but leaders are still expected to take full responsibility when things go wrong
- Opportunities for growth, challenge, and glory but leaders must be on hand to coach and mentor us so that we develop our potential
- Inclusion and team Spirit but we still want our leaders to give us individual recognition and acknowledgment (p.88)

Studies have demonstrated that leaders who consistently outperform their peers not only have the technical skills required but, more importantly, have mastered most of the aspects of emotional intelligence (Batool, 2013). Goleman (1998) states that the five components of emotional intelligence at work are: self-awareness, self-regulation (or management), motivation, empathy (social awareness), and social skills (relationship management).

Batool (2013) has addressed each of the five components of Goleman's model for the workplace:

1. Self-Awareness – self-aware, always know how emotions and actions, can affect people; thus, being self-aware in a leadership position means having a clear picture of strengths and weaknesses including having humility (Batool, 2013).

How to improve self-awareness –

- Keep a journal –take a few minutes each day writing down thoughts, this can move to a higher degree of self-assessment (Batool, 2013)
- Slow Down – when anger or other strong emotions occur, slow down to examine why. Remember, no matter what the situation, always choose how to react to it

2. Self-Regulation - leaders who regulate themselves effectively rarely verbally attack others, make rushed or emotional decisions, stereotype people or compromise their values, and it is all about staying in control (Batool, 2013). According to Goleman (1998), this element of emotional intelligence also covers leaders' flexibility and commitment to personal accountability.

How to Improve Self-Regulate –

- Values – address these questions: "Is there a clear idea of what will not be compromised? What values are most important?" (Batool, 2013).
- Hold Yourself Accountable –
  - Is there a tendency to pass blame to others when something goes wrong, stop, and make a commitment to admit mistakes and face the consequences, whatever they are (Batool, 2013)
- Practice being Calm –
  - The next time there is a challenging situation, be acutely aware of how to act and practice deep breathing exercises to remain calm (Batool, 2013)

3. Motivation – self-motivated leaders consistently work toward their goals and have incredibly high standards for the quality of their work (Batool, 2013)

How to Self-Motivation

- Re-examine –try the Five Why's technique to find the root of the problem (Batool, 2013, p. 89)
- Know the motivation to lead (Batool, 2013)

- Be hopeful and find something Good – motivated leaders are usually optimistic, no matter what they face and adopting this mindset might take practice, but it is well worth the effort (Batool, 2013)

4. Empathy – for leaders having empathy is critical to managing a successful team or organization by being able to put themselves in someone else's situation (Batool, 2013). They help develop the people on their team, challenge others, give constructive feedback, and listen to those who need it (Batool, 2013).

How to Improve Empathy

- Being in someone else's position – it is easy to support a point of view, but it is essential to look at the situation from someone else's perspective (Batool, 2013)
- Pay attention to body language – learning to read body language can be a real asset when in a leadership role because it would be better able to determine how someone honestly feels and this gives the opportunity to respond appropriately (Batool, 2013)
- Respond to feelings – listen to how people respond to requests and address the feelings if needed by saying the feeling is mutual, and an alternate solution will be researched (Batool, 2013)

5. Social skills – leaders with excellent social skills are excellent communicators and are just as open to hearing bad news as good news (Batool, 2013). These leaders are experts at getting their team to support them, and they are good at managing change and resolving conflicts diplomatically (Batool, 2013).

How to improve Social skills

- Learn conflict resolution – leaders must know how to resolve conflicts between their team members, customers or vendors; this is vital to their success (Batool, 2013)
- Improve communication skills – a leader must have the ability to communicate well with others, and for the communication, it is necessary to have the best listening skills (Batool, 2013)
- Learn how to praise others – a leader can inspire the loyalty of their team by merely giving praise when it is earned and how to praise others effectively is a fine art, but well worth the effort (Batool, 2013)

Emotional Intelligence and Leadership

The concept of "emotional intelligence" was first used in the classical academic formula, in a doctoral thesis in the U.S., in 1985, by Wayne Leon Payne, Ph.D. at the Union Institute in Cincinnati (Hahn et al., 2012). The dissertation did not change the world as we know it, but it introduced a new concept that was later published for the first time by John D. Mayer and Peter Salovey in 1993 as a way to appreciate the qualities of people (Hahn et al., 2012). Emotional intelligence is one of the useful tools which helps a leader to judge people more clearly and carefully and build a connection between people (Batool, 2013). Batool (2013) explains that emotional intelligence develops a sense of sensitivity, balance feeling and a healthy mix of cognitive capacity (logical, conceptual and creative thinking), people skills (interpersonal skills, influence skills, and communication skills) (p.92). Deficiencies in emotional intelligence are associated with an impaired capacity to perceive emotions in oneself and others as well as difficulty in

regulating one's emotions that may lead to engagement in maladaptive behaviors when coping with distressing emotional situations (Monselise, Bar-On, Chan, Leibushor, McElwee, & Shapiro, 2013).

The most significant resource in business is leadership, and every leader is above all, a human being and so are their subordinates (Hahn et al., 2012). The ability of a leader to manage emotions in his processes and actions with people significantly affects the performance of an organization (Hahn et al., 2012). Hahn et al., (2012) proclaim that an essential component of leadership is where emotional intelligence is an attitude and a way of life (p. 745).

Good leaders always have high levels of emotional intelligence and their behavior, almost certainly, will include many of the following characteristics:

- Complies with high ethical standards
- Have strong sense of integrity
- Always learning, immediately recognize if they do not know or understand something
- Have a protective attitude
- Have a presence that stands out
- Have a decision-making capacity
- Are confident, exceedingly aware of their qualities and defects
- Know when it is time to lead and when to comply (Hahn et al., 2012)

Leadership concerns the interaction of leaders with other individuals, and once the involvement of social interactions occurs, emotional awareness and emotional regulation

become essential factors affecting the quality of the interactions (Wong, & Law, 2002). Emotional intelligence enables the individual to nurture positive relationships at work, to work efficiently in teams, to build social capital, to regulate their emotions to efficiently cope with stress, perform well under pressure and adjust to organizational change (Gunavathy & Ayswarya, 2011).

Success requires much more than IQ (the coefficient of ordinary intelligence) and being able to think both analytically as well as in an abstract way while solving problems based on applying previous knowledge (Iuscu, Neagu & Neagu, 2012). With the development of emotional intelligence, it assists leaders to capitalize on their mental attitudes and ensures success on the personal, professional level (Iuscu et al., 2012). It was found by Iuscu et al., (2012) that a percentage ranging between 75% and 96% from a leader's success occurs based on his/her emotional intelligence (p. 216).

The areas of emotional intelligence and leadership competencies as seen by Goleman (2005) are:

Personal Competence reflects the way we deal with ourselves.

Self-awareness

- Emotional self-awareness
- Fair self-evaluation
- Self-confidence

Self-control

- Emotional self-control
- Transparency

- Adaptability

Social Competence reflects the way we manage our relations.

Social awareness

- Empathy
- Organizational awareness
- Kindness

Relationships management

- Inspired leadership
- Influence
- Training others
- Sparking off change
- Conflict management
- Team spirit and collaboration

Iuscu et al., (2012) purpose the elements of emotional intelligence are: awareness of personal emotions; emotion management; guiding emotions toward reaching a goal; empathy and adeptness at inducing positive interpersonal relations (p.216-217).

Emotional Intelligence and Leadership with Information Technology Management

Information technology professionals with higher perceived emotional intelligence are likely to adapt better styles of conflict resolution to deal efficiently with the situations (Godse & Thingujam, 2010). The introduction of the concept of emotional intelligence was at an information technology software company. The explanation included how emotional intelligence can be measured and used to improve personal

success that improves the team dynamics and project success (Darnell, 2015). Emotional intelligence ultimately will contribute to increased innovation, better problem solving, enhanced productivity, high performing teams and information technology project success (Darnell, 2015). Darnell (2015) explains that by interweaving personal and professional goals and sharing them, the emotional intelligence development process breaks down barriers and creates emotional threads with the team (p.10).

Many technology executives want to hire entry-level information technology employees who have current technical skills, communicate well, think critically and creatively and can work in a multicultural world (Zhao & Zhao, 2010). Zhao & Zhao (2010) found through their research with information technology executives and educators that the U.S. is not producing information technology experts in quantity and quality that it needs to remain the leader in the global information technology market (p.44). Even with the colleges and universities requiring the information technology students to take emotional intelligence-based courses such as business communication and organizational management type classes, the students will be unable to make an impact without the concept of emotional intelligence integrated into the workplace. There is a necessity to have emotional intelligence integrated throughout the companies that have information technology leaders and executives (Zhao & Zhao, 2010).

Working with technology benefits from one's intelligence (IQ), but working with people requires a deeper connection to perception, self-awareness, body language and emotions, all parts of emotional intelligence (EQ) (Dehmlow, 2014). Dehmlow (2014) purposes that technology is relatively opaque to people outside of technology areas and technology is driving so much of the rapid change experienced in most companies (p.4).

information technology units in traditional organizations have a significant challenge because many do not understand the root issues in technology and change is uncomfortable for most, so it is easy to dislike technology for being such an active catalyst for change (Dehmlow, 2014).

The first place for the information technology professional who is interested in developing their emotional intelligence is to increase their self-awareness and how they approach their work and how their work style may affect their subordinates and peers. Some of the tests that would assist in finding out about their personality and work-style traits would be Meyers-Briggs Type Indicator, the Strategic Leadership Type Indicator and the DISC questionnaire (Dehmlow, 2014). Self-awareness and flexible approaches not only have the opportunity to improve internal relationships between technology and traditional functional areas but between techies and end users (Dehmlow, 2014). Consciously growing and developing relationships is very useful in growing a business because of cultivating trust and collaboration makes a considerable difference in the culture of an organization.

Crawley and Senness (2011) have identified areas where Information technology professionals have opportunities to demonstrate the benefits of having an increased level of emotional intelligence:

> (1) How people feel matters – excellent customer service is about the end user's experience, and when they feel right about technology and the support they receive, they are more likely to take full advantage of the technology (Crawley & Senness, 2011).

(2) Communicating between the generations is a particular problem – experienced, knowledgeable people must work with younger generations, and young people have to deal with older less tech-savvy people; everyone must be respectful, not condescending and professional (Crawley & Senness, 2011).

(3) Emotional maturity and intelligence are crucial – when dealing with angry people, respond efficiently to the emotional needs of the customers; if it is a subordinate dealing with a demanding customer – ask them how they are doing and be supportive (Crawley & Senness, 2011).

(4) Learn what the end-users want and address the needs actively – when internal or external customers contact the information technology department they want dependable, reliable, friendly and timely service (Crawley & Senness, 2011).

(5) Listening, problem-solving, gaining agreement, apologizing and fixing with style are vital – every interaction must be positive; demonstrate care and are ready to be creative to succeed and achieve a satisfactory outcome without exception (Crawley & Senness, 2011).

Emotional intelligence is responsible for 58 percent of performance in all types of jobs and is the single most significant driver of leadership and personal excellence (Bradberry, 2012). Bradberry (2012) explains that emotions are the root of all human behavior, and motivation is behind every action so as you master emotional intelligence; you master the ability to understand and control the motivations for your behavior (p.22). Managing emotions involve changing the feeling states themselves, as when a sad person controls her attention to keep her sadness within manageable boundaries or decides to cheer herself up (Mayer, Salovey, & Caruso, 2012). It is through managing emotions that

an individual can learn to identify the emotions they are feeling at that moment, and then through coping mechanisms that are learned, can consciously decide how to handle those emotions. This type of activity can also be with others and be able to identify the emotions another person is having and being able to assist them to find coping mechanisms to handle their emotions.

Managing emotions for negative or sad emotions is not the only use of emotional intelligence; it is also for happy and excited emotions as well. For example, if something beautiful happens and the individual is not at a time or place where it would be appropriate to share, they would have to use some coping mechanism to temper their happiness at the right time or place presented itself. There are times when even happy things are not supposed to share with others. Having a higher level of emotional intelligence has many benefits including: better social outcomes for children and adults; people's lowered social deviance; greater likability as evaluated by observers; better family and intimate relationships; higher student performance; better social relations at work and in negotiations; and overall psychological well-being (Mayer, Caruso, Panter & Salovey, 2012).

There are many aspects of being an Information Technology manager that requires a high level of emotional intelligence. Kaluzniacky (2004) found through studying the components of emotional intelligence there are several elements common among Information technology professionals:

(1) that deep within each human person there exists a dynamic vivifying, motivating and purely positive reality, which can have an immensely

empowering impact on the daily functioning of our intellect, our emotions, and even our bodies;

(2) most people are significantly unaware that they possess such inner potential;

(3) this deep inner core is now being recognized and actively promoted in various personal development programs by people who have undergone a radical transformation in their consciousness, capacity and personal fulfillment;

(4) it is proposed here that awareness of an inner connectedness to the deep inner core energy can provide a quantum leap: in an Information Technology professional's capacity to handle rapid and continuing change, uncertainty, conflicting demands, time pressures, and other recurring stresses; and

(5) such psychological integration can also enable harmonious work relations and significantly enhance creativity and motivation.

Coupling the above information with the components of Goleman's (1998) emotional intelligence model that includes self-awareness, self-regulation, motivation, empathy, and social skill for an information technology professional will address how each component is crucial to their overall success.

Self-Awareness

Self-awareness means having a deep understanding of one's emotions, strengths, weaknesses, needs, and drives which allow the individual to be honest with themselves and with others (Malos, 2011). A person with high self-awareness will be able to work with a demanding client and will understand the client's impact on her moods and the more in-depth reason for her frustration (Malos, 2011). An information technology professional would benefit from a high self-awareness by being able to recognize how

their feelings affect them, other people and their job performance (Malos, 2011). For them to be aware of and understand their feelings by tuning into how they are feeling during an interaction with another person plays a central role in how they sense what the other person is feeling (Goleman, 2011).

Self-Regulation

Biological impulses drive our emotions, and we cannot do away with them, but we can do much to manage them (Malos, 2011). People who are in control of their feelings and impulses can create an environment of trust and fairness (Malos, 2011). Individuals who have mastered their emotions can roll with the changes (Malos, 2011), which would be a huge benefit for an information technology professional since there always seems to be some technological change within companies frequently. For the information technology professional, it would illustrate a person with an active self-regulation of emotions. With the announcement of the change, they do not panic. Instead, they can suspend judgment, seek out information, listen to executives explain the new program and as the initiative moves forward, they can proceed with it (Malos, 2011). Because of the biological factor driving emotions, it is unclear precisely what emotions will be felt or when they will be felt, but it is a choice on how to react or control the emotions once they are felt (Goleman, 2011). With all of the requests and demands on an information technology professional it would be a great benefit for themselves and others if they had an active self-regulation to avoid saying things or feelings being shared that could cause more harm than not. Here are five top triggers that people interacting with information technology professionals may feel: (1) condescension and lack of respect; (2)

unfair treatment; (3) being unappreciated; (4) feeling that you are not being listened to or heard; and (5) being held to unrealistic deadlines (Goleman, 2011).

Motivation

People with high motivation are self- driven to achieve rather than by external rewards offered (Malos, 2011). The first sign is a passion for the work itself; such people seek out creative challenges, love to learn and take pride in a job well done (Malos, 2011). The plusses of being in a positive mood and being motivated are more creative, better at problem-solving and more efficient in decision making (Goleman, 2011). All of these definitions would be a benefit for the information technology professional since being motivated and self-driven to do a successful job is essential and critical to the profitability of the company.

Empathy

For leaders, it means thoughtfully considering employees' feelings in the process of making intelligent decisions (Malos, 2011). Empathy is particularly important today as a component of leadership for at least three reasons: the increasing use of teams; the rapid pace of globalization; and the growing need to retain talent (Malos, 2011). Included in the empathy component are coaching and mentoring that not only assists with job performance but also increasing job satisfaction and decreasing turnover. Based on a set of neuroscience studies conducted by Professor Jean Decety and his colleagues at the University of Chicago and Professor Don Batson at the University of Kansas, they have shown that we can empathize in two ways (Boyatzis, 2012). One way is to reflect on how we would feel about the other person's situation or how their situation makes us feel. The second is being open to how the other person feels, with substantially less self-

referral in the process (Boyatzis, 2012). The second way is more about the other person and not so much about us and how we feel. It is more of what a leader needs to empathize with others. People are encouraged and inspired when they feel that their leader genuinely cares about them and does not have an agenda to understanding their emotions. Empathy encapsulates the expertise to build and retain talent, exhibit cross-cultural sensitivity and an inherent desire to extend quality service to clients and customers (Sahoo & Mohanty, 2010). These customers may be internal by being the employees or peers within the organization. For an information technology professional to show more empathy towards their internal customers, it would be more potent in defusing certain situations and being more productive in getting the issues resolved.

Social Skill

Social skills mean how to shape the feelings of others through the interaction for better or for worse (Goleman, 2011). Social skill is friendliness with a purpose: moving people in the direction desired and people tend to be very successful at managing relationships when they can understand and control their emotions and can empathize with the feelings of others (Malos, 2011). People pay most attention to what the leader the most influential person in that group, say or does; if the leader is in a positive mood, that spreads an upbeat mood to others, and that collective positivity enhances group performance; and a leader's negative mood hurts group performance (Goleman, 2011). information technology professionals would benefit from having increased social skills to enhance any interaction with positive energy increasing the overall group productivity.

Researchers have conducted studies to show the correlation between emotional intelligence and effective leadership. Listed below in chronological order are several

studies that are similar to this study. Bradberry and Su (2006) conducted a study to analyze the leader emotional intelligence scores against the leaders' job performance. There were 212 leaders, working in three different industries: Homebuilder, Telecommunication Company, and an Irrigation System Manufacturer, who participated in the study. The data was collected using the Emotional Intelligence Appraisal, a skill-based assessment and the MSCEIT, an ability-based assessment of emotional intelligence. The data was analyzed using both standardized regression weights and hierarchical multiple regression analysis. The results indicate that three out of the four skills in Goleman's (2002) taxonomy offers did have an impact on the leader's job performance. Those three skills were awareness of emotional state, management of emotions and management of interactions with others. Social awareness was the single emotional intelligence skill that did not have a significant link to leader job performance (Bradberry & Su, 2006). The illustration below indicates the most critical skill identified in the study was Relationship Management.

The next study reviewed Osman Yildrim conducted a relationship between emotional intelligence and leadership in 2007. The study took place at 12 firms from four different sectors in which the firms would benefit from Information Technology and sales activities. The various sectors were banking, insurance, telecommunications, and pharmaceuticals. There were approximately 111 participants of which 61 were salespeople, and 50 were information technology professionals. The purpose of this study was to investigate emotional intelligence based on competencies for sales and information technology professionals. The Emotional Competency Inventory (ECI,2.0) was used for assessing the participants' emotional competencies (Yildirim, 2007). The

tool is an emotional intelligence assessment that is 360 degrees, so each group's peers, supervisors, and subordinates were all asked to take the assessment. The results showed information technology professionals and Sales professionals are significantly different from each other for all the main dimensions of ECI except for self-management (Yildirim, 2007). The results indicated that the Sales employees were more self-confident than the information technology employees, but the information technology employees were more trustworthy than the Sales employees.

In 2010, Jensen Zhao, and Sherry Zhao conducted a study to examine how the implementation of the 3Qs integration model impacts student productivity in designing and developing Web applications for e-business. This study hypothesized that the continuous applications of the Intelligence Quotient (IQ) and Emotional Quotient (EQ) and Creativity Quotient (CQ) integration would synergistically transform students into well-rounded Information technology professionals (Zhao & Zhao, 2010). These students would have current technical skills, communicate well, think critically and creatively and can work in a multicultural world (Zhao & Zhao, 2010). This study used a model that integrated the 3Qs primarily for designing and delivering integrated information technology courses. The courses that it was initially designed to include were software engineering, Web design and development, systems analysis and design, database design and management, and information systems management (Zhao & Zhao, 2010). The location of the participants was in a Midwestern State University with approximately 20,000 students. There were approximately 60 students who were earning their Master's degree in information technology. The 60 students were broken down into two groups; 30 students in the experimental group and 29 students in the control group.

The data were collected during three hands-on projects assigned during the semester and their PSP logs of the project (Zhao & Zhao, 2010). Two elements were assessed; one was for time efficiency and the other was error occurrence. The results indicated that the implementation of the 3Qs integration has a positive effect but not significant on students' time efficiency at the initial stage of the Web development process (Zhao & Zhao, 2010). There was a significant difference with the experimental group having significantly fewer errors with the 3Qs integration (Zhao & Zhao, 2010).

The study was in 2011 conducted by Dr. K. Ravichandran, Dr. R. Arasu, and S. Arun Kumar at an Information Technology Services Company in Chennai City, India. They used an ability model with approximately 119 Information technology professionals. To measure emotional intelligence a 33-item Schutte Self-Report Inventory (SSRI) assessment developed by Schutte and colleagues (Ravichandran et al., 2011). The study was designed to measure the three components of engagement: vigor, absorption, and dedication (Ravichandran et al., 2011). 'The results of the study indicated there was a definite weaker relationship between Overall Emotional Intelligence and Overall Work Engagement. There is a significant association between an employee's work experience, and how the employee motivates themselves by imagining an excellent outcome to tasks they take on. There is a significant difference between an employee's work experience groups with that of how an employee motivates themselves by imagining an excellent outcome to tasks they take on" (Ravichandran et al., 2011, p.161). Emotional intelligence behavior along will not influence work engagement behavior; managers need to identify those variables that influence work engagement behavior apart from the existing emotional intelligence construct variables used for this

study. The study concludes that employees motivate themselves by imagining a positive outcome to the task that they take on; when their work experience of their job increases, managers play a crucial role in enhancing the emotional intelligence behavior (Ravichandran et al., 2011).

This study used questionnaires to gather the data from 800 questionnaires distributed to members of 160 teams within a total of 42 large information technology firms that utilize virtual teams in two famous science parks in Taipei, Taiwan, and Hsinchu, Taiwan. Yehuda Baruch and Chieh-Peng Lin conducted the study. The question posed in this study is concerned with whether cooperation and competition represent a trade-off for team outcomes such as team performance and team knowledge sharing (Baruch & Lin, 2012). The results indicated that knowledge sharing is affected negatively by competition and positively by cooperation while knowledge sharing is neither related to team emotional intelligence nor team competence (Baruch & Lin, 2012). The diagram below indicated the results of the research model.

The next to last study included with this research was conducted by Makrina Viola Kosti, Robert Feldt, and Lefteris Angelis in 2014 at a Swedish University with approximately 279 students. These students were the first-year students in the two-year long Master of Science program in software engineering at the Chalmers University of Technology and Gothenburg University in Gothenburg, Sweden. Personality data collected was based on the Five-Factor Model, Trait Emotional Intelligence Questionnaire, and Self-compassion. The students answered the set of web-based surveys, administered over three different years (2010-2012) to find links and associations between the different attributes and factors of the responses (Kosti et al.,

2014). The results indicated that people with higher emotional intelligence prefer taking responsibility for the entire software engineering development process and prefer to prioritize their tasks themselves rather than having a manager (Kosti et al., 2014). Emotional intelligence was found to be related to (a) project responsibility preferences, (b) project size preference and (c) task prioritization preference (Kosti et al., 2014). These results are most likely due to the students with higher emotional intelligence were more aware of the personal feelings and were confident to voice their opinion on what they felt was the best situation for them.

The final study discussed was by Mohamad Noorman Masrek, Mohd Akmal Faiz Osman, Zaharuddin Ibrahim and Ahmad Mazri Mansor at the Malaysian Administration Modernisation and Management Planning Unit (MAMPU) conducted in 2015. In this study, 115 Information technology professionals were the participants. Masrek et al., (2015) conducted this study to measure the level of emotional intelligence of the Information technology professionals and to identify whether emotional intelligence has a relationship with organizational commitment. A questionnaire that was developed based on the instruments used by previous researchers was used to collect the data from the information technology professionals (Masrek et al., 2015). The results indicate that two factors of emotional intelligence were significant: social awareness and relationship management. These have a consequential effect on organizational commitment, and self-awareness and self-management are found not to have any influence on organization commitment (Masrek et al., 2015). Masrek et al. (2015) believe there is a possibility these results could explain by considering self-awareness and self-management are personal skills of oneself, which do not have to directly and profoundly associate with

others. In contrast, social awareness and relationship management are skills that require individuals to deal and interact with others (Masrek et al., 2015).

Summary of Literature Review

Emotional intelligence is one of the useful tools which helps a leader to judge people more clearly and carefully and build a connection between people (Batool, 2013). Moreover, it develops a sense of sensitivity, balance feeling and a healthy mix of cognitive capacity (logical, conceptual and creative thinking), people skills (Interpersonal skills, influence skills, and communication skills) (Batool, 2013). Having a higher level of emotional intelligence would seem to benefit the information technology professional based on the research for this study's literature review. With the information technology professional having a higher level of emotional intelligence, they would be more aware and understand their emotions and be able to handle and control those emotions. By understanding and controlling their emotions, they would be able to recognize and manage the emotions of their subordinates, peers, and customers. Controlling emotions would create more opportunities to increase job satisfaction and productivity within organizations (Gunavathy & Ayswarya, 2011).

The scope of the literature review included the many aspects of emotional intelligence and the benefits it offers to information technology professionals as well as other leaders throughout all industries. The first section of the literature included research regarding the evolution of emotional intelligence and its theoretical foundation by Bar-On, (2006); Cicciola, Foschi, and Lombardo, (2013); Landy (2005); Salovey and Mayer (1990); Bar-On (1988); Salovey and Mayer (1989); LaMothe (2010); Goleman (2011); Sadri (2012); and Lee, Park and Lee (2013). The second section covered the

understanding emotions and intelligence as separate concepts. The third section includes the different emotional intelligence models: Goleman's Emotional Competency Inventory (ECI), Bar-On's Emotional Quotient Inventory (EQ-i), and the Mayer, Salovey, Caruso Emotional Intelligence Test (MSCEIT) (Mishar & Bangun, 2014). The myths about emotional intelligence benefits comprise the fourth section. Each one of the myths was addressed with research. The fifth section explained the evolution and theoretical foundation of leadership theories that included research by Seaman and Smith (2012), Landis et al., (2014), Deegan (2009), McCleskey (2014) and Batool (2013). The sixth section talked about the relationship between emotional intelligence and leadership. The next section explained the research regarding emotional intelligence and leadership with information technology management. The final section illustrates several studies conducted involving emotional intelligence with either information technology professionals, information technology students or other leaders within different organizations. Chapter 3 will include the proposed plan for the design, research, and data collection of the relationship between emotional intelligence and Information technology professionals along with the methods for analyzing the data and a discussion of the results.

Chapter 3: Research Method

Introduction

The purpose of this quantitative study was to provide more knowledge and understanding regarding information technology professionals' levels of emotional intelligence related to their effectiveness with their employees. The global market creates a complex technological environment that places many demands on information technology professionals. Information technology managers are accountable for both enhancing and improving the tactical knowledge of their employees as well as providing an environment of support and guidance to assist with increased job satisfaction (Malos, 2011). Increasing job satisfaction and employee engagement by increasing the level of emotional intelligence will indirectly increase the productivity of employees (Batool, 2013).

Chapter 3 explains the methodology used to gather data for this quantitative study. This chapter includes a full description of the data collection components such as the setting, the questionnaires used, and the reliability and validity of the questionnaires. This chapter also includes information regarding the tools used to conduct the statistical analysis of the data collected during the study.

Setting

This study was conducted in the eastern region of the United States, primarily in Delaware, Maryland, New Jersey, Pennsylvania, and New Jersey. Information technology professionals were identified through their participation in social media platforms including LinkedIn, Facebook, and Twitter. Several LinkedIn groups that

include information technology professionals are closed groups and a prospective group member must be reviewed before being allowed to join the group.

Research Design

This study used three electronic assessment tools to collect data for this study: a demographic questionnaire (Appendix B), the EQ-i 2.0 questionnaire (Appendix C), and the MLQ 5X questionnaire (Appendix D). Electronic assessment tools are beneficial to studies due to the low cost, the anonymity of participates, and the ability to manage a large sample size (Scomavacca, Becker, & Barnes, 2004). Once permission was received from the Walden University Institutional Review Board (IRB) with approval #03-21-17-0138107, a mass email was sent to the different information technology professionals who participate in social media. The email included an introduction, the invitation to take part in this study and a hyperlink to the website that included the three questionnaires to complete.

Population and Sampling Procedure

Population

A population is a target group, usually large, about whom we want to develop knowledge, but which we cannot study directly, therefore, we sample the populations (Punch, 2013). According to Singleton and Straits (2005), the researcher must specify the criteria for determining which cases will be included in the research. The target population for which the researcher would like to generalize his or her results (Singleton & Straits, 2005). A key statistical principle is that the researcher defines the sample size initiating a study to avoid bias (Kadam & Bhalerao, 2010).

Constructing the sampling frame is the second step in defining the sample. The sampling frame denotes the set of all cases from which the sample is selected (Singleton & Straits, 2005, p. 116). To avoid confusion with sampling, Singleton, and Strait (2005) explained that the sampling frame is not a sample; instead, it is the operational definition of the population that provides the basis for sampling (pg. 116). The target population for this study was information technology professionals who participate in social media and who primarily live in the Mid-Atlantic region of the United States. The results of the study are generalizable to the entire population of information technology professionals in the United States.

Sampling Procedure

This study used the convenience sampling procedure. Convenience sampling allows participants to be identified based on convenience and availability (Doolittle, 2007). A random sample is preferred to best ensure generalizability of findings, (Doolittle, 2007), but a convenience sampling is sufficient for quantitiative research. There are four elements to consider when selecting the adequate sample size: population size, the margin of error, confidence level and standard deviation (Smith, 2013). The population size is the total number of people meeting the criteria for participation in the research study. The margin of error also referred to as the confidence level determines how much higher or lower than the population means are acceptable to let your sample mean fall (Smith, 2013). Typically, the margin of error is +/- 5%. The most common confidence intervals are 90% confident, 95% confident, and 99% confident (Smith, 2013). The standard of deviation indicates the amount of variance that is expected with the responses from the survey. The safe decision is to use a standard deviation of .5 –

this is the most forgiving and ensures that the sample size will be large enough (Smith, 2013). The confidence level corresponds to a z-score, which is a constant value needed for the equation below (Smith, 2013).

With an estimated population of information technology professionals in the selected social media groups amounting to 10,000, a sample size was calculated using the necessary sample size formula (Smith, 2013):

$$\frac{Z^2 * (p) * (1-p)}{c^2}$$

Necessary Sample Size = (z-score) ^{2} * StdDev*(1-StdDev) / (margin of error)^2 where z is the z-score (e.g., 1.96 for 95% confidence level), p is the percentage picking a choice, expressed as decimal (0.5 used for the sample size needed), and c is the confidence interval, expressed as decimal (e.g., 0.04 = ±4). Here are the z-scores for the most common confidence levels:

- 90% - z-Score = 1.645
- 95% - z-Score = 1.96
- 99% - z-Score = 2.326

Using a 95% confidence level with .5 standard deviation, and a margin of error (confidence interval) of +/- 5% would result in the following sample sizes (Smith, 2013):

- $((1.96)^2 \times .5(.5)) / (.05)^2 = 384.16$ or 385 respondents are needed

Changing the confidence level to 90% with a .5 standard deviation, and a margin of error (confidence interval) of +/- 5% would results in the following sample size (Smith, 2013):

- $((1.645)^2 \times .5(.5)) / (.05)^2 = 270.60$ or 271 respondents are needed

When sampling from the same population using a fixed sample size, the higher the confidence level, the wider the interval, and a wider interval has more of a pre-sampling chance of capturing the unknown population parameter (Aczel & Sounderpandian, 2006).

Methodology

This study is a combination of descriptive, and explanatory quantitative research methods using electronic survey as tools to collect data from participants. Descriptive quantitative research shows if relationships exist between multiple variables (Singleton & Straits, 2005). Explanatory quantitative research shows the actual relationship between variables and the cause and effect nature or the degree of correlation in their relationships (Singleton & Straits, 2005). Survey research provides a quantitative description of trends, attitudes, and opinions of a population based on data from a sample of the population (van Biljon, 2014). The study aimed to achieve generalizable results that would be valid beyond the situation in which they were measured (Flick, 2015). Singleton and Straits (2005), outlined survey research as having three primary elements. The first is a large number of respondents chosen through probability sampling procedures to represent the population of interest (Singleton & Straits, 2005). The second element is a systematic questionnaire or interview procedures to ask prescribed questions of respondents and record their answers (Singleton & Straits, 2005). The third element is a digital coding and analysis of the collected data to arrive at answers to the research question or questions (Singleton & Straits, 2005).

The online survey methodology offers greater control over the data-collection setting compared with executing a mailed survey and it lowers many of the costs associated with collecting data on human behavior (Sites, n.d.). One of the challenges researchers face when using online surveys is the loss of control over the context of data procured when subjects participate online (Sites, n.d.). Another challenge is ensuring informed consent, explaining instructions and conducting effective debriefings (Sites, n.d.). There was extra attention paid to these challenges during this study.

Ethical Protection of Participants

This research study involved having information technology professionals who participated in social media complete online surveys with the Walden University IRB approval of the research. Participants were aware of the use of the data collected from this study and they reviewed a consent form acknowledging this information. The consent form stated the data collected from the participants would be kept confidential. The data were transmitted on a secure encrypted communication channel that was on a secured server. The secure website kept the data received from the survey to analyze and contribute to the study.

Data Collection and Instrumentation

This study consisted of using three data collection instruments to collect the necessary data to answer the research questions. The three data collection instruments are the demographic questionnaire; the EQ-i 2.0 questionnaire and the MLQ5X questionnaire. Below is a description of each of the instruments. The demographic questionnaire will start the study by asking a series of questions regarding sex, race, age, level of education, the number of years in the Information Technology field, total years

of working experience, a sector of employment, current position and if they managed employees and if so, how many employees.

Multifactor Leadership Questionnaire (MLQ5X)

The development of the Multifactor Leadership Questionnaire (MLQ) began with Burns in 1978 describing transforming leadership (Avolio, Bass & Jung, 1999). At that time, 78 executives were asked to describe a leader who had influenced what was important to them in their roles as leaders, and how they thought the best leaders were able to get others to go beyond their self-interests for the best of the team (Avolio et al., 1999).

This study included the MLQ5X short self-assessment completed by the participants of the study in the form of a questionnaire completed along with the EQ-i 2.0 questionnaire and the demographic survey. The MLQ5X instrument identifies the leader as being in one of the three leadership models: transformational, transactional or laissez-faire.

Validity

The MLQ5X has been studied and used extensively both in research and business applications throughout multiple countries. The results showed that the MLQ5X is a strong predictor of leader performance across a broad range of organizations at different organizational levels and in different cultures (Bennett, 2009). Bennett (2009) noted that there were many updates to the original MLQ, which increases the validity of the questionnaire.

Reliability

Bennett (2009) stated the extensive research and use of the MLQ5X indicated the internal reliability was excellent as the Mean Cronbach scale obtained for the five scales tested were:

Table 7

MLQ5X Internal Reliability Factors

Internal reliability factors			
	Mean Cronbach	Mean Raw Correlation	Mean Corrected Correlation
Charisma	0.92	0.623	0.713
Individualized Consideration	0.88	0.528	0.615
Intellectual Stimulation	0.86	0.512	0.602
Contingent Reward	0.82	0.338	0.408
Management-by-Exception	0.65	0.04	0.054

Bennett (2009)

There have been multiple studies completed since Avolio et al., (1999) researching the reliability and validity of the MLQ5X. The results continue to be consistent, and the overall results of the meta-studies still provide strong support for the MLQ tool (Bennett, 2009). Researchers had shown the MLQ was equally effective when supervisors, colleagues, peers, or direct reports rated the leader (Bass & Avolio,1999).

Scorability and Cost

The MLQ-5X contains 45 items: 36 items deal with the nine leadership factors, and nine items deal with leadership outcomes such as extra effort, effectiveness, and satisfaction (Bennett, 2009). The questionnaire takes approximately 15 minutes to complete (Bennett, 2009). The participants were asked to rate themselves on a scale from

1 to 5 where (1) not at all and (5) frequently, if not always (Bennett, 2009). The cost is approximate at $.70 per participant of the study (Bennett, 2009).

Emotional Quotient Inventory 2.0 (EQ-i 2.0)

The third data collection instrument will be the EQ-i 2.0 questionnaire which was revised in 2011 from the original EQ-i questionnaire (Multi-Health Inc). The EQ-i 2.0 takes approximately 30 minutes to complete. The EQ-i 2.0 is a 133-item scale that uses a 5-point response scale ranging from 1 (never/rarely) to 5 (always/almost always) (Hall, Murphy Enright, White & Allen, 2015).

It renders total EQ scores on the following five composite scales that comprise 15 subscale scores:

- Self-Perception (comprising Self-Regard, Self-Actualization and Emotional Self-Awareness)
- Self-Expression (comprising Emotional Expression, Assertiveness, Independence)
- Interpersonal Skills (comprising Interpersonal Relationships, Empathy, and Social Responsibility)
- Decision-Making (comprising Problem Solving, Reality Testing, and Impulse Control); and
- Stress Management (comprising Flexibility, Stress Tolerance, and Optimism) (Gadeken, 2016).

Average to above average EQ scores suggest that the Respondent is effective in emotional and social functioning and the more positive the prediction for effective functioning in meeting daily demands and challenges (Bar-On, 2006). The lower EQ

scores suggest an inability to be effective and the possible existence of emotional, social and behavioral problems (Bar-On, 2006). According to Dr. Travis Bradbury of TalentSmart, 90 percent of the top performers studied also had high emotional intelligence, and only 20 percent of the bottom performers had high emotional intelligence (Gadeken, 2016).

Validity

Measuring the validity of an assessment tool means to evaluate the success rate of the instrument assessing what it is designed to determine, to ensure that the essence of each scale and subscale are capturing the data necessary for the study. At its most basic level, construct validity indicates when scores on the target scale correlate more strongly with scores on other measures of the same construct; and other theoretically related variables (convergent validity) (Parker, Keefer, & Wood, 2011). While showing weaker correlations with less theoretically relevant variables (discriminant validity) (Parker et al., 2011). According to Bharwaney, Bar-On, and MacKinlay (2007), the EQ-i represents one of the most valid, comprehensive and applicable conceptual and psychometric models (p.4). Bar-On (2006) stated that he published a summary of the significant findings related to the convergent construct validity of the EQ-i based on 13 studies in which a total of 2,417 individuals participated (p.17). The findings indicated that the degree of domain overlap between the EQ-i and other measures of ESI is about 36%, which is substantial when evaluating construct validity (Bar-On, 2006). With the revised EQ-i 2.0 a study of 1144 working adults in South Africa supports the claim of validity of the EQ-i 2.0 (van Zyl, 2014). There are few studies to confirm the validity of the EQ-i 2.0 (Ackley, 2016).

Reliability

The reliability of an instrument tells us how consistent and stable it is and if we can rely on it to give us similar responses to the same items within the same scales over time (Bharwaney et al., 2007). Examined by some of the researchers over the 20 years proved the reliability of the EQ-i, and a consensus of findings reveals that the Bar-On conceptual and assessment model is consistent, stable and reliable (Bar-On, 2006). The research study of 1144 working adults in South Africa provides ample support for the overall reliability of the EQ-i 2.0 (van Zyl, 2014). The study in South Africa aimed to investigate the psychometric properties of the EQ-i 2.0 in South Africa (van Zyl, 2014). There are few studies to confirm the reliability of the EQ-i 2.0 (Ackley, 2016).

Internal Consistency

Internal consistency examines the degree of correlation between the individual items on a particular scale, and here a minimum of .70 for subscales, .80 for composite scales and .90 for total scores is required (Bharwaney et al., 2007). The Overall internal consistency coefficient of the EQ-i is .97 based on the North American normative sample, which exceeds the .90 minimum for total scores suggested (Bar-On, 2006). The average Cronbach alpha coefficients are high for all the subscales, ranging from a low of .69 (social responsibility) to a high of .86 (self-regard) with an overall average internal consistency coefficient of .76, indicating a very, excellent reliability (Bar-On, 2004, p. 87).

Retest Reliability

The retest reliability examines the degree of correlation between responses to the same items made by respondents who complete the same instrument on more than one

occasion (Bharwaney et al., 2007). An overall retest reliability examination of the EQ-i is .72 for males (n = 73) and .80 for females (n = 279) at six months (Bar-On, 2006). The table below shows the correlation between the items on the scales and the response rate when the participants take and retake the test. Few studies provide the opportunity to test and retest the EQ-i 2.0 (Ackley, 2016).

Table 8

The EQ-i's consistency and retest reliability based on the US norms

Scales	Consistency Reliability	Retest Reliability
EQ	0.97	0.79
Intrapersonal	0.94	0.82
Interpersonal	0.87	0.59
Stress Management	0.86	0.71
Adaptability	0.89	0.75
General Mood	0.88	0.70
(n = 3,831; after 3 months)		

(Bharwaney et al., 2007)

Scorability and Cost

The average emotional intelligence score using the Bar-On EQ-i test is 100 with a standard deviation of 15 based on 5,000 plus participants (Bar-On, 2004). The Bar-On EQ-i 2.0 test cost $6.00 per participant basing the cost on the student research rate. The table below indicates the breakdown of the different scores and their interpretive guideline.

Standard Score	Rank	Interpretive guideline
130+	Markedly high	Atypically well-developed emotional capacity
120-129	Very high	Extremely well-developed emotional capacity
110-119	High	Well-developed emotional capacity
90-109	Average	Adequate emotional capacity
80-89	Low	Underdeveloped emotional capacity, requiring improvement
70-79	Very low	Extremely underdeveloped emotional capacity, requiring improvement
Under 70	Markedly low	A typically impaired emotional capacity, requiring improvement

Figure 1. EQ-i Scores and Interpretive Guidelines
Adapted from *Bar-On Emotional Quotient Inventory Technical Manual (*p.88), by R. Bar-On, 2004, Toronto, ON, Canada: Multi-Health Systems. Copyright 2004 by Multi-Health Systems.

Procedure

Before completing any data collection, the Internal Review Board (IRB) at Walden University received the application requesting the permission to collect data for this study. The IRB ensures the Federal regulations regarding ethical standards are adhered to by any of the Walden University students' researching living persons. The IRB approved the study before any data collection involving humans to protect certain classes of the population had begun. With this study involving Information technology professionals, the permission was obtained from the IRB before starting the collection of data.

Once the approval was received from the Walden University IRB permitting the data collection, a mass email was sent to the Information technology professionals that are currently participating in social media such as LinkedIn, Facebook, and Twitter. The

emails included the invitation and a hyperlink to the website that will be created for their responses. The data collection involved three separate steps.

The first step was to have the participants go to a webpage that explained the research study. This webpage contained the consent form and the hyperlink to start the questionnaires within Survey Monkey. Within Survey Monkey, Part I was the first questionnaire to gather demographic information that includes sex, race, age, education level, years in the information technology field, years of total work experience, employment sector, current position and the number of direct reports. Part II was the 45 questions of the MLQ5X questionnaire to gather the leadership information. Once the participants completed Part II, they were instructed to click on a link called emotional intelligence Questionnaire. This is a hyperlink to take them directly to the Multi-Health Systems website to complete the EQ-i 2.0 questionnaire. To link all three parts together, the participants were requested to enter an ID number. This ID Number consisted of a self-created password and the time at of participation in the study. This ID Number was requested when the participant entered Survey Monkey and when they entered the Multi-Health Systems website to complete the EQ-i 2.0 questionnaire. The whole process took less 45 minutes total.

Data Analysis

The analysis of the data collected will consist of two types: descriptive statistics and inferential statistics. The descriptive statistics will allow the researcher to organize and group the data collected into meaningful categories. The inferential statistics will allow the researcher to use a sample of the population to generalize the results of the sample for the population (Singleton & Straits, 2005). The data collected will be sorted

into different groups to analyze the relationship between emotional intelligence and the Information Technology Professional. The data collected will be analyzed using a couple of different inferential statistics methods such as an independent sample t-test and multiple regression tests. A brief description of each of these methods will follow.

Descriptive Statistics

Descriptive statistics is the term given to the analysis of data that helps describe, show or summarize data in a meaningful way such that, for example, patterns might emerge from the data (Lund & Lund, n.d.). Descriptive statistics are relevant because if we just presented our raw data, it would be hard to visualize what the data was showing (Lund & Lund, n.d.). To organize the data and to establish a general pattern of the different variables the descriptive statistics will be used. The data collected from the demographic questionnaire will give the descriptive statistics more detail because of collecting data on various variables such as the qualifications of the IT Professionals; the years of experience; the gender and the education level. The IBM SPSS Statistics application is the software that will be used to assist with the analytical process.

Inferential Statistics

The second method that will be used is the inferential statistics. Inferential statistics is a technique that allows us to use the sample of the population to represent the population for this study. Inferential statistics arises out of the fact that sampling naturally incurs sampling error and thus a sample is not expected to represent perfectly the population (Lund & Lund, n.d.). The methods of inferential statistics are (1) the estimation of parameters and (2) testing of statistical hypotheses (Lund & Lund, n.d.).

Multiple Regression

The most popular reason that the multiple regression tests are used is to learn more about the relationship between a dependent variable and several independent variables (Zijlmans et al., 2011). This study included leadership skills as the dependent variable and gender of, years of experience, and emotional intelligence of Information technology professionals as the independent variables. Using this multiple regression tests revealed whether there is a correlation between leadership skills affecting job satisfaction of employees and the gender; years of experience; or levels of emotional intelligence of the Information technology professionals.

Independent Sample t-test

With the independent sample t-test, a statistical significance indicates whether the difference between sample averages is likely to represent an actual difference between populations and the effect size indicates whether that difference is significant enough to be practically meaningful (Freedman, 2012). An independent sample t-test was used to test the emotional intelligence mean scores of information technology professional men and information technology professional women to see if there is a significant difference. The results of this test revealed whether information technology professional men have higher levels of emotional intelligence than information technology professional women (Zijlmans, Embregts, Gerits, Bosman, & Derksen, 2011). Studies have revealed that women in leadership typically have a higher level of emotional intelligence than their male counterparts (Freedman, 2012).

As the last step in managing all the data collected, the research questions were answered. The study was completed by providing the results of the analysis, a

discussion, conclusion, limitations, and recommendations for future research. This information is included in Chapter 4 and 5 of the study.

Summary

Chapter 3 has provided the details of the proposed study that includes the setting, research design, population/sampling procedure, methods for the data collection and instrumentation, ethical protection measures for the participants, and the different statistical tools. The research questions and hypotheses were analyzed using the data collected and analyzed. Chapter 4 includes the results of the study in explicit detail.

Chapter 4: Data Collection and Results

This study involved research on whether information technology professionals could benefit from having a higher level of emotional intelligence. To answer the research question and the four research hypothis sets, an email invitation was sent to many information technology professionals who participate in social media, and 315 responded to complete a demographics survey, a leadership survey (MLQ5X) and an emotional intelligence survey (EQ-i 2.0). The first step required the participants go to a website that explained the research study. This website contained the consent form and the hyperlink to start the questionnaires in Survey Monkey. In Survey Monkey, Part I was the first questionnaire used to gather demographic information including sex, race, age, education level, years in the information technology field, years of total work experience, employment sector, current position and the number of direct reports. Part II included the 45 questions of the MLQ5X questionnaire used to gather the leadership information. Once the participants completed Part II, they were instructed to click on a link called Emotional Intelligence Questionnaire. This hyperlink took them directly to the Multi-Health Systems website to complete the EQ-i 2.0 questionnaire. The data were analyzed using several testing methods to answer the research question and the four research hypothesis sets. Each method revealed different information about the data.

The data was cleaned before entering into the dataset, which was verified by reviewing all data points entered. To analyze and translate the data into usable information there were several methods used: descriptive statistics, multiple regressions, and *t*-Test analysis. Descriptive statistics is the term given to the analysis of data that helps describe, show or summarize data in such a way that individuals can see a pattern

or trend (Lund & Lund, n.d.). Statistical Package for Social Sciences (SPSS) version 23 was used as the data analysis tool. Descriptive statistics coupled with inferential statistics allows researchers to use the sample of the population to represent the population for a study. Inferential statistics arises out of the fact that sampling naturally incurs sampling errors and thus a sample is not expected to represent the population correctly (Lund & Lund, n.d.). The inferential statistics methods used were (a) the estimation of parameters and (b) testing of statistical hypotheses (Lund & Lund, n.d.).

Researchers regularly use multiple regression tests to learn more about the relationship between a dependent variable and several independent variables (Zijlmans et al., 2011). In this study leadership skill was the dependent variable and gender, race, and emotional intelligence were the independent variables. Multiple regression tests showed whether there was a correlation between leadership skills affecting employee job satisfaction and the gender, race, or levels of emotional intelligence of the information technology professionals.

With the independent sample *t*-test, a statistical significance indicates whether the difference between sample averages is likely to represent an actual difference between populations and the effect size indicates whether that difference is significant enough to be practically meaningful (Freedman, 2012). An independent sample *t*-test was used to test the emotional intelligence mean scores of information technology professional men and information technology professional women to see if there was a significant difference. The results of this test showed whether information technology professional men have higher levels of emotional intelligence than information technology professional women. (Zijlmans, Embregts, Gerits, Bosman, & Derksen, (2011). Studies

have shown that women in leadership typically have a higher level of emotional intelligence than their male counterparts (Freedman, 2012).

Descriptive Statistics

There were 315 total participants in this study. The participants found a Survey Monkey website link within the email to click to continue to the surveys. One of the first things the participants saw when they clicked the Survey Monkey link was a consent form and then the instructions on how to proceed with the study. Of the total participants in the study, 68% were males, and 32% were females. The study participants' were into five age groups (20 – 25, 26 – 35, 36 – 45, 46 – 55, and 56+). The table below shows the distribution of the different age categories and gender. Of the 315 study participants, nearly 75% of them were between the age 36 and over.

Table 9

Descriptive Statistics: Age by Gender (N = 315)

Age	Male	Female	Total
20 - 25	30	6	36
26 - 35	34	9	43
36 - 45	56	18	74
46 - 55	55	42	97
56+	38	27	65

The information technology professionals who participated in this study were a diverse group. Of the 315 participants, only four chose not to disclose their ethnic background. The two largest ethnic groups to participate were White and Black or African American.

Table 10

Descriptive Statistics: Race by Gender (N = 315)

Race	Male	Female	Total
American Indian or Alaska Native	5	1	6
Asian	4	3	7
Black or African American	54	25	79
Hispanic or Latino	9	3	12
No Response	1	3	4
White	140	67	207

One of the questions on the demographic survey asked the participant's education level. The results are organized by five education groups (High School, Associates, Bachelors, Masters, and Doctoral). The table below shows the distribution of the different education levels and gender. Of the 315 study participants, nearly 31% of them had earned a graduate degree (master's degree and doctoral degree) while nearly 30% had earned a bachelor's degree. The table below shows the distribution of degrees earned by gender.

Table 11

Descriptive Statistics: Education by Gender (N = 315)

Education	Male	Female	Total
High School	48	15	63
Associates	43	17	60
Bachelors	62	32	94
Masters	45	31	76
Doctoral	15	7	22

Another question on the demographic survey requested information from the participants regarding their years of experience. The results are organized by the participants' three different years of experience groups (1-5 years, 6-10 years and 11+ years). The table below shows the distribution between the different years of experience

categories and gender. Of the 315 study participants, nearly 65% of them had (11+) years of experience with the (1 – 5) years of experience category having 24% of the total participants. The table below shows the distribution of years of experience by gender.

Table 12

Descriptive Statistics: Experience by Gender (N = 315)

Experience	Male	Female	Total
1 - 5 years of experience	54	22	76
6 - 10 years of experience	24	11	35
11 years and above	135	69	204
	213	102	315

One of the final questions on the demographic survey asked the participants which sector of employment they currently worked. There were eight different categories to select from (Business, Education, Healthcare, Hospitality, Manufacturing, Other, Retail, and Service). The most common sector of employment at over 38% of the overall sectors of employment was the Business sector. The table below shows the distribution of sectors of employment by gender.

Table 13

Descriptive Statistics: Business Type by Gender (N = 315)

Business Type	Male	Female	Total
Business	77	44	121
Education	23	13	36
Healthcare	25	12	37
Hospitality	6	2	8
Manufacturing	7	1	8
Other	47	19	66
Retail	9	2	11
Service	19	9	28

The survey also included a question asking the participants whether they were management or non-management employees. The difference between management and non-management was that management employees had other employees who reported directly to them. The management employees were responsible for the development and performance of other employees in their organizations. The results of the survey indicated that approximately 50% of the information technology professionals who participated in the survey were management employees. In many organizations, regardless of the sector of employment the information technology professionals are individual contributors and are considered management because of their level of compensation but do not necessarily have other employees report directly to them (Andriole, 2015). The table below indicates the participants who were management and non-management by gender.

Table 14

Descriptive Statistics: Management by Gender (N=315)

Management	Male	Female	Total
Non-Management	115	44	159
Management	98	58	156
	213	102	315

Emotional Intelligence

The EQ-i, 2.0 questionnaire tested the emotional intelligence of the information technology professionals who participated in this study. There are five major components of the EQ-i, 2.0 questionnaire: Decision-Making, Interpersonal, Self-Expression, Stress Management, and Self-Perception. Additionally, there are 15 sub-components. This EQ-i, 2.0 uses a score of 100 for the general population average for the

major components. Scores less than 90 are considered low, and scores over 110 are considered high. The results of the EQ-i, 2.0 for the information technology professionals who participated in the study had an average overall score of 468.37, with a range from 348 to 580 compared with the general population of 600. The overall standard deviation was 72.53.

Out of the five major components, Decision-making and Self-perception had the highest scores with 96.67 and 98.73, respectively, while self-expression had the lowest score of 89.26. The self-expression score of 89.26 is just slightly lower than the 90 score which is considered a low score for the general population. The standard deviations of the significant components ranged from 11.08 to 20.33.

Of the sub-components, Self-actualization and Empathy had the highest scores of 38.49 and 35.78, respectively, out of 45 maximum points. Social responsibility with 23.90 out of a maximum score of 30, and empathy with 26.40 out of a maximum score of 30 were the lowest scores among the information technology professionals participating in the study. The standard deviation ranged from 4.13 to 12.26. Table 14 illustrates the emotional intelligence mean (*M*), standard deviation (*SD*), minimum (Min), and maximum (Max) scores from the information technology professionals study results. The components listed with an asterisk next to their title are considered a significant component.

Table 15

Descriptive Statistics: Emotional Intelligence (EQ) Components (N=315)

	M	*SD*	Min	Max
Total Emotional Intelligence	**472.44**	**72.533**	**348**	**580**
Self-Perception	**98.73**	**13.453**	**57**	**120**
Self-Regard	33.02	6.129	12	40
Self-Actualization	38.49	5.176	22	45
Emotional Self-Awareness	27.22	11.048	17	35
Self-Expression	**89.26**	**11.081**	**63**	**112**
Emotional Expression	29.28	5.686	17	40
Assertiveness	26.72	4.125	15	35
Independence	33.27	5.002	12	40
Interpersonal	**94.63**	**20.327**	**57**	**115**
Interpersonal Relationships	33.21	11.702	20	40
Empathy	36.69	12.245	22	45
Social Responsibility	24.72	10.606	13	30
Decision Making	**96.67**	**11.894**	**62**	**118**
Problem Solving	32.98	5.238	17	40
Reality Testing	31.86	11.322	23	40
Impulse Control	31.03	11.683	8	40
Stress Management	**93.07**	**14.111**	**55**	**119**
Flexibility	29.27	4.830	14	40
Stress Tolerance	31.07	5.559	15	40
Optimism	31.89	11.994	16	40
Happiness	32.74	5.955	12	40

Leadership

The MLQ5X included in the survey was to research whether information technology professionals could benefit from having a higher level of emotional intelligence. The MLQ5X is a self-report questionnaire where participants chose definitive statements regarding their leadership style. The 45 items on the test identify and measure critical leadership and effectiveness behaviors shown in prior research to be strongly linked with both individual and organizational success (Avolio & Bass, 2004,

p.12). The results of the questionnaire were broken down into three different leadership behaviors: transformational, transactional, and laissez-faire. Each of the questions provided five different choices: (a) Not At All, (b) Once In A While, (c) Sometimes, (d) Fairly Often, and (e) Frequently, if not always.

Out of the three major components, transformational leadership had the highest mean score of 82.69 with a standard deviation of 10.461. Table 15 illustrates the Leadership Questionnaire components mean (*M*), standard deviation (*SD*), minimum (Min), and maximum (Max) scores from the Information technology professionals study results.

Table 16

Descriptive Statistics: Leadership Assessment (MLQ5X) Components (N=315)

	M	*SD*	Min	Max
Transformational Leadership Components	82.69	10.461	50	100
Inspirational Motivation	17.01	2.553	7	20
Idealized Influence (attributed)	16.25	2.256	10	20
Idealized Influence (behavior)	16.16	2.536	8	20
Intellectual Stimulation	15.99	2.423	9	20
Individualized Consideration	17.28	2.644	8	20
Transactional Leadership Components	35.51	5.318	21	60
Contingent Reward	15.81	2.43	10	20
Management - by - Exception (Active)	11.99	3.09	4	20
Management - by - Exception (Passive)	7.7	2.811	4	20
Laissez-faire Leadership Components	6.58	2.885	4	20

Descriptive Statistics Summary

The descriptive statistics provided a high-level overview of the data collected from information technology professionals who participated in the study. The data was broken down into groups by gender, race, education level, experience level, business

sector, EQ-i, 2.0 average scores and MLQ5X average scores. The participants who participated in the study scored below the general population average score with the emotional intelligence questions and reported a high use of Transformational Leadership Behaviors. The next section will discuss the results of the multiple regression tests. These tests will answer some or all of the research questions.

Multiple Regression Test

A multiple regression was run to predict changes in leadership behaviors from emotional intelligence levels, gender, and ethnic groups. The predictors were emotional intelligence levels, gender, and ethnic groups, while the criterion variable was the leadership behaviors. The leadership behaviors of the information technology professionals who participated in the study were affected less than 1% from the variation of emotional intelligence levels, gender or ethnic groups with adjusted R^2= .002, a small size effect according to Cohen (1988). Emotional intelligence levels, gender, and ethnic groups did not statistically significantly predict the leadership behaviors, $F(3, 314) = .823$, $p < 001$. These results indicated that when analyzing the total leadership behavior scores with the total emotional intelligence level scores, gender, and ethnic groups' scores, there was no statistically significant change in behavior. To answer the research question a more in-depth analysis of the data needed to be completed. There were several multiple regression analyses completed.

Another multiple regression was completed with the total leadership scores (MLQ5X) and the five major components of emotional intelligence scores: EQ – Self Perception, EQ – Self Expression, EQ – Interpersonal Skills, EQ – Decision Making, EQ

– Stress Management, and total EQ Score. The overall results show that the five major components of emotional intelligence along with the total EQ score do not statistically, significantly predict MLQ5X GR TOT, $F(6, 308) = .631$, $p < .760$ with an R^2 of .012. The table below indicates that there is not a statistically significant prediction between the five major components of emotional intelligence along with the total EQ score with the total leadership score. The closest emotional intelligence significant component even close to $p < .05$ is EQ – Self Perception at .311. With the negative Beta, it would indicate that as the total leadership score increases the emotional intelligence components scores decreased causing more evidence that there is no statistical significance between total leadership and the major components of emotional intelligence.

Table 17

Regression: Total Leadership Behavior Scores with Emotional Intelligence Primary Components (N=314)

Total Leadership Behavior Scores	*B*	*Beta*	Sig
EQ - Self Perception	-0.445	-0.357	0.311
EQ - Self Expression	-0.166	-0.11	0.705
EQ - Interpersonal Skills	-0.140	-0.112	0.746
EQ - Decision-Making	-0.130	-0.092	0.764
EQ - Stress Management	-0.342	-0.288	0.444
Total EQ Score	0.242	0.819	0.560

Another multiple regression was completed with the Transformational Leadership scores (MLQ – Transform – Total) and the five major components of emotional intelligence scores: EQ – Self Perception, EQ – Self Expression, EQ – Interpersonal Skills, EQ – Decision Making, EQ – Stress Management, and total EQ Score. The overall results show that the five major components of Emotional Intelligence along with

the total EQ score do not statistically significantly predict MLQ – Transform - Total, $F(6, 308) = .694$, $p < .654$. Table 18 below indicates that there is not a statistically significant prediction between the five major components of emotional intelligence along with the total EQ score with the Transformational Leadership score. With the Transformational Leadership Beta scores being both negative and positive it would indicate that as the Transformational Leadership scores increased the emotional intelligence components, Self-Perception and Stress Management would decrease while Self-Expression, Interpersonal Skills, and Decision-Making would increase. Even when the emotional intelligence components were joined with Transformational Leadership, the results were both negative and positive, and neither of the components was statistically significant.

Table 18

Regression: Transformational Leadership and Emotional Intelligence Components (N=314)

Transformational Leadership Behavior Total Scores	B	*Beta*	Sig
EQ - Self Perception	-0.065	-0.084	0.811
EQ - Self Expression	0.027	0.029	0.921
EQ - Interpersonal Skills	0.075	0.096	0.780
EQ - Decision-Making	0.068	0.078	0.800
EQ - Stress Management	-0.116	-0.156	0.678
Total EQ Score	-0.002	-0.013	0.993

A multiple regression was completed with the Transactional Leadership scores (MLQ – Transaction – Total) and the five major components of emotional intelligence scores: EQ – Self Perception, EQ – Self Expression, EQ – Interpersonal Skills, EQ – Decision Making, EQ – Stress Management, and total EQ Score. The overall results show that the five major components of emotional intelligence along with the total EQ

score do not statistically significantly predict MLQ – Transaction - Total, $F(6, 308) = 1.093$, $p < .366$. Table 19 below indicates that there is not a statistically significant prediction between the five major components of emotional intelligence along with the total EQ score with the Transactional Leadership score. When the Transactional Leadership scores were joined with the emotional intelligence major components, it indicated as the Transactional Leadership scores increased all the emotional intelligence major components decreased. This would indicate that the correlation between Transactional Leadership scores and the emotional intelligence major components would become less and less statistically significant as the Transactional Leadership scores increased.

Table 19

Regression: Transactional Leadership and Emotional Intelligence Components (N=314)

Transactional Leadership Behavior Total Scores	B	*Beta*	Sig
EQ - Self Perception	-0.244	-0.618	0.079
EQ - Self Expression	-0.120	-0.249	0.387
EQ - Interpersonal Skills	-0.201	-0.504	0.143
EQ - Decision-Making	-0.183	-0.410	0.181
EQ - Stress Management	-0.146	-0.388	0.300
Total EQ Score	0.176	1.876	0.180

A multiple regression was completed with the Laissez Faire Leadership scores (MLQ – LaissezFaire – Total) and the five major components of emotional intelligence scores: EQ – Self Perception, EQ – Self Expression, EQ – Interpersonal Skills, EQ – Decision Making, EQ – Stress Management, and total EQ Score. The overall results show that the five major components of emotional intelligence along with the total EQ score statistically significantly predict MLQ – LaissezFaire - Total, $F(6, 308) = 2.442$, p

< .025. Table 20 below indicates that there is a statistically significant prediction between the five major components of emotional intelligence along with the total EQ score with the Laissez Faire Leadership score. All the major components along with the total EQ score are a significant prediction of the Laissez Faire Leadership behaviors except EQ – Stress Management which is also close but a little over the $p = .05$ limit at $p = .065$. This would also indicate that as the Laissez Faire Leadership scores increased the emotional intelligence major components would decrease. The results show a statistical significance of the correlation between Laissez Faire Leadership and the five major components of emotional intelligence. This result seems appropriate since a lot of information technology professionals have a Laissez Faire Leadership mentality by having the attitude of if it's not broke, don't fix it, call me when it's not running, or did you check to see if it's plugged in.

Table 20

Regression: Laissez Faire Leadership and Emotional Intelligence Components (N=314)

Laissez Faire Leadership Behavior Total Scores	*B*	*Beta*	Sig
EQ - Self Perception	-0.182	-0.847	0.015
EQ - Self Expression	-0.180	-0.690	0.016
EQ - Interpersonal Skills	-0.149	-0.690	0.043
EQ - Decision-Making	-0.148	-0.611	0.044
EQ - Stress Management	-0.140	-0.683	0.065
Total EQ Score	0.168	3.272	0.018

A multiple regression was conducted with total leadership scores (MLQ5X) and race and gender. The overall results show that race and gender do not statistically significantly predict MLQ5X GR TOT, $F(2, 312) = .941$, $p < .391$. Table 21 below

indicates that there is not a statistically significant prediction between the Gender and Race with the Total Leadership score.

Table 21

Regression: Total Leadership Scores and Race and Gender (N=314)

	B	*Beta*	Sig
Total Leadership Behavior Total Scores			
Gender	1.556	0.043	0.442
Race	-0.733	-0.065	0.250

A multiple regression was conducted with Transformational leadership scores (MLQ – Transform - Total) and race and gender. The overall results show that race and gender do not statistically significantly predict MLQ – Transform – Total, $F(2, 312) = .668$, $p < .514$. Table 22 below indicates that there is not a statistically significant prediction between the race and gender with the Transformational leadership score.

Table 22

Regression: Transformational Leadership and Race and Gender (N=314)

	B	*Beta*	Sig
Total Transformational Leadership Behavior Total Scores			
Gender	1.308	0.059	0.301
Race	-0.212	-0.03	0.593

A multiple regression was conducted with Transactional Leadership scores (MLQ – Transaction - Total) and Race and Gender. The overall results show that Race and Gender do not statistically significantly predict MLQ – Transaction – Total, $F(2, 312) = 2.242$, $p < .108$. Table 23 below indicates that there is not a statistically significant prediction between the Race and Gender with the Transformational leadership score.

When reviewing the results of this multiple regression analysis regarding the individual results, the report indicates that Race is statistically significant where $p = .036$. The overall results when the multiple regression tests were rerun predicts a statistically significant prediction, $F(1,313) = 4.486$, $p = .035$.

Table 23

Regression: Transactional Leadership and Race and Gender (N=314)

	B	*Beta*	Sig
Total Transactional Leadership Behavior Total Scores			
Gender	-0.071	-0.006	0.912
Race	-0.423	-0.119	0.036

A multiple regression was conducted with the Laissez Faire Leadership scores (MLQ – Laissez Faire - Total) and Race and Gender. The overall results show that Race and Gender do not statistically significantly predict MLQ – LaissezFaire – Total, $F(2, 312) = .334$, $p = .716$. Table 24 below indicates that there is not a statistically significant prediction between the Race and Gender with the Laissez Faire Leadership score.

Table 24

Regression: Laissez Faire Leadership and Race and Gender (N=314)

	B	*Beta*	Sig
Total Laissez-Faire Leadership Behavior Total Scores			
Gender	-0.172	-0.028	0.621
Race	-0.07	-0.036	0.524

Table 25 indicates when testing the linear regression, it showed that less than .01% of the variability with Transformational Leadership was explained by the emotional intelligence major components or the total emotional intelligence scores.

Table 25

Regression: Transformational Leadership VS Emotional Intelligence (N=314)

Emotional Intelligence Variables	***R***	***R^2***	***Adjusted R^2***	**Variance**
Total Emotional Intelligence	0.058	0.003	0.000	<.01%
Five Major Components of Emotional Intelligence				
Self - Perception	0.065	0.004	0.001	<.01%
Self - Expression	0.034	0.001	-0.002	<.01%
Interpersonal Skills	0.026	0.001	-0.003	<.01%
Decision-Making	0.038	0.001	-0.002	<.01%
Stress Management	0.087	0.008	0.004	<.01%

A multiple regression was completed on the three leadership behaviors: Transformational, Transactional, and Laissez-Faire with Correlations Coefficients. The data verified that Laissez Faire Leadership behavior and Emotional Intelligence Total have a positive correlation of .143 and a significantly negative correlation with Transformational Leadership behavior of -.058.

Table 26

Regression: Correlation Coefficients between Leadership Behaviors and the MLQ5X (N=314)

	Total Emotional Intelligence
Transformational Leadership	-0.058
Transactional Leadership	-0.055
Laissez Faire Leadership	0.143

The first research question was whether job satisfaction is predicted based on gender, years of experience or the level of emotional intelligence of Informational Technology Professionals. This was addressed by completing a multiple regression testing with the total Leadership score as the dependent variable and gender, years of

experience, and total emotional intelligence score as the independent variables. The overall results indicate that there is not a statistically significantly prediction between job satisfaction with gender, years of experience, and level of emotional intelligence; $F(3, 312) = .652$, $p = .582$.

The results shown in Table 27 indicate that there is very little difference between the mean scores of the job satisfaction when conducting this multiple regression test. These results would predict that the Null Hypothesis stating that job satisfaction is not significantly predicted based on level of Emotional Intelligence, or years of experience of Information technology professionals would not be rejected.

Table 27

Regression: Job Satisfaction Affected by Gender, Experience, and Total Emotional Intelligence Scores (N=314)

Job Satisfaction Affected by:	B	*Beta*	Sig
Gender	-0.491	-0.004	0.943
Experience	-4.307	-0.065	0.255
Total Emotional Intelligence Score	-0.15	-0.044	0.434

Summary of the Multiple Regression Analysis

A multiple regression was run to predict changes in information technology professional leadership behaviors from emotional intelligence levels, gender, and ethnic groups. The predictors were emotional intelligence levels, gender, and ethnic groups, while the criterion variable was the leadership behaviors. When a multiple regression test was run with the Total Leadership (MLQ5X) score as the dependent variable and the total

EQ-i, 2.0 score as the independent variable, there was not a statistically significant result. Also using the Total Leadership (MLQ5X) score as the dependent variable in a multiple regression test with the five major components of emotional intelligence along with the total emotional intelligence scores as the independent variable there was not a statistically significant result.

Then a multiple regression analysis was completed with separating the leadership behavior into three different areas: transformational, transactional, and laissez-faire. With transformational leadership score was joined with the five major emotional intelligence components along with the total Emotional Intelligence score, there was no statistical significance. When transactional leadership score was joined with the five major emotional intelligence components along with total emotional intelligence score, there were no statistically significant results. The same analysis was conducted with Laissez Faire leadership, and there were statistically significant results including the total emotional intelligence score except for EQ – Stress Management. EQ – Stress Management result was outside of the confidence level of .05.

When looking at the correlation between the total leadership data joined with the Gender and Race data there was no statistical significance with Gender at $p = .442$ and Race at $p = .250$. Then the total leadership was broken down into the three main leadership behaviors: transformational, transactional and laissez-faire. With transformational leadership data, there was no statistically significant correlation with Gender at $p = .301$ and Race at $p = .593$. When analyzing the transactional leadership behavior data with Gender, there was no statistical significance with $p = .912$. There was statistical significance with transactional leadership behavior with Race with $p = .036$.

With laissez-faire leadership data there was no statistical significance with Gender where $p = .621$ and with Race where $p = .524$. The next section will discuss the analysis of the information technology professionals' data using the Independent Sample *t*-Test.

Independent Sample *t*-Test

The Independent Sample *t*-Test is testing whether the means are equal in the population. This section of the research study focuses on using the Independent Sample *t*-Test for the mean scores of emotional intelligence, experience level, and leadership scores based on male mean scores and female mean scores.

There was the homogeneity of variances for the Total Emotional Intelligence scores for males and females, as assessed by Levene's *F* test, $F(313) = 1.012$, $p = .315$. If $p < .05$, this means that the average difference between the two groups is statistically significant. The male emotional intelligence mean score was 472.79, 95% CI [-12.420 to 14.547] higher than the female emotional intelligence means to score. With p = .315 (i.e., $p < .05$) of the emotional intelligence mean score difference between males and females, it indicates that the mean score difference is not statistically significant. The independent samples *t*-test was associated with no statistically significantly larger mean male emotional intelligence scores than female emotional intelligence scores. There was not a significant statistical difference in the mean emotional intelligence score between males and females, $t(313) = .155$, $p = .877$.

There was the homogeneity of variances for experience level scores for males and females, as assessed by Levene's test for equality of variance ($p = .204$). The male experience level means score was 2.38, 95% CI [-.283 to 121] higher than the female

experience level mean score. With $p = .434$ (i.e., $p < .05$) of the experience level mean score difference between males and females, it indicates that the mean score difference is not statistically significant. There was not a significant statistical difference in the mean experience level score between males and females, t (313) = .784, $p = .434$.

There was the homogeneity of variances for Leadership scores (MLQ5X) for males and females, as assessed by Levene's test for equality of variance ($p = .900$). The male leadership means score was 162, 95% [-5.476 to 2.476] higher than the female leadership mean score. With $p = .458$ (i.e., $p < .05$) of the leadership level mean score difference between males and females, it indicates that the mean score difference is not statistically significant. There was not a significant statistical difference in the mean leadership score between males and females, t (313) = .742, $p = .458$.

The second research question was whether there was a significant difference in levels of emotional intelligence between information technology professional males and information technology professional females. To test the hypothesis that male participants and female participants were associated with statistically significantly different mean emotional intelligence scores, an independent samples *t*-test was performed. There is very little difference between the male and female, mean scores for the five major components of emotional intelligence. If there had been a closer amount of males and females, the scores might have been more statistically significant. As Table 29 indicates, there was no significant difference with the five major components of emotional intelligence between information technology professional males and females. As a result, the research question's Null Hypothesis will not be rejected which states

there is no significant difference in levels of emotional intelligence between information technology professional males and information technology professional females.

Table 28

Independent Samples t-Test: Results for Gender by Emotional Intelligence Component (N=314)

Emotional Intelligence Major Components	*M*	*SD*	*df*	*t*	*p*
EQ - Self Perception (Male)	99.07	13.691	313	0.648	0.517
EQ - Self Perception (Female)	98.02	12.98			
EQ - Self Expression (Male)	89.21	11.225	313	-0.121	0.904
EQ - Self Expression (Female)	89.37	10.829			
EQ - Interpersonal Skills (Male)	94.43	13.779	313	-0.398	0.691
EQ - Interpersonal (Female)	95.07	12.527			
EQ - Decision-Making (Male)	96.66	12.106	313	-0.027	0.978
EQ - Decision-Making (Female)	96.7	11.496			
EQ - Stress Management (Male)	93..4	14.234	313	0.629	.530
EQ - Stress Management (Female)	92.34	13.892			

The third research question was whether there was a significant difference in levels of emotional intelligence between information technology professionals' different years of experience. To test the hypothesis that the mean of the levels of emotional intelligence was associated with statistically significantly different than the mean of the different years of experience, an independent samples *t*-test was performed. There is very little difference between the mean scores for the five major components of emotional intelligence and the mean scores of the years of experience. The five major components of emotional intelligence were Self-Perception, Self-Expression, Interpersonal Skills, Decision-Making and Stress Management. The breakdown of the Years of Experience were 1-5 years, 6 – 10 years and 11 years and above. As Table 29 indicates, there was no

significant difference with the five major components of emotional intelligence between information technology professional different years of experience. As a result, the research question's Null Hypothesis will not be rejected which states there is no significant difference in levels of emotional intelligence between information technology professionals' different years of experience.

Table 29

Independent Sample t-Test: Emotional Intelligence and Years of Experience Level (N=314)

Emotional Intelligence Major Components	N	*M*	*SD*
EQ - Self Perception (1 - 5 Years of Experience)	76	99.07	15.067
EQ - Self Perception (6 - 10 Years of Experience)	35	101.06	12.523
EQ - Self Perception (11 Years and Above)	204	98.21	12.983
EQ - Self Expression (1 - 5 Years of Experience)	76	90.38	10.877
EQ - Self Expression (6 - 10 Years of Experience)	35	91.57	11.515
EQ - Self Expression (11 Years and Above)	204	88.45	11.044
EQ - Interpersonal Skills (1 - 5 Years of Experience)	76	95.36	12.644
EQ - Interpersonal Skills (6 - 10 Years of Experience)	35	96.26	14.833
EQ - Interpersonal Skills (11 Years and Above)	204	94.09	13.402
EQ - Decision-Making (1 - 5 Years of Experience)	76	97.26	11.244
EQ - Decision-Making (6 - 10 Years of Experience)	35	99.49	11.372
EQ - Decision-Making (11 Years and Above)	204	95.97	12.183
EQ - Stress Management (1 - 5 Years of Experience)	76	94.12	14.281
EQ - Stress Management (6 - 10 Years of Experience)	35	96.17	14.543
EQ - Stress Management (11 Years and Above)	204	92.14	13.939

Included with the Independent Sample *t*-Test results gender and the three primary leadership behaviors; Transformational, Transactional, and Laissez-Faire. For the gender and primary Leadership Behaviors Table 30 shows the *F* statistics and *p*-value.

Table 30

Independent t-Test: Result of Gender and Leadership Behavior (N=313)

Leadership Behaviors	*F* statistics	*p*-value
MLQ5X - Transformational	-1.025	0.306
MLQ5X - Transactional	.161	0.872
MLQ5X - Laissez-Faire	.511	0.610

An Independent Samples *t*-Test was applied to the five major components of emotional intelligence: EQ – Self Perception, EQ – Self Expression, EQ – Interpersonal Skills, EQ – Decision-Making, and EQ – Stress Management where the dependent variable was gender; (Table 31 shows the *F* statistics and *p* values from the Independent Samples t-Test.)

Table 31

Independent Samples t-Test: Result of Gender (N=314)

Emotional Intelligence Major Components	*F* statistics	*p*-value
EQ - Self Perception	0.285	0.517
EQ - Self Expression	0.300	0.904
EQ - Interpersonal Skills	0.782	0.691
EQ - Decision-Making	0.387	0.978
EQ - Stress Management	0.192	0.530

An Independent Sample t-Test was completed comparing the three major leadership behaviors: Transformational, Transactional and Laissez-Faire with gender. This was to address the fourth research question stating there is no significant difference between the Transformational Leadership, Transactional Leadership and Laissez-Faire Leadership based on gender. The results predict that the male mean Transformational score was .306, 95% CI [-3.769 to 1.187] higher than the female Transformational score.

The male mean Transactional score was .872, 95% CI [-1.158 to 1.365]. Also, the male mean Laissez-Faire score was .610, 95% CI [-.506 to .862]. This would indicate that gender would not have a statistically significant change in the leadership behaviors. Table 32 addresses the fourth research question by accepting the Null Hypothesis which states it is no significant difference between Transformational Leadership, Transactional Leadership and Laissez-Faire Leadership between gender.

Table 32

Independent Sample t-Test: Transformational, Transactional and Laissez Faire for Males and Females (N=315)

		N	*M*	*SD*
Transformation Leadership	Male	213	82.27	10.333
	Female	102	83.56	10.721
Transactional Leadership	Male	213	35.54	5.397
	Female	102	35.44	5.175
Laissez Faire Leadership	Male	213	6.64	2.998
	Female	102	6.46	2.643

Summary of the Independent Sample *t*-Test

The Independent Sample *t*-Test analysis was conducted to find whether the means are equal in the population. This section of the research study focused on using the Independent Sample *t*-Test for the mean scores of emotional intelligence, experience level, and leadership scores based on male mean scores and female mean scores. The result of the analysis for the information technology professionals participating in the study did not have statistical significance using a 95% confidence interval. The analysis was conducted using several different measures, and neither of them proved significant.

The next chapter will provide detailed information about the data along with the study summary, conclusions, limitations, and recommendations for further studies.

Chapter 5: Discussion, Conclusions and Recommendations

Introduction

The study was conducted to address the need to increase information technology professionals' leadership skills through an increased awareness of emotional intelligence; proposed research questions and hypotheses (Chapter 1). A relevant literature review (Chapter 2); proposed research design (Chapter 3); and analyses using data analysis tool used for this study was the Statistical Package for Social Sciences (SPSS) version 23 (Chapter 4). This chapter includes detailed analysis and synthesis of the data collected. The conclusion from the analysis of the data targets the research question and the four hypothesis sets. This study includes major contributions to the body of knowledge on the information technology industry's community of practice. This chapter's limitations section indicates areas of shortcomings and limitations that researchers need to address in future studies. The recommendations for future studies provides a few areas worth considering that were outside the scope of this study but could make a significant contribution to the body of knowledge.

The purpose of this research was to extend prior studies regarding emotional intelligence, and the positive influence information technology professionals can have on their employees when they recognize their emotions and the emotions of their employees. When information technology professionals realize the benefits of emotional intelligence, they have an opportunity to increase the job satisfaction of their employees with feelings of empowerment and value as an essential element of their work environment. Increasing job satisfaction has the potential to increase productivity and reduce absenteeism.

Increasing productivity results from managers addressing the challenges both of keeping abreast of the constant technological changes needed for an organization and of the personal and professional goals of their employees (Kotze & Venter, 2011).

The method of data collection for this quantitative study consisted of using electronic surveys. There were three surveys including a general questionnaire to collect demographic data, the (MLQ5X) and the EQ-i. 2.0 questionnaire. Participant responses to these questionnaires resulted in Leadership behavior scores and emotional intelligence scores for each. Once the data collection was complete, the data was analyzed using several analytical methods. The descriptive statistical method was used to organize the data to assist in describing, showing or summarizing the data in a meaningful way. The inferential statistical method illustrated the sample of the population used in the study which consisted of Information technology professionals. Multiple regression analyses assisted in learning about the relationship between variables. An independent sample *t*-test analysis was conducted, which indicated whether the difference between sample averages was likely to represent an actual difference. The results of the tests were used to answer the research question and the four hypothesis sets within the study.

Study Overview

The research study focused on determining if there is a relationship between emotional intelligence and leadership behavior of information technology professionals. The data analysis performed in Chapter 4 confirmed there is a relationship. There are five major components of emotional intelligence: Self-Perception, Self-Expression, Interpersonal Skills, Decision-Making and Stress Management. There were three

leadership behaviors discussed in this study: transformational, transactional, and laissez-faire. The hypothesis of the study was information technology professionals scoring high in emotional intelligence would differentiate themselves in their leadership behaviors from leaders having lower levels of emotional intelligence. The overall results indicated that information technology professionals with a high degree of emotional intelligence are more likely to exhibit transformational leadership behaviora than are information technology professionals with a low levels of emotional intelligence. This chapter addresses each of the four hypothesis sets with explanations and details.

Researchers investigating the effects of transformational leadership have found that transformational leadership correlates with high ratings of effectiveness and satisfaction, higher group performance, and higher effort on the part of subordinates (Batool, 2013). Managers who are engaged with their employees can influence them to perform up to and beyond the job requirements (Metsler & Vigoda-Gadot, 2010).

Transactional leadership focuses on exchanges between leaders and followers that allow leaders to accomplish their performance objectives (McCleskey, 2014). One of the problems with transactional leaders are their focus on the organization as opposed to the employees. Their focus is on getting the task completed in the most efficient, cost-effective way regardless of how it affects employees. This type of leadership disregards situational and contextual factors related to organizational challenges (McCleskey, 2014).

Some information technology professionals have a laissez faire leadership mentality characterized by the attitude of only wanting to get involved if needed. This group of information technology professional had the lowest score of emotional intelligence scores.

Emotional intelligence strengthens the relationships between managers and employees to help build overall organizational success and promote maximization of employee job satisfaction (McCleskey, 2004). Unlike IQ, which has a powerful hereditary component, coaching and development can increase an individual's levels of emotional intelligence. This study contributes to the body of knowledge in emotional intelligence and leadership behaviors with information technology professionals. This study will help researchers and training and development managers assist management teams planning programs to coach information technology professionals in increasing their levels of emotional intelligence. The results of the study will also help administrators at colleges and universities design curriculum to prepare future leaders to increase their emotional intelligence and the emotional intelligence of their employees.

This study confirmed that information technology professionals could be trained, coached and mentored in the increased use of emotional intelligence, with the likelihood of an increased use of transformational and transactional leadership behaviors. The results also showed that increasing the levels of emotional intelligence would assist information technology professionals with the successful completion of projects or assignments while working with both internal and external customers.

Findings

The findings of this study are organized by the four research hypothesis sets. The details of each of the hypothesis set are included below in Table 33, which is a summary of the findings.

Table 33

Summary of Research Questions Results

Research Question	Results	Hypothesis Sets	Test Used
Hypothesis Set #1 - Part 1	Not Rejected Rejected	(H_0^1): Job satisfaction is not significantly predicted based on the gender of information technology professionals. (H_a^1): Job satisfaction is significantly predicted based on the gender of information technology professionals.	Independent Sample *t*-Test
Hypothesis Set #1 - Part 2	Not Rejected Rejected	(H_0^1): Job satisfaction is not significantly predicted based on the level of emotional intelligence of information technology professionals. (H_a^1): Job satisfaction is not significantly predicted based on the level of emotional intelligence of information technology professionals.	Independent Sample *t*-Test
Hypothesis Set #2	Not Rejected Rejected	(H_0^2): There is no significant difference in levels of emotional intelligence between information technology professional males and information technology professional females. (H_a^2): There is a significant difference in levels of emotional intelligence between information technology professional males and information technology professional females.	Independent Sample *t*-Test
Hypothesis Set #3	Not Rejected Rejected	(H_0^3): There is a no significant difference in levels of emotional intelligence between information technology professionals different years of experience. (H_a^3): There is a significant difference in levels of emotional intelligence between information technology professionals' different years of experience.	Independent Sample *t*-Test
Hypothesis Set #4	Not Rejected Rejected	(H_0^4): There is no significant difference between the transformational leadership, transactional leadership and laissez-faire leadership based on gender. (H_a^4): There is a significant difference between the transformational leadership, transactional leadership and laissez-faire leadership based on gender.	Independent Sample *t*-Test

The first null hypothesis was that job satisfaction is not significantly predicted based on gender, or years of experience, or level of emotional intelligence of information technology professionals. The alternative hypothesis was that job satisfaction is significantly predicted based on at least one of the following: gender or years of experience or level of emotional intelligence. Information technology professionals in the study had an overall total leadership score of 161.4 for males and 163.04 for females. The results indicated that the null hypothesis would not be rejected based on not having a significant statistical difference between the means of males and females when comparing total leadership behaviors scores. There was no correlation between the leadership behavior mean scores of the information technology professionals males and females who participated in the study.

When comparing the mean scores of the male and female information technology professionals for their years of experience with the leadership behavior scores, the null hypothesis is not rejected. There was not a significant statistical difference between the male information technology professional mean score of 2.38 and the female information technology professional mean score of 2.46 when comparing the difference between the years of experience and the impact on the leadership behavior scores. There was no correlation between leadership behavior mean scores and years of experience for the information technology professionals who participated in the study.

The third part of this hypothesis sets involved the emotional intelligence total score for males and females compared to the total leadership behavior scores for these same groups of participants. The null hypothesis stated that the job satisfaction is not significantly predicted based on the level of emotional intelligence of information

technology professionals. The total overall mean score for the level of emotional intelligence for the information technology professional male was 469.72 and for the level of emotional intelligence for the information technology professional female was 465.54. These overall total mean scores for emotional intelligence was not statistically significant. There were no correlations between leadership behavior and the level of emotional intelligence overall total for the information technology professionals who participated in the study.

The second hypothesis set consisted of the null hypothesis stated there is no significant difference in levels of emotional intelligence between information technology professional men and women. The alternative hypothesis stated there is a significant difference in levels of emotional intelligence between information technology professional males and information technology professional women. The results of the analysis indicated there is no statistically significant difference between information technology professional male and female total overall mean scores of the level of emotional intelligence so the null hypothesis would not be rejected.

Emotional intelligence has five major components with 15 subcomponents. To analyze whether there was a significant difference between information technology professional male and female mean scores for each of the five major components of emotional intelligence were compared. The five major emotional intelligence components are Self-Perception, Self-Expression, Interpersonal Skills, Decision-Making, and Stress Management. It renders total emotional intelligence scores on the following five composite scales that comprise 15 subscale scores:

- Self-Perception (comprising Self-Regard, Self-Actualization, and Emotional Self-Awareness) It is the ability not only to be aware of one's feelings and emotions, but also differentiate between them, to know what one is feeling and why, and to know what caused the feelings (Bar-On, 2004).
- Self-Expression (comprising Emotional Expression, Assertiveness, Independence) ability to express your feelings outwardly, without being aggressive or abusive. This component plays a significant role for Information technology professionals as they deal with various issues, deadlines, negotiations, and decision-making processes in all phases of the organization(Bar-On, 2004).
- Interpersonal Skills (comprising Interpersonal Relationships, Empathy, and Social Responsibility) self – reliant in planning and making important decisions, but they might seek and consider other people's opinions before making the right decision for themselves in the end. Also the ability to function autonomously than needing protection and support (Bar-On, 2004).
- Decision-Making (comprising Problem Solving, Reality Testing, and Impulse Control); ability to identify and define problems as well as to generate and implement potentially useful solutions. Decision-making is multiphasic. It includes the ability to work through a process of (a) sensing a problem and feeling confident and motivated to deal with it effectively, (c) generating as many solutions as possible, and (d) deciding to implement one of the solutions (Bar-On, 2004).

- Stress Management (comprising Flexibility, Stress Tolerance, and Optimism) ability to withstand adverse events and stressful situations without falling apart by actively and positively coping with stress. It is the ability to weather stressful situations without getting too overwhelmed (Bar-On, 2004).

The first major component of emotional intelligence is Self-Perception (Gadeken, 2016). Self-Perception is the understanding of your emotions. It has three subcomponents; self-regard (confidence), self-actualization (continuous development), and emotional self-awareness (understanding your emotions and knowing what makes you feel better – knowing what triggers - people or things that are usually unpleasant). When an analysis was conducted comparing the mean scores of the information technology professional males and females with the mean score of the leadership behavior, there was no statistically significant difference between male and female. The null hypothesis stated there is no significant difference in levels of emotional intelligence based on the major component, Self-Perception, between Information Technology Professional men and women was accepted. The information technology professional means score for males was 99.07, and for females, it was 98.02.

The second major component of emotional intelligence is Self-Expression. Self-Expression is the ability to express your emotions. It has three subcomponents; emotional expression (saying how you feel), assertiveness (standing up for yourself effectively), and independence (standing on your own two feet). An analysis was conducted to compare the mean scores for information technology professional males and females to see if there was any significance. The results of the analysis showed that the information technology professional males had an Emotional Intelligence/ Self-

Expression mean score of 89.21 and the females had a mean score 89.37. The results predict the null hypothesis stated there is no significant difference with levels of emotional intelligence based on the major component, Self-Expression, between information technology professional men and women is accepted.

The third major component of emotional intelligence is Interpersonal. Interpersonal is developing and maintaining relationships. Interpersonal consists of three subcomponents: Interpersonal Relationships (developing and maintaining good relationships), Empathy (recognizing and appreciating how others feel), and Social Responsibility (contributing to society). The results of the analysis showed that the Interpersonal mean scores between information technology professional males and females who participated in this study have mean scores of 94.43 and 95.07 respectively. These results predict that the null hypothesis stated there is no significant difference with levels of emotional intelligence based on the major component, Interpersonal, between information technology professional males and females is accepted.

The fourth major component of emotional intelligence is Decision-Making. Decision-Making is using your emotions to make better decisions and have better judgment. Decision-Making consists of three subcomponents: Problem-Solving (effectively managing emotions when solving problems), Reality Testing (seeing things as they really are), and Impulse Control (ability to resist or delay impulses). The results of the analysis to compare the mean scores of information technology professional males and females were insignificant. The Decision-Making mean scores for the information technology professional males was 96.66, and the information technology professional females were 96.70. These results showed that the null hypothesis stated there is no

significant difference with levels of emotional intelligence based on the major component, Decision-Making, between information technology professional males and females is accepted.

The fifth major component of emotional intelligence is Stress Management. Stress Management can cope with challenges. Stress Management consists of three components: Flexibility (adapting to change effectively), Stress Tolerance (successfully coping with stressful situations), and Optimism (having a positive outlook). There was no significant difference between the information technology professional male mean score with the information technology professional female mean score. These results predict that the null hypothesis stated there is no significant difference with levels of emotional intelligence based on the major component, Stress Management, between information technology professional males and females is accepted.

The third hypothesis set addressed the difference of the levels of emotional intelligence with years of experience for the information technology professionals who participated in this study. The different components of emotional intelligence were discussed in the earlier paragraphs. The number of years of experience was broken down into three categories: 1 – 5 years, 6 – 10 years, and 11 years and above. Each of these categories was analyzed to see if there was a difference in the mean score of the total emotional intelligence. With the first category (1 – 5 years of experience), there was not a significant statistical difference between total emotional intelligence mean score and the 1 – 5 years of experience with a mean score of 476.18. The second category (5 – 10 years of experience), there was not a statistical significance with a mean score of 484.54. The third category (11 years and above), there was not a statistical significance with a

mean score of 468.98. After analyzing all three categories to see if there were significant differences between the years of experience mean score with the total emotional intelligence mean score, predicted no significant difference. The results predict accepting the null hypothesis which states there is no significant difference in levels of emotional intelligence between information technology professionals' different years of experience.

The fourth research question was whether there is a significant difference in levels of Emotional Intelligence between Information Technology Professional Leadership behaviors. This question was broken down into the different leadership behavior categories to try a different perspective to see if there was a significant difference. The different leadership behaviors consist of transformational leadership, transactional leadership, and laissez-faire leadership. The transformational leader is one who raises the followers' level of consciousness about the importance and value of desired outcomes and the methods of reaching those outcomes by transcending their self-interest for the sake of the organization (McCleskey, 2014). Organizations that thrive on trust have transformational leaders; are flattened, are project-oriented, are diverse, are dispersed and are more open typically conducive environments (Quisenberry & Burrell, 2012). The transformational leaders provide opportunities and develop organizational cultures supportive of individual growth. The significance level of confidence was 95%. The transformational leadership behavior results indicate that .615 (p<.005). The results of the analysis would indicate that the null hypothesis which states there is no significant difference in levels of emotional intelligence between information technology professionals based on the transformational leadership behavior is not rejected.

The next leadership behavior category to analyze is the transactional leadership behavior. transactional leadership focuses on the exchanges that occur between leaders and followers where these exchanges allow leaders to accomplish their performance objectives (McCleskey, 2014). These include completing required tasks, maintaining the current organizational situation, motivating followers through a contractual agreement, directing behavior of followers toward achievement of established goals, emphasizing extrinsic rewards, avoiding unnecessary risks, and focusing on improving organizational efficiency (McCleskey, 2014). The transactional leadership behavior results indicate that .068 ($p < .005$). The results of the analysis would indicate that the null hypothesis stated there is no significant difference in levels of emotional intelligence between information technology professionals based on the transactional leadership behavior is not rejected.

The final leadership behavior category to analyze is the laissez-faire leadership behavior. The laissez-faire leadership reflects the laid-back mentality by having the attitude of only getting involved when necessary. These leaders avoid taking responsibility: they fail to follow up on request for assistance, tend to be absent when required, and resist expressing opinions on important issues (Avolio & Bass, 2004). The significance level of confidence was 95%. The laissez-faire behavior results indicate that .004 ($p<.05$). The results of the analysis would indicate that the alternative hypothesis stated there is a significant difference in levels of emotional intelligence between information technology professionals based on the laissez-faire leadership behavior is accepted. The null hypothesis is not accepted.

Summary of Findings

The findings showed that information technology professionals had a higher level of emotional intelligence than the general population and demonstrated the more significant use of transformational leadership behaviors. The information technology professionals demonstrated the limited use of laissez-faire behaviors and the use of the transactional behaviors was less than the transformational. Even when analyzing the information technology professionals' information from the study in many different ways, the only one test that showed that there was a significant impact was when the total emotional intelligence mean score compared to the laissez-faire leadership behavior mean score.

Implications of the Study: Social Change

This research contributes toward positive change in the information technology community. Walden University (2015) has a five-year working plan that began in 2015 and will shape Walden's thinking about the future and its vision for social change within the university. The University's goals as part of this vision include:

1) Leveraging Walden research capacities, expertise, networks, and curricula to serve external organizations and communities in the application of social change,
2) Strengthening the impact of Walden curricula to educate agents of social change across all of our programs,
3) Raising the social change consciousness, skills, and knowledge of Walden's internal communities, and

4) Continuing to improve how we support ongoing social change initiatives that engage current students, faculty, alumni and our partner communities.

Various researchers (Connolly & Reinicke, 2017; Hendon, Powell, & Wimmer, 2017;

Godse & Thingujam, 2010, and Gunsel & Acikgoz, 2013) have attempted to connect emotional intelligence and job satisfaction, communication, politics, teamwork, performance improvement, and conflict resolution. However, the researchers (Connolly & Reinicke, 2017; Hendon, Powell, & Wimmer, 2017; Godse & Thingujam, 2010, and Gunsel & Acikgoz, 2013) mainly focused on the effects of "soft" skills in an information technology environment. "Hard" skills or skills and knowledge in a particular area are within an information technology environment. According to the Standish Group Chaos report (2015), only 39 percent of projects are considered successful, and those projects that fail are held back by one thing – people. Ellis (2016) states to be agile in working on projects, teams need the following:

- Insights into who they are and each other's personalities (self-awareness and empathy)
- An agreement on what's acceptable and what's not (behaviors)
- An agreement on how they will work together (collaboration)
- An agreement on how they will find better ways to do things (innovation)
- Some principles they can hold each other to account for (culture)
- Regular ideas that further develop their thinking and skillset

As Ellis (2016) explained the different factors that are needed to be considered agile (where there is sharing of information, or the completion of projects are in increments instead of trying to deliver it all at once near the end). These factors can directly correspond with one of the five major components of emotional intelligence. The first-factor "Insights into who they are and each other's personalities" would correspond to the emotional intelligence components Self-Perception and Interpersonal Skills. Insights into who they are and each other's personalities an information technology professional would need to understand their emotions which is Self-Perception. They would also need to recognize the emotions of others to build relationships and communicate with the partners or stakeholders of a project which is where Interpersonal Skills are needed.

The second factor "An agreement on what's acceptable and what's not" would correspond to the emotional intelligence components Interpersonal Skills and Decision-Making. To know and agree on what's acceptable and what's not takes building a relationship and communicating with others which is part of the Interpersonal Skills component. The Decision-Making component corresponds to this factor because an information technology professional would decide to accept or not to accept how things are going on a project or within a department based on what their emotions and the emotions of others are involved. With more positive emotions, the decision to proceed with the situation would most likely occur. With more negative emotions by the information technology professional and others, then the decision to not proceed with the decision would most likely occur. Included are the Interpersonal Skills and Decision-Making components of emotional intelligence because the information technology

professional would take into consideration the importance of the relationships that are involved when deciding to proceed or not.

The third factor "An Agreement on how they will work together" would correspond to the emotional intelligence components Interpersonal Skills and Stress Management. To agree on how they will work together includes the emotional intelligence component Interpersonal Skills since relationships are an essential element of being able to work with others. information technology professionals knowing their emotions and recognizing the emotions of others assist in building relationships to ensure consideration of others. Also, the emotional intelligence component Stress Management knows one's own emotions to assist in reducing stress which enhances the ability to work with others in a less stressful environment.

The fourth factor "An agreement on how they will find better ways to do things" would correspond with emotional intelligence components Interpersonal Skills and Decision-Making. To agree on how they will find better ways to do things would need the emotional intelligence component Interpersonal Skills because of the relationships that evolve through working together. Having a positive relationship assist in building trusts and respect, which allow information technology professionals to have more open minds to accepting different ways to complete projects or assignments. The Decision-Making component assists with making decisions where the information technology professional feels more positive emotions with the intended results of the decision.

The fifth factor "Some principles they can hold each other to account to" would correspond to the emotional intelligence components Self-Expression, Interpersonal Skills, and Decision-Making. The information technology professionals would use the

emotional intelligence component Self-Expression when discussing some principles they can hold each other accountable. This component is essential because the information technology professional needs to be able to communicate how they are feeling about the principles and how they communicate when they are being held accountable for something. The emotional intelligence component Interpersonal Skills is vital if the information technology professional is the person holding others accountable for completing a project or assignment. They need to build a relationship with the ones they are holding accountable, so they understand what is essential to that individual and be able to use this to motivate the individual to get to the desired end. The Decision-Making component of emotional intelligence is needed to assist in making the decisions on how to recognize others when projects or assignments are going well and to keep motivating them to continue. On the other hand, it is needed to assist in making the right decision on how to handle a situation when things are not going as planned.

The final factor "Regular ideas that further develop their thinking and skillset" would correspond with the emotional intelligence components Self-Perception, Self-Expression, and Interpersonal Skills. With regular ideas that further develop their thinking and skillset, included is the emotional intelligence component Self-Perception. An information technology Professional would need to understand how they feel and what emotions are involved when they are developing their thinking and skillsets and how their ideas are received when shared. They would also need to be able to express their feelings and emotions about specific ideas; and whether these ideas would develop their thinking and skillset. The information technology professional would also use Interpersonal Skills when communicating their thoughts on ideas that are supposed to

develop thinking and skillsets. They would need to have built a relationship to trust that they could share their ideas in a safe environment.

Corresponding all of these factors with the components of emotional intelligence indicates areas of improvement (Ellis, 2016). They are improved and enhanced through training and development of the "soft" skills (Connolly & Reinicke, 2017). High levels of emotional intelligence are considered one of the greatest strengths of a manager, yet undergraduate students training does not include emotional intelligence "soft" skills training such as communication, politics, and teamwork (Connolly & Reinicke, 2017).

Study Limitations

This study has several limitations that further studies could address by changing or modifying the research design. Some of the limitations are listed below.

Use of Self-Report Questionnaires

The use of self-report questionnaires might increase the risk of an individual either rating themselves too high or too low or somehow answering the questions the way the individual thinks the organization wants the answers. The MLQ5X and EQ-i 2.0 reflects the answers only from the information technology professional. It would have been helpful to receive ratings from the information technology professional managers, peers or subordinates.

Test Selection and Study Design

The selection of the MLQ5X and the EQ-i 2.0 were excellent tools to use for this study. They have been used in many scenarios and in many different countries where the reliability and validity of the tests are confirmed. The limitation still exists with these

tests where the individual participating in these tests can skew the results by trying to answer the questions in a positive, favorable way the organization would prefer to see the results.

Recommendations for Further Study and Research

Replicating the Study Using Smaller More Focused Sample Population

This research study focused on information technology professionals who participated in social media such as LinkedIn, Facebook and Twitter. The invitation was sent out using email or messenger from the media source. The purpose was to gather as big of a sample as possible for the participants of the study. The researcher did not have a personal association with many of the participants, so verification of the urgency or truthfulness of the answers did not occur. For a further studies and research suggestion would be to contact organizations with large information technology departments to request their participation in a research study. The results of the study would be shared with the information technology department and other Senior Management if requested. In addition to the results shared, provided are ways to improve or enhance the information technology professionals' levels of emotional intelligence. Sharing the ways to improve and enhance the levels of emotional intelligence would provide the benefits for the information technology professionals both personally and professionally. It would also provide the organization with the benefits of having an information technology department with higher levels of emotional intelligence and being more engaged and productive in their positions.

Conducting Research Study Using Qualitative Method to Collect Data

This research study focused on information technology professional using a quantitative method to collect the data from the information technology professionals. For a further research recommendation, the data could be collected using a qualitative method such as interviews or focus groups. A qualitative method is something that works with a much smaller sample size. The participants of the study would be interviewed or questioned in a focus group setting where everyone had an opportunity to share thoughts on the interview questions. The interview or focus group may be a little more difficult since the participants may have more reservations about sharing their information face to face as opposed to being anonymous. After the data collection, the researcher would compile the information into reader-friendly reports to share with the management team within the organization. When sharing the information with the management team, provided are the benefits of having emotional intelligence workshops customized for the information technology professionals participating in the study.

If the management team approved, the EQ-i 360 questionnaire could be distributed requesting the information technology professional's managers, peers, subordinates and possibly external stakeholders complete the questionnaire. With the completion of the questionnaires, the results would be used to create customized emotional intelligence workshops. Several months after completing the workshops, the EQ-i 360 questionnaire would be distributed requesting the same people complete the questionnaires a second time as a follow-up and measurement of the workshop success. The results of the second questionnaire compared with the first questionnaire distributed

to see if there was a statistically significant improvement in the levels of emotional intelligence for the information technology professionals.

Conclusion

This research study was successful in adding to the empirical data collected regarding information technology professionals and emotional intelligence around the world. With the assistance of social media, this research study provides a foundation for future research studies of information technology professionals, and their levels of emotional intelligence, and how it affects their leadership behaviors. This study has also provided information on the relationship between emotional intelligence and transformational leadership. Information technology professionals with higher levels of emotional intelligence are more likely to have transformational leadership behaviors than those with lower levels of emotional intelligence. Information technology professionals having the transactional leadership and laissez-faire leadership behaviors were found to have lower levels of emotional intelligence. Of the five major emotional intelligence components, Self-Expression and Self-Perception have the most significant relationship with the use of transformational leadership. The primary area that could be enhanced to improve the information technology professionals level of emotional intelligence is Interpersonal Skills which includes building relationships. These results provide an excellent base for future studies to improve the experiences involving Information technology professionals.

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Appendix A: Demographics Survey 1

1. The ID Number - Create a password consisting of eight digits and the time in five digits
   - At least one Capital letter (ABC....)
   - At least one Lowercase letter (abc.....)
   - At least one Number (0123....)
   - At least one Special Character (@#$....)
   - Time (12:01)

   Example of Password Em@ti@n$12:01)

   Please remember this password because you will need it when completing the Emotional Intelligence Assessment!!
2. Gender
   a. Male
   b. Female
3. Ethnic Group
   a. American Indian or Alaska Native (A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.)
   b. Asian (A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.)
   c. Black or African American (A person having origins in any of the black racial groups of Africa.)
   d. Hispanic or Latino (A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.)
   e. Native Hawaiian or Other Pacific Islander (A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.)
   f. White (A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.)
4. Age Group
   a. 20-25
   b. 26-35
   c. 36-45
   d. 46-55
   e. 56+
5. Level of Education Completed
   a. Doctoral Degree
   b. Master's Degree
   c. Bachelor's Degree
   d. Associate's Degree

e. High School

6. Total Years of Working Experience including Information Technology Experience
    a. 1-5 years of experience
    b. 6-10 years of experience
    c. 11 years and above
7. Sector of Employment
    a. Business
    b. Education
    c. Healthcare
    d. Hospitality
    e. Manufacturing
    f. Other
    g. Retail
    h. Service
8. Current Position
    a. Management (Have Direct Reports)
    b. Non-Management (No Direct Reports)
9. If currently in Information Technology Management indicate number of employees
    a. 1-5 employees
    b. 6-10 employees
    c. 11-15 employees
    d. 16+ employees

Appendix B. EQi – 2.0 Questions

Please complete one of the following (First/Last Name or ID):

First Name: Gender (optional): F

Last Name: Age (optional):

ID Number: Today's Date:_____/_____/
MM DD

Instructions:

The EQ-i 2.0 provides you with an opportunity to describe yourself by indicating the frequency with which you feel, think, or act in the way described by each statement. There are five response options for each statement: *Never/Rarely, Occasionally, Sometimes, Often*, and *Always/Almost Always.*

Read each statement and decide which one of the five response options best describes the frequency of your thoughts, feelings, or actions. Indicate your response choice by circling the appropriate number.

If a statement does not apply to you, respond in such a way that will give the best indication of how you would possibly feel, think, or act. Although some of these statements may seem unclear or vague to you, choose the response option that seems to describe you best. There are no "right" or "wrong" answers and no "good" or "bad" choices. Answer openly and honestly by indicating how you actually are, and not how you would like to be or how you would like to be seen. Although there is no time limit, work at a steady pace and make sure that you consider and try to respond to each statement. This assessment must be completed in a single session.

	Rarely				Almost Always
1. I keep calm in difficult situations.	1	2	3	4	5
2. I make rash decisions when I'm emotional.	1	2	3	4	5
3. I back down even when I know I am right.	1	2	3	4	5
4. It's hard for me to make decisions on my own.	1	2	3	4	5
5. I interrupt when others are speaking.	1	2	3	4	5
6. It's difficult for me to change my opinion.	1	2	3	4	5
7. I say "no" when I need to.	1	2	3	4	5
8. I accomplish my goals.	1	2	3	4	5
9. It's easy for me to make friends.	1	2	3	4	5
10. Looking at both my good and bad points, I feel good about myself.	1	2	3	4	5
11. I act in an environmentally friendly way.	1	2	3	4	5
12. It's hard for me to enjoy life.	1	2	3	4	5
13. I'm aware of how others feel.	1	2	3	4	5
14. I see situations as they really are.	1	2	3	4	5

15. I cling to others.	1	2	3	4	5
16. I pay attention to how I'm feeling.	1	2	3	4	5
17. When I'm really upset, I can't decide what to do.	1	2	3	4	5
18. I try to make a difference in society.	1	2	3	4	5
19. I feel sure of myself.	1	2	3	4	5
20. I like helping people.	1	2	3	4	5
21. I am assertive without being offensive.	1	2	3	4	5
22. I enjoy talking with people.	1	2	3	4	5
23. When I disagree with someone, I say so.	1	2	3	4	5
24. I am empathic.	1	2	3	4	5
25. I make mistakes.	1	2	3	4	5
26. I can't think clearly when I'm under stress.	1	2	3	4	5
27. I'm aware of the impact of my mood on others.	1	2	3	4	5
28. I am not happy with my life.	1	2	3	4	5
29. I stay positive even when things get difficult.	1	2	3	4	5
30. I am good at understanding the way other people feel.	1	2	3	4	5
31. I don't feel good about myself.	1	2	3	4	5
32. I am optimistic.	1	2	3	4	5
33. I do not like being in unfamiliar situations.	1	2	3	4	5
34. My impulsiveness creates problems for me.	1	2	3	4	5
35. I expect the worst.	1	2	3	4	5
36. I make realistic plans to achieve my goals.	1	2	3	4	5
37. I tend to worry about a problem rather than try to solve it.	1	2	3	4	5
38. I am easy to approach.	1	2	3	4	5
39. It's hard for me to share my feelings with others.	1	2	3	4	5
40. I know what triggers my emotions.	1	2	3	4	5
41. People confide in me.	1	2	3	4	5
42. It's hard for me to change my ways.	1	2	3	4	5
43. I recognize my own biases.	1	2	3	4	5
44. I am impulsive.	1	2	3	4	5
45. I avoid dealing with problems.	1	2	3	4	5
46. I am easily influenced by others.	1	2	3	4	5

Appendix C: Multifactor Leadership Sample Questionnaire

My Name: _____
Date:_____

Organization ID#: _____ Leader ID#:_____

This questionnaire is to describe your leadership style, as you perceive it. Please answer all items on this answer sheet. If an item is irrelevant, or if you are unsure or do not know the answer, leave the answer blank.

Forty-five descriptive statements are listed on the following pages. Judge how frequently each statement fits you. The word "others" may mean your peers, clients, direct reports, supervisors, and/or all of these individuals.

Use the following rating scale:

Not at all Once in a while Sometimes Fairly Often Frequently, if not always

1 2 3 4 5

Transactional Leadership Questions						
	I provide other with assistance in exchange for their efforts	1	2	3	4	5
	I focus attention on irregularities, mistakes, exceptions, and deviations from standards	1	2	3	4	5
	I talk about my most important values and beliefs	1	2	3	4	5
	I demonstrate that problems must become chronic before I take action	1	2	3	4	5
	I concentrate my full attention on dealing with mistakes, complaints, and failures	1	2	3	4	5
	I keep track of all mistakes	1	2	3	4	5
	I direct my attention toward failures to meet standards	1	2	3	4	5
Transformational Leadership Questions						
	I re-examine critical assumptions to question whether they are appropriate	1	2	3	4	5
	I seek differing perspectives when solving problems	1	2	3	4	5
	I talk optimistically about the future	1	2	3	4	5
	I instill pride in others for being associated with me	1	2	3	4	5
	I discuss in specific terms who is responsible for achieving performance targets	1	2	3	4	5
	I talk enthusiastically about what needs to be accomplished	1	2	3	4	5
	I specify the importance of having a strong sense of purpose	1	2	3	4	5
Laissez-faire Leadership Questions						
	I fail to interfere until problems become serious	1	2	3	4	5
	I avoid getting involved when important issues arise	1	2	3	4	5
	I am absent when needed	1	2	3	4	5
	I wait for things to go wrong before taking action	1	2	3	4	5
	I show that I am a firm believer in "If it ain't broke, don't fix it"	1	2	3	4	5
	I avoid making decisions	1	2	3	4	5
	I delay responding to urgent questions	1	2	3	4	5