

Spring 5-3-2018

# THE INFLUENCE OF EMOTIONAL INTELLIGENCE AND PERSONALITY TRAITS ON EFFECTIVE LEADERSHIP

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THE INFLUENCE OF EMOTIONAL INTELLIGENCE AND PERSONALITY  
TRAITS ON EFFECTIVE LEADERSHIP

by

JOY COOPER

A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy  
Department of Human Resource Development and Technology

Ann Gilley, Ph.D., Committee Chair

Soules College of Business

The University of Texas at Tyler  
April 2018

The University of Texas at Tyler  
Tyler, Texas

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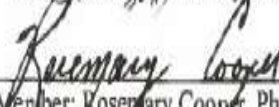
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## Abstract

### THE INFLUENCE OF EMOTIONAL INTELLIGENCE AND PERSONALITY TRAITS ON EFFECTIVE LEADERSHIP

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April 2018

Ineffective leadership contributes to the majority of organizational problems and business failures. The negative effects of poor leadership in the health services arena is a prominent issue in today's health services workforce, and is exacerbated by the challenges posed by the Affordable Healthcare Act of 2012. This study investigates the effects of emotional intelligence (EI) and personality traits (the Big Five), two variables commonly linked to effective leadership, within the context of healthcare.

This study examined the influence of EI and the Big Five personality traits on leadership effectiveness within a healthcare institution. The study assumed EI and the Big Five personality traits (conscientiousness, agreeableness, openness, and extraversion) would positively link to each other as well as leadership effectiveness, and predicted a negative relationship between neuroticism and leadership effectiveness. This study addressed the need for empirical studies that considered the impact of EI and personality on leadership performance and effectiveness (Farnia & Nafukho, 2016).

Primary and secondary data was collected from 54 healthcare leaders. Results suggest that EI is statistically and significantly related to leadership effectiveness.

Conscientiousness was also found to significantly predict a healthcare leader's effectiveness. Healthcare organizations interested in improving leadership effectiveness realize the importance of EI and personality on organizational outcomes. Implications for practice, HRD, leadership, and healthcare are discussed, as are future recommendations for research.

## **Chapter 1**

### **Introduction**

#### **Background of the Study**

Who should lead? This is a vital question asked by countries, organizations, sports teams, militaries, schools, churches, for-profits, and nonprofit institutions. The response will shape the future of the respective group. If answered incorrectly, Hogan, Curphy and Hogan (1994) predict economics will dwindle, organizational productivity will decline, teams will lose, profits will shrink, armies will be defeated, and nations will fail.

Poor leadership has been associated with the majority of organizational problems and the failures of business owners and senior executives (Collis, 1998; Dotlich & Cairo, 2003; Gilley, Gilley, Ambort-Clark, & Marion, 2014; Hatten, 2011; Levery 2012). Numerous studies have revealed ineffective leadership results in increased employee stress (Offermann & Hellmann, 1996), low morale (Brewer, Kovner, Greene, Tukov-Shuser, & Djukic, 2012, insubordination (Chism, 2016), industrial sabotage (Harris, & Ogbonna, 2002)), and intent to leave (Kelloway & Day, 2005).

The negative effects of poor leadership in the health services arena is a prominent issue in today's health services workforce (Barr & Dowding, 2015). Ineffective healthcare leaders have been identified as a root cause of the increasing healthcare costs and the diminished quality of healthcare services (Kelley, 2009). Similar to organizational outcomes, recent healthcare studies have linked ineffective leadership to turnover (Hawkins, 2010; Jeon, Merlyn, & Chenoweth, 2010), intent to leave (Laschinger & Fida, 2014), and financial losses (Weberg, 2010). Healthcare costs consumed over

15% of the nation's gross domestic product (GDP) in 2011 and are predicted to rise to 20% by 2020 (Keehan et al., 2011). Consequently, a healthcare organization's inability to provide effective leadership is detrimental to public health (Borkowski, 2015).

The examination of variables that influence leadership effectiveness is vital to organizational success (Xu, Zhong, & Wang, 2013). The mood and associated behaviors of leaders have a direct effect on productivity and profitability (Goleman, Boyatzits, & McKee, 2001). Rosete and Ciarrochi (2005) noted that emotional intelligence (EI) is a common factor among effective leaders. EI equips leaders with the ability to acknowledge and sustain constructive leadership practices (Kaplan & Kaiser, 2006).

Human resource development (HRD) scholars have heavily explored the impact of EI and personality traits on developing human resources (Farnia & Nafukho, 2016). EI represents a set of learned abilities and behaviors considered to assist individuals in achieving workplace success (Joseph, Jin, Newman, & O'Boyle, 2015). For over a decade, the role EI played in the contribution to organizational success was the subject of a great deal of research in organization management literature (Badri-Harun, Zainol, Amar, & Shaari, 2016; Weinberger, 2009).

The field of EI contains an expansive amount of organizational goals and objectives (Satija & Khan, 2013). According to Pradhan, Pattnaik, and Jena (2016) EI has attracted intense interest over the last decade. The EI concept extends beyond the realm of intelligence (IQ) and focuses on learned behaviors associated with organizational success (Reiff, Hatzes, Bramel, & Gibbon, 2001). Ciarrochi, Chan, and Caputi (2000) defined EI as "the ability of an individual to perceive, understand, and

manage emotion” (p. 539). The potential for improved workplace performance has lured HRD researchers to the EI construct (Githens, Dirani, Gitonga, & Teng, 2008).

By 2004, EI training and development had grown into a multimillion-dollar industry (Kunnanatt, 2004). In 2011, Goleman’s Emotional Intelligence (2001b) concept was recognized by *Time* magazine as one of the 25 most influential business books of all time. According to the World Economic Forum’s Future Jobs Report, EI will be one of the leading job competencies by the year 2020 (World Economic Forum, 2016).

Interest in EI extends beyond HRD and other social science fields. EI has been recognized as a growing phenomenon in the healthcare arena (McDaniel, Bogdewic, Holloway, & Hepworth, 2009). Mintz and Stoller (2014) evaluated successful healthcare centers and identified physicians and healthcare leaders with high EI scores and collaborating personality styles to be significant contributors to organizational success.

Goleman’s (1995, 1998, 2001a) EI revelations underscored the role emotions play in leader effectiveness. EI has gained notoriety within HRD as a tool to develop effective leadership skills (Batool, 2013). According to Farnia and Nafukho (2016), “the impact of EI in leadership development and performance” is an emerging EI-related theme within HRD (p. 90). A Google search of EI and leadership generated over 32 million results. Scholars acknowledge the positive claims supporting EI as improving organizational performance (Chiva & Alegre, 2008; Godse & Thingujam, 2010; Goleman, 1998; Thory, 2013a). Additionally, a meta-analysis conducted by Bono and Judge (2004) linked EI and certain personality traits to leadership efficiency and effectiveness.



Leadership performance has been reported to be the “most researched aspect of human behavior” (Nixon, Harrington, & Parker, 2012, p. 206). Numerous studies have linked effective leadership to organizational success (Colbert, Barrick, & Bradley, 2014; Ozbag, 2016). De Hoogh, Greer, and Den Hartog (2015) described the importance of effective executive leadership since executive leaders possess the potential to influence employee and organizational behaviors and outcomes.

The study of effective leadership includes the characteristics of the individual leader (Wang, Lee-Davies, Kakabadse, & Xie, 2011). Previous research suggests that an individual’s characteristics may be the strongest predictor of personal development (Maurer & Weiss, 2010). Bass and Bass (2008) believed effective leaders possess the ability to motivate, encourage, develop, and empower followers in order to fulfill organizational goals and objectives.

Interest in the identification of personality characteristics common among successful leaders has intensified over the past two decades as researchers and practitioners categorize individual leader personality styles connected to organizational outcomes (Hogan & Kaiser, 2005). Allport (1937) defined personality as "the dynamic organization within the individual of those psychophysical systems that determine his unique adjustment to his environment" (p. 48). Common among the different personality theories is the focus on the individual and how the individual navigates within the social world (McAdams, & Pals, 2006).

Numerous historians and philosophers have studied the personalities of both good and bad leaders (Colbert et al., 2014; Judge, Bono, Ilies, Gerhardt, 2002; Palrecha,

Spangler, & Yammarino, 2012). Costa and McCrae (1992) are credited for the widely accepted model of personality commonly referred to as the “Big Five.” The Big Five model of personality has been tested numerous times in organizational settings to identify individual personality variations among the following five dimensions: extraversion; openness; conscientiousness; neuroticism; and agreeableness (John, Naumann, & Soto, 2008; Judge, Piccolo, & Kosalka, 2009). Botwin and Buss (1989) suggested the Big Five core personality traits correlate with qualities that shape the organizational social landscape. A meta-analysis conducted by Judge, Bono, Ilies, and Gerhardt (2002) linked the five-factor personality traits to leadership effectiveness.

Although EI and personality have attracted intense interest over the last decade (Weinberger, 2009), some scholars and practitioners have expressed skepticism due to a lack of rigorous studies designed to identify the effectiveness of EI. While personality traits are a recognized research construct, EI has been criticized for the lack of distinctive variance in leadership effectiveness beyond intelligence and personality (Boyatzis, Good, & Massa, 2012).

Fambrough and Hart (2008) contend that EI concepts used by practitioners may have been placed before theory. A literature review conducted by Farnia and Nafukho (2016) analyzed peer-reviewed EI articles related to HRD between 2002 and 2013. Out of the 27 reviewed articles, over half were conceptually based. Additionally, Mintz and Stroller (2014) discovered the majority of reports linking EI to healthcare leadership success were based on expert opinion or observational studies.

Reliable EI standards and measurements are of concern for HRD scholars and practitioners (Groves, McEnrue, & Shen, 2008). Daus and Ashkanasy (2005) declared the field of EI lacks viable measurement tools that produce consistent and suitable discriminant and predictive validity. Given the academic and practitioner interest in the EI field, this study focused on the role of EI and personality that relate to leadership effectiveness within the context of HRD.

### **Statement of the Problem**

Ineffective leaders are counterproductive to organizational success (Schilling, 2009). Individuals in leadership positions who are unable to manage their emotions and maintain satisfactory interpersonal relationships fall short of reaching organizational outcomes (Inyang, 2013). A review of organizational climate studies conducted in the past 60 years revealed that 60-75% of employees across a wide spectrum of occupations report the worst aspect of their job is their immediate supervisor (Aasland et al., 2010; Rosenthal & Pittinsky, 2006).

Leadership ineffectiveness also plays a pivotal role in an organization's financial distress (Leverty, 2012). Poor leader behaviors impede an organization's ability to change, achieve missions, and remain competitive (Gilley, Quatro, Hoekstra, Whittle, & Maycunich, 2001). The current level of diversity at all organizational levels has placed additional strains on leaders (Latham, 2014). The changing workforce dynamics pressure organizations to select leaders who possess complex and adaptive management skills necessary to lead individuals toward improved organizational and personal performance (McKnight, 2013).

The Affordable Care Act of 2012 burdened healthcare institutions with regulation and compliance standards (Anderson, 2014). Reduced Medicare, Medicaid, and public insurance reimbursement allocations have financially strapped U.S. based medical facilities and forced practices to increase throughput and reduce time allocated to individual patients in order to maintain financial margins (Freeman, Vatz, Griggs, & Pedley, 2013; Pratt & Belloit, 2014). The mandated accountability and compliance requirements have caused healthcare suppliers to seek innovative approaches to improve performance outcomes (Karimi, Leggat, Donohue, Farrell, & Couper, 2014). Some healthcare providers are turning to leader development approaches that include emotional awareness training and development (Shakir, Recor, Sheehan, & Reynolds, 2017).

An impressive body of literature accumulated during the past three decades provides compelling evidence and support of the Big Five personality model in predicting leader behavior (Hurtz & Donovan, 2000). A meta-analysis of the Big Five conducted by Judge et al. (2002) found the five-factor model had a multiple correlation of .48 with leadership. The Big Five has previously been used to examine leadership attributes within organizations of various sizes and situations (House & Aditya, 1997). Barrick and Mount (1991) investigated the relationship between the Big Five and job performance variables for five occupational groups. The results of the study found conscientiousness was the only personality dimension that correlated to performance criteria across all occupation types. Although the Big Five has been universally tested, previous studies report varying results depending on the occupation, leader position, and tenure of the

leader (Funder, Guillaume, Sakiko, Shizuka, & Tatsuya, 2012). Consequently, additional research is needed.

Studies also support EI as a necessary component for leadership effectiveness (Ashkanasy & Tse, 2000; George, 2000; Prati, Douglas, Ferris, Ammeter, & Buckley, 2003). Research has suggested that EI enhances an organization's capital and improves the quality of the organization's human assets (Goleman, 2001b; Kang, Snell, & Swart, 2012). Guided by the premise that EI contributes to organizational performance, HRD practitioners have utilized EI training as a means to improve productivity (Dimitriades, 2007; Yildirim, 2007). However, the wave of interest in EI does not deflect opponents of the construct. Spector and Johnson (2006) declared "There is perhaps no construct in the social sciences that has produced more controversy in recent years than EI" (p. 325). The literature reveals a consistent call for empirical studies to analyze the effect of EI on leadership performance (Theeboom, Beersma, & van Vianen, 2014).

Unlike the established psychological constructs that support the Big Five, EI is regarded with skepticism by some researchers due to a lack of rigorous studies designed to test the effectiveness of EI. Antonakis (2003) dubbed EI as the nemesis to the Big Five based on the lack of empirical evidence that predicts leadership effectiveness. Daus and Ashkanasy (2005) declared the field of EI is lacking in viable measurement tools that produce consistent and suitable discriminant and predictive validity. Reliable EI standards and measurements are of concern for HRD scholars and practitioners (Muyia, 2009). A literature review conducted by Farnia and Nakfukho (2016) identified a lack of

consistent empirical evidence regarding the role of EI in leadership development and performance.

EI critics expressed doubt that EI was a dominant predictor of leadership effectiveness over cognitive ability (Antonakis, 2003; Antonakis, 2004; Van Rooy & Viswesvaran, 2004). Waterhouse (2006) argued that EI “has not been differentiated from personality plus IQ” (p. 252). The EI concept has also suffered from various definitions, measurements, and quantifiable results that support the claims that EI will improve organizational outcomes (Antonakis, Ashkanasy, & Dasborough, 2009).

A review of the research revealed repeated calls for empirical studies to examine the individual impact the five personality dimensions and EI have on leadership performance and effectiveness (Farnia & Nafukho, 2016). Mintz and Stroller (2014) called for empirical studies to identify and develop EI skills to improve physician and healthcare leadership skills. The expansive personality literature makes broad generalizations between personality and leadership effectiveness and neglects the type of job being performed (O’Boyle, Humphrey, Pollack, Hawyer, & Story, 2011). Critics of EI stipulate the necessity for future studies to examine whether EI has incremental validity over IQ and the Big Five personality traits (Antonakis, 2004; Antonakis et al., 2009; Cherniss, 2010; Metcalf & Benn, 2013).

Quality leadership is vital to organizational success. Quality healthcare is vital to a nation’s health. Questions remain around why intelligent and experienced leaders are not always successful in dealing with environmental demands and life in general. This study aimed to address the ambiguities and contradictions regarding the influence EI and

personality characteristics play on leadership effectiveness within the context of a healthcare organization.

### **Purpose of the Study**

The purpose of this study was to answer the calls for more rigorous empirical evidence regarding the influence of EI and personality styles on leadership effectiveness. Prior to beginning this work, developing a methodology or framework for EI, leadership effectiveness, and personality traits was necessary as well as creating a theoretical model regarding the linkage between EI and personality styles on leadership effectiveness. It has been difficult to address these calls due to the wide variation of definitions and methodologies used in both EI and leader effectiveness (Farnia & Nafukho, 2016).

### **Theoretical Foundation and Leadership Theory**

This study was theoretically underpinned by Human Capital Theory (HCT), Human Resource Development Theory (HRDT), Trait Theory, and EI.

**Human capital theory.** Economic theories have transitioned during the last decade and influenced traditional forms of capital. Capital was originally associated with tangible assets and final goods used in production. The traditional forms of capital have been expanded to include intangible assets that improve organizational productivity. HCT emerged from the neoclassical school of economic thought (Becker, 1964) and is considered foundational for HRD theory (Swanson & Holton, 2001). Economists have studied the relationship between education and income for years, and HCT emerged from the correlation between education and income (Becker, 1964). The correlation between

education and organizational productivity has been heavily researched, tested, and found to hold true (Brooks & Nafukho, 2006).

HCT points out that education increases individual productivity resulting in higher earnings (Becker, 1964 ; Schultz, 1961). Education comes with an opportunity cost of forgone current wages while investing in it. The theory contends that individuals consider the value of future earning as greater than the opportunity costs of current forgone wages (Rohling, 1986). This view considers human capital as a resource similar to physical capital where expected future benefits exceed the present cost of education (Wang & Sun, 2009). Accordingly, human force and high emotional capacity are now considered as an investment to be pursued as a main source of improving the knowledge and capacity of an organization's workforce (Burke, 2017).

**Human resource development.** The study was based on the idea of EI being a development tool for human resources or human capital. EI has been touted as a means to improve individual, group, and organization performance (Kunnanatt, 2004; Swanson & Holton, 2001). HRD has emerged from other disciplines such as systems theory, psychological theory, and economic theory (Swanson, 1999). Economics has played an integral role in the development and practical application of HRD (Swanson & Holton, 2001). Wang, Werner, Sun, and Gilley (2017) defined HRD as “a mechanism in shaping individual and group values and beliefs and skilling through learning-related activities to support the desired performance of the host system” (p. 1175).

Previous studies suggested that measures of self-reported EI correlate with personality (Ciarrochi, Chan, & Caputi, 2000; Ciarrochi, Chan, Caputi, & Roberts,



2001;McCann, 2004). Other scholars argue that the various perceptions of EI and the lack of empirical research limit the claims that EI can improve organizational and leadership effectiveness (Dasborough & Ashkanasy, 2002; Fambrough & Hart, 2008; Farnia & Nafukho, 2016). Questions remain regarding the claim that EI uniquely explains variance in leadership effectiveness. It could be that the strong relationships reported between EI and leadership effectiveness are accounted for because superior performance attributes of EI measures are naturally reflected in measures of an individual's personality. EI critics contend EI is an extension of personality traits and does not uniquely or significantly contribute to leadership effectiveness (Antonakis, 2004; Antonakis et al., 2009). Therefore, further research is needed to better understand the relationship between EI, the Big Five personality traits, and leadership effectiveness (Farnia & Nafukho, 2016; Sánchez-Álvarez, Extremera, & Fernández-Berrocal, 2016).

**Trait theory.** Personality psychology has been influenced by trait theory (Lin, 2010). Traits have been intensely studied by personality psychologists and portrayed as descriptors of a person. Traits point to consistent and recurring patterns of individual actions and reactions and provide insight into how an individual may act or respond. According to Lin (2010), trait theory can be considered from two views. One view assumes all individuals occupy a common set of traits and individual differences are a result of the varying levels of individual traits that differ among individuals (McCrae & Costa, 1999). The second view of trait theory assumes individual differences exist because everyone has a unique set of traits.

McCrae and John (1992) adopted the first view of trait theory and classified personality traits into the following five factors: extraversion; openness; conscientiousness; neuroticism; and agreeableness. The five-factor model assumes individuals can be characterized by patterns of thoughts, feelings, and actions (McCrae & Costa, 1999). There exists an increasing interest in studying leaders' personality due to the existence of the Big Five taxonomy that represents the minimum number of traits necessary to define personality across universal cultures and professions (Bove & Mitzifiris, 2007).

**Emotional intelligence.** Salovey and Mayer (1990) defined EI as “the ability to accurately perceive emotions, to access and generate emotions so as to assist thoughts, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth” (p. 5). The following three EI models have guided research within the HRD context: Boyatzis, Goleman, and Rhee's (1999) Emotional-Competence Inventory (ECI) model; Mayer and Salovey's (1997) Ability model; and Bar-On's Emotional-Social Intelligence model (1997a) (Farnia & Nafukho, 2016; Nafukho, 2009). Mayer and Salovey's (1997a) model centered on an individual's ability to process emotions while Boyatzis (2007) and Bar-On's (1997b) considered a broader approach that included ability and social competencies that determine how individuals relate to one another and deal with daily pressures. Various researchers have linked EI to improved leadership and organizational performance. The HRD field focuses on improved performance through learning. A better understanding of the effect

EI and personality have on leadership effectiveness will enable HRD practitioners to make educated decisions regarding training and development.

### Research Question

This study gathered empirical evidence regarding the effect EI and the Big Five personality styles had on leadership effectiveness. The following research question guided this study: What influence do EI and personality style have on leadership effectiveness?

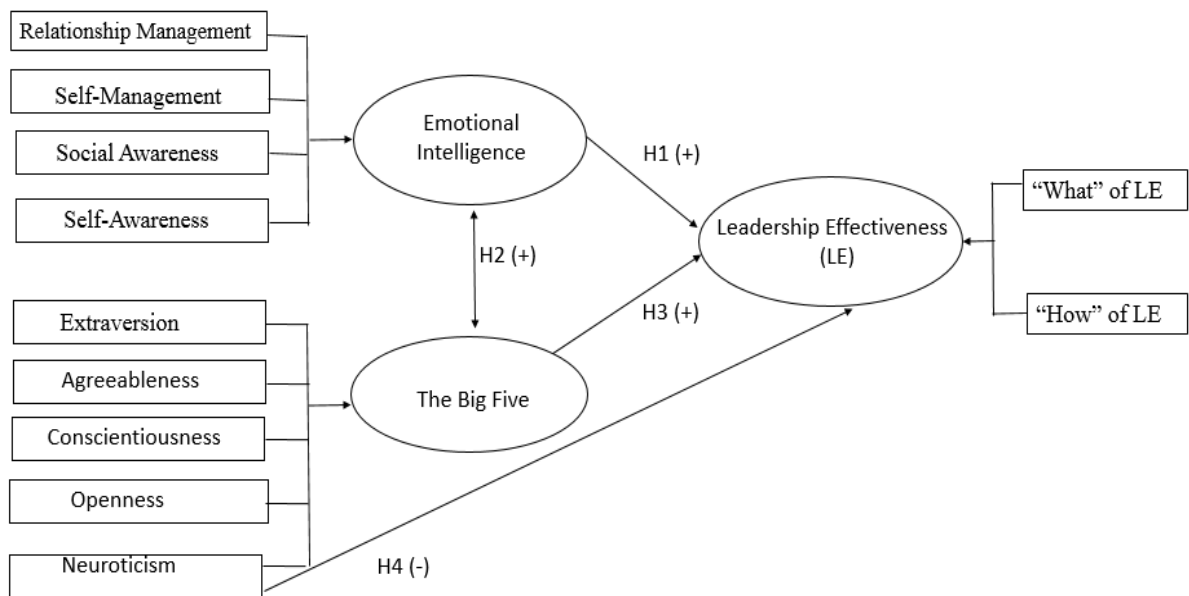


Figure 1. Research Model

## **Overview of the Design of the Study**

A quantitative research design approach was used for this study. Primary and secondary data was gathered to conduct an empirical examination of the unique contribution of EI and personality traits on leadership effectiveness within the context of a healthcare institution. The population for this study was comprised of healthcare leaders employed by a large healthcare institution in a southeastern state. The healthcare population is important to examine as emerging institutional changes have made healthcare leadership development a top priority within healthcare organizations (Snell, Briscoe, & Dickson, 2011). The selected healthcare institution employs over 10,000 people and is considered one of the largest healthcare institutions in the southeastern region.

In 2012, the institution began to actively rely on the quality of its leadership talent as a key retention strategy to help address labor market pressures. According to the System's Vice Chancellor of Human Resources, various leadership development programs have been structured and implemented at the facility. The most senior program is the annual leadership academy. The institution's leadership academy members provided the sample population for the study and addressed the need for empirical studies to utilize practicing leaders to assess leadership effectiveness (Antonakis, 2003).

An empirical research design focused on healthcare leaders was utilized for the study. The researcher analyzed the unique relationship EI has on leadership effectiveness by controlling for personality styles. Participants were surveyed to determine their personality profile using the Big Five personality instrument. Qualtrics® online survey

software was utilized to gather primary data. The study also used secondary data supplied by the healthcare institution for EI and leadership effectiveness scores. The secondary data included EI and 360-degree personality evaluations previously collected from the healthcare institution for the purpose of surveying the EI and performance scores of healthcare leadership academy members. The healthcare institution's leadership academy utilizes the Emotional Social Competence Inventory (ESCI) tool to assess the emotional competencies of academy participants. The ESCI tool is based on emotional competencies identified by Goleman (1998). In addition to the ESCI scores, the institution provided the objective measures from 360-degree performance evaluations. The 360-degree performance review scores included ratings and scores from survey participants' direct managers as well as the participants' subordinates. The 360-degree performance evaluation feedback was used to assess the participant's leadership effectiveness score.

### **Significance of the Study**

A natural inclination is to assume an individual's behavior should have an impact on the ability to effectively lead. While intelligence tests were designed to measure the intelligence quotient (IQ) of individuals, EI tests were designed to capture an individual's "ability to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth" (Mayer, Salovey, & Caruso, 2004, p. 197). This study provides a contribution to existing EI, personality,

and leadership literature by clarifying the inconsistent findings that EI and personality have on leadership effectiveness.

This study provides a unique contribution to healthcare by delivering empirical evidence to examine the impact EI and individual personality dimensions have on leadership effectiveness in the medical arena. The study utilized quantitative analysis to examine EI, personality, and leadership constructs to address the calls for more empirical evidence to support EI claims of improving the effectiveness and profitability of organizations (Farnia & Nafukho, 2016) and healthcare workforce centers (Stoller, 2008). Additionally, the study's findings are useful in examining personality inventories that are likely to be better predictors of job performance relative to hospital administration and physician leadership.

**Implications for theory.** The research has implications for advancing theory as EI research is emerging (Berrocal & Pacheco, 2006) and the addition of this empirical study broadens this concept thereby benefiting the advancement of EI. Because the majority of EI studies to date have been conceptually based, this study has implication for theory by increasing the number of empirical studies that control for unique contributions to leadership effectiveness (Farnia & Nafukho, 2016; Mintz & Stroller, 2014). By utilizing SEM modeling analysis, this research also has implications to advance EI theory by controlling for the variance personality profiles can potentially have on EI when EI is assessed by a mixed model method.

The EI concept has been challenged by the lack of empirical studies that correlate EI's unique contribution to leadership effectiveness beyond individual personality

characteristics. Moreover, there is a call for empirical studies that control for EI and personality in order to reduce biased coefficients that have been shown to affect leadership (Cavazotte et al., 2012; Antonakis, Bendahan, Jacquart, & Lalive, 2010). This study provides a contribution to existing EI and leadership literature by clarifying the inconsistent findings that EI and personality have on leadership effectiveness.

**Implications for HRD research.** The study has several implications for HRD. Emotional intelligence focuses on the awareness of developing and equipping individuals with methods and strategies based on psychological theory linked to improved organizational outcomes (Carmeli & Josman, 2006). This study contributes to the HRD field as a potential development tool for human resource training and development. The study will demonstrate the potential impact of individual personality dimensions on workplace behavior and effectiveness that have reemerged in the last decade as one of the more significant research topics related to organization development and HRD (Farnia & Nafukho, 2016).

The results of personality traits on leadership effectiveness may be useful in the recruiting process to help predict job effectiveness (Judge, Bono, Llies, & Gerhardt, 2002) and motivation to participate in training activities. The study results may provide insight to customize training programs based on identified EI deficiencies. The results provides a mechanism within human resource programs in terms of techniques and content that could be incorporated into EI training programs to better facilitate EI development to assist leaders recognize how negative attitudes prevent individuals from effectively performing. Additionally, recognizing personality dimensions of self and

followers will assist leaders and coaches shape communications to provide a tailored approach for improving employee performance. Based on the claims that EI contributes to improved workplace performance, this study can provide HRD practitioners empirical evidence on the development of EI training to promote productivity and compensation for employees that work in occupations requiring higher levels of EI such as service or management positions (Dimitriades, 2007).

The results of this survey can add to existing HRD theories that speculate EI training interventions would prove beneficial in organizational situations that can prompt negative emotions or anxiety, such as mergers and acquisitions (Chrusciel, 2006; McEnru & Groves, 2006). As noted by Fambrough and Hart (2008) EI development takes considerable time and commitment. This study serves as a practical marker for HRD professionals as to what EI can and cannot do to further organizational goals and missions.

According to Thory (2013b), modern organizations face complex and changing work environments that press HRD practitioners and organizational leaders to facilitate the systematic changes regarding masculinized cultures (Thory, 2013b). The results of this study may reveal EI has the ability to increase awareness and dispel any real or perceived gender performance biases and alleviate discrimination claims.

**Implications for leadership.** The wide variation of EI definitions and methodologies used to measure EI and leader performance contribute to conflicting study findings (Cherniss, 2010). The lack of quantifiable measures to examine the impact EI has on leadership effectiveness challenge EI's claims of improved organizational



performance (Muyia & Kacirek, 2009). A review of the research on emotional intelligence has called for quantitative studies to assess the effectiveness of EI on leadership performance (Antonakis, 2004; Zaccaro & Horn, 2003). This study will contribute to the field of leadership in terms of the impact EI has on leadership effectiveness. This study will address the call to control for the intervening effect of personality traits when mixed models of EI are used in predicting leader performance. The study is supported by the findings of Dubrin (2007) that purported how well an individual manages their own emotions will influence leadership effectiveness.

Emotional intelligence is related to leadership effectiveness, demonstrating the effect and importance of EI in organizational leaders. Most organizations conduct performance management evaluations. As part of the evaluation process, EI questions could be implemented to assess leader emotional support. The information could provide useful feedback to leaders regarding specific actions could be taken to lead more effectively.

**Implications for healthcare.** Emotional intelligence as a leadership competency has been gaining notoriety in the healthcare field (Mintz & Stoller, 2014; Nowacki, Barss, Spencer, Christensen, Fralicx, & Stoller, 2016). Healthcare has experienced tight labor market conditions that have placed upward pressure on healthcare wages causing some health systems to seek longer-term strategies for retaining critical talent (Carnevale, Smith, & Gulish, 2015). Bohmer (2013) noted the shift away from an individual silo culture where the physician was the central figure to the organizational structure to a culture of collaboration and interaction. Effective physician leaders are needed to

successfully navigate the transition to new health care models. This study expands the research in the healthcare field with relation to EI, personality, and physician development that may prove beneficial to the health care industry by providing evidence of effectiveness and efficiency specific to physician leaders.

Pronovost and Marsteller (2011) reported numerous EI strategies have been used in physician leadership training and development with mixed results. Mintz and Stoller (2014) note specific studies related to EI and healthcare was considerably less compared to the association of EI with business outcomes. Additionally, Mintz and Stoller (2014) found the majority of available EI and physician leadership development studies were opinion or perspective based and lacked supportive data that linked EI to enhanced leadership effectiveness. The personality dimensions identified and analyzed in the study will provide useful results that relate to physician and healthcare occupations. A call for additional studies within a healthcare organization is further supported by Clarke (2006) who noted the lack of empirical studies that investigated the development of EI relevant to organizational settings. The findings of this study may be used to establish standardized measurements of EI in healthcare providers. Additionally, the results of this study may illuminate components of EI and personality that are the most important during the career trajectories of physician leaders.

### **Assumptions**

The study consisted of primary and secondary data collection. Both primary and secondary data were gathered by a healthcare institution and provided to the researcher. The first assumption in this study was that survey respondents had answered freely and

truthfully in both primary and secondary collection methods. The survey participants were assured their confidentiality would be protected. Survey respondents were informed that any identifying information such as their name, email address, computer number, or IP number collected by primary and secondary means would be removed by the institution and would not be provided to the researcher. The second assumption was that the sample population provided diverse representation of healthcare leadership.

### **Definition of Terms**

In order to provide common and definitive understanding of terms essential for readers and researchers to draw the necessary conclusions, a list of terms is provided below.

*Ability EI* (or cognitive-emotional ability) – “concerns emotion-related cognitive abilities measured via performance-based tests” (Petrides, Pita, & Kokkinaki, 2007, p. 273).

*Big Five* – the five basic dimensions of personality that include the following: extraversion; agreeableness; openness; conscientiousness; and neuroticism (Barrick & Mount, 1991).

*Emotional Intelligence* – Mayer, Salovey, and Caruso (2008) define it as “Emotional Intelligence includes the ability to engage in sophisticated information processing about one’s own and others’ emotions and the ability to use this information as a guide to thinking and behavior (p. 503).

*Five Factor Model* – a set of five personality trait dimensions often referred to as the Big Five that include the following: extraversion; agreeableness;

conscientiousness; neuroticism; and openness (Goldberg, 1990).

*Human Resource Development* (HRD) – defined by Wang, Gilley, and Sun (2012) as a “mechanism in shaping individual and group values and beliefs and skilling through learning-related activities to support the desired performance of the host system” (p. 515).

*Mixed EI* – described by Goleman (1995) as a combination of individual personality traits, emotional experience, and the perception of one’s abilities.

*Personality* – Defined by McCrae and Costsa (1999) as individual differences in characteristic patterns of thinking, feeling, and behaving.

*Personality characteristics* – Personality characteristics are defined by Littunen (2000) “as the result of the interaction between the individual and the environment” (p. 297).

*Traits* – defined by the Merriam-Webster dictionary as inherent qualities of an individual.

*Trait EI* (or trait emotional self-efficacy) – “concerns emotion related dispositions and self-perceptions measured via self-report” (Petrides et al., 2007, p. 273).

## **Organization of the Dissertation**

This dissertation is organized into five chapters. Chapter 1 provided the background to the problem, statement of the problem, and purpose of the study. The theoretical foundation of leadership was presented along with the research question and structural model. A description of the study design and the significant contribution to HRD theory and practice were presented. Chapter 1 concluded with important

terminology relevant to the study. Chapter 2 provides a review of the literature relevant to leadership effectiveness, EI, and personality traits that underpins this study.

Chapter 3 contains the research question, hypotheses, and conceptual research model used for this study. The design of the study and the measurement instruments used to analyze the data are provided. The population and sample population will be presented, along with the details of the primary and secondary data collection used in the study. An examination of the instruments used to measure EI, the Big Five, and leadership effectiveness is also included. Additionally, Chapter 3 presents the data collection procedures and analysis techniques used measure the results of the study. Chapter 3 concludes with the limitations of the study.

Chapter 4 contains results of the data screening process and demographic data. Additionally, reliability and validity, common method variance, and construct validity are presented. Chapter 4 also details the results of the regression analysis. The chapter concludes with a discussion of the hypothesis testing. Chapter 5 provides a summary of the hypothesis results accompanied by the implications for research and practice. Chapter 5 concludes with limitations of the study.

## **Chapter 2**

### **Literature Review**

The purpose of this study was to identify whether leadership effectiveness is associated with leaders' EI and personality traits. A review of literature on EI, the Big Five Trait Taxonomy (Big Five), and leadership effectiveness enabled this study to address the ambiguities and contradictions regarding the effects of EI and personality traits on leader performance. The study adds to the literature by revealing the influence of EI and personality traits on leadership effectiveness.

The content of this section provides the foundation for this study through the review and analysis of the existing literature. The literature review is divided into six sections. The first section includes a review of the key literature related to leadership effectiveness. The next section presents EI and includes four sub-sections that contain EI models. The third section addresses the historical background, theory, and application of personality traits. The fourth section presents an overview of the relationship between personality traits and EI. The fifth section addresses relevant literature related to the relationship between EI and leadership effectiveness. The sixth section presents an overview of the relationship between personality traits and leadership effectiveness.

#### **Literature Search Strategy**

A comprehensive online search was conducted using databases accessed through The University of Texas at Tyler library portal. Databases and search tools used for locating relevant material included Academic Search Complete, Academic Search Premier, Business Abstracts, Business Source Complete, EBSCOhost, Education

Information Resources Center, FirstSearch, Human Resource Abstracts, LexisNexis, ProQuest, ProQuest Digital Dissertations, PsycINFO, SAGE, and the Vocational and Career Collection. A search using Google Scholar also returned references to articles used in this review. To search for relevant material, various combinations of keywords were used including *emotional intelligence*, *EI*, *HRD outcomes*, *individual performance*, *attainment of organizational objectives*, *leadership*, *leadership performance*, the *BFI*, and *personality traits*. The titles of several additional studies were obtained by referring to the reference lists of key studies on EI, HRD, and leadership. This is a method that reference librarians refer to as citation chaining (Savolainen, 2004). Once articles were identified through an initial search, abstracts were read and the articles scanned for relevancy. Articles that were deemed relevant to EI, personality traits, and leadership were included and appear in the review of the literature.

### **Leadership Effectiveness**

Leadership is a top priority for organizations and one of the “most researched and debated topics in the organizational sciences” (Zopiatis & Constanti, 2010, p. 302). Although research on leadership is extensive, the central themes that characterize contemporary leadership studies were also present in earlier explorations (Bass & Bass, 2008). Leadership research can be traced back to a 19<sup>th</sup> century philosopher Thomas Carlyle and his Great Man theory. The Great Man theory holds that effective leaders are born with certain qualities (Spector, 2016; Zaccaro & Horn, 2003). Early leadership research suggested some individuals possessed innate traits or characteristics that allowed them to rise above others and that these extraordinary individuals were capable of

altering the course of history (Hollander, 2014). Galton (1884) assumed prospective leaders were born with certain traits that allowed them to ascend to positions of power. Early leadership scholars attributed leadership success to certain genetic attributes (McCleskey, 2014).

Leadership research is extensive and has expanded to include the examination of personality traits, intelligence, situational leadership, and interactions between leaders and followers (Grossman & Valiga, 2016; McCall & Lombardo, 1983). In comparison to personal trait theories, situational theories emphasized that effective leaders adapt their leadership style to the follower's level of development and ability. Situational leadership focuses on the significance of the leader's reaction in a particular situation (Grossman & Valiga, 2012; Hersey, Blanchard, & Johnson, 1969).

Intelligence tests were developed to measure an individual's analytic ability (Dunkel, De Baca, Woodley, & Fernandes, 2014). The focus of leadership studies has progressed into three stages of conceptual, empirical, and methodological advances: (a) behavioral and attitude research; (b) behavioral, social-cognitive, and contingency research; and (c) transformational, social exchange, team, and gender-related research (Lord, Day, Zaccaro, Avolio, & Eagly, 2017).

The dynamic and competitive nature of modern work environments has increased organizations' reliance on leadership to improve performance and productivity (Nafukho & Muyia, 2014). Current research supports the notion that leadership effectiveness is centered on the interaction between the leader, the follower, and the situation (Clarke, 2006; Nesbit, 2012; Thory, 2013a). O'Neil (2007) concluded "identifying personality



traits and characteristics play an important role in predicting a leader's effectiveness over time" (p. 32).

### **Emotional Intelligence**

In the past two decades, EI has become a popular and often-used construct in the study of psychology and other social sciences (Bajerski, 2016). EI was first introduced by Salovey and Mayer (1990) as the ability "to accurately perceive emotions, to access and generate emotions so as to assist thoughts, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth" (p. 5). Goleman (1995, 1998) then elevated the status and recognition of EI and emphasized the characteristics of EI relevant to leadership performance and effectiveness. EI is considered a practical workforce concept widely accepted for organizational uses such as hiring, training, development, and team building (Joseph et al., 2015).

Goleman (1995) developed the Emotional Competency Model of EI which is divided into the following four domains: self-awareness; social awareness; self-management; and relationship management. The definitions and applications of EI are varied across psychology and HRD fields. Researchers take different approaches to studying and measuring emotions as they affect job and organizational performance (Northouse, 2015). Whereas researchers in psychology once viewed emotions as disruptive, disorganized, and characteristic of poor adjustment, current theories hold that emotions play an important role in organizing, motivating, and directing human activity (Salovey & Mayer, 1990). Wechsler (1958), who is acknowledged by many to have

developed the Intelligence Quotient (IQ) test, included an individual's capacity to perform decisively and deal with social and environmental pressures as the definition of general intelligence. While intellect and ability are important factors influencing individuals' behavior, Reiff et al. (2001) argued that intelligence was a broader construct than reflected in IQ. Goleman (1995, 1998) posited that among high-performing employees and productive employees, the differences that were unaccounted for by IQ could be explained by EI traits. This original notion of EI depicted a form of problem-solving skills that involved emotions (Cote & Levine, 2014). The Bar-On (1997a) version of EI allowed researchers to consider a cross-section of emotional and social competencies, skills, and facilitators that determine how effectively individuals understand themselves and others as well as express, relate, and cope with routine demands (Olatoye & Aderogba, 2012).

Three theoretical models have emerged in the field of EI based on prevailing theories of EI. These include abilities, traits, and mixed models which consist of both abilities and traits (Farnia & Nafukho, 2016; McCleskey, 2014). According to Farnia and Nafukho (2016), the leading models based on the respective EI theories are Mayer and Salovey's Ability model (1997), Bar-On's Emotional-Social Intelligence model (1997a), and Goleman's (1998) Emotional Competencies model which is a mixture of ability and trait models.

**Mayer and Salovey's Ability Model.** Mayer and Salovey (1997) coined the term *emotional intelligence* when they developed their model. According to Mayer and Salovey (1997), EI involved the ability of individuals to examine their emotions and the

emotions of others, to manage their own emotions and thinking, and in turn influence the emotions of others. The original Salovey and Mayer model consisted of abilities such as one's ability to perceive, appraise, and express emotions (Petrides & Furnham, 2001).

Eysenck, Eysenck, & Barrett (1985) defined traits as dispositions separate from abilities.

The Salovey and Mayer (1997) model combined the psychological impressions of emotion and intelligence and is designed to measure perceived emotion, the use of emotions to facilitate thought, and the management of emotions. This model allowed researchers to consider EI as a form of intelligence that evolved over time (Van Rooy & Viswesvaran, 2004). The premise of the model was to allow researchers to assess EI through performance-based tests to measure abilities (Salovey & Mayer, 1997). The original Multifactor Emotional Intelligence Scale (MEIS) (Mayer, Caruso, & Salovey, 1999) was amended into the Mayer Salovey Caruso Emotional Intelligence Test (MSCEIT).

**Bar-On EI Model.** The Bar-On Model (1997a) helps researchers understand EI as an “array of noncognitive capabilities, competencies, and skills that influence one’s ability to succeed in coping with environmental demands and pressures” (p. 14). The Bar-On definition of EI incorporated abilities along with personality, motivation, and affective dispositions (Nafukho & Mayia, 2014). The Bar-On Emotional Quotient Inventory (EQ-I) contains 133 items that assess an individual’s response to gain a total Emotional Quotient (EQ) score. The EQ score is based on the following five composite scales that include 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, p. 15).

According to Farnia and Nafukho (2016), the Bar-On Model offers a broader view than Salovey and Mayer’s ability model by allowing researchers to measure EI as a part of social intelligence. The Bar-On Model was developed following consideration and review of interrelated emotional and social competencies. The attributes that extend beyond cognitive intelligence are intrapersonal skills, interpersonal skills, adaptability, stress management, and general mood (Farnia & Nafukho, 2016).

**Goleman’s Mixed Model of EI.** EI was made popular by Goleman’s (1995, 1998) publications in which he discussed EI in both personal and professional settings (Farnia & Nafukho, 2016; Viskupicova, 2016). The predecessor to the Emotional Competency Inventory model, The Emotional and Social Competency Inventory (ESCI) model, includes the following areas: self-awareness; social awareness; self-management; and relationship management (Boyatzis, 2006). Goleman believed the EI skills measured in the ESCI model could be developed and transformed to help improve job performance (Goleman, 1998). The Goleman model was the foundation for the Emotional Competence Inventory (ECI) (Boyatzis, Goleman, & Rhee, 1999). The ECI consists of a self-report assessment used to measure EI (Boyatzis, 2007).

The original Emotional Competence Inventory (ECI) measurement of EI consisted of 18 competencies that measured an individual’s self-assessment of social and

EI abilities. The model was revised in 2006. The 2006 model, the Emotional and Social Competency Inventory (ESCI), was modified to reflect how an individual's emotions affect interpersonal interactions with others (Boyatzis, 2016). The ESCI contains 12 competencies as compared to the 18 included in the original ECI model. Additionally, the ESCI model reviewed the competencies on a 360-degree scale. The ESCI model includes the following four clusters and competencies:

- Self-Awareness concerns knowing one's internal states, preferences, resources, and intuitions;
- Self-Management refers to managing one's internal states, impulses, and resources;
- Social Awareness refers to how people handle relationships and awareness of others' feelings, needs, and concerns; and
- Relationship Management concerns the skill or adeptness at inducing desirable responses in others. According to Boyatzis et al., (1999), relationship management is where EI and social intelligence becomes most visible.

The ESCI model of EI contains 12 competencies that are arranged within the four clusters listed above. Figure 2 below depicts the four ESCI clusters and 12 related competencies:

<b>Self-Awareness</b>	<b>Social Awareness</b>	<b>Self-Management</b>	<b>Relationship Management</b>
Emotional Self-Awareness	Empathy	Achievement Orientation	Conflict Management
	Organizational Awareness	Adaptability	Coach and Mentor
		Emotional Self-Control	Influence
		Positive Outlook	Inspirational Leadership
			Teamwork

*Figure 2. ESCI Model (Boyatzis, 2007).*

**Other Mixed Models.** Petrides, Furnham, and Mavroveli (2007) characterized EI models as either ability or trait models. Trait EI was conceptualized as involving personality-related characteristics as opposed to ability EI which was theorized as a cognitive ability that belonged to the psychometric intelligence construct (Petrides & Furnham, 2001). The research results conducted by Petrides et al. (2007) associated EI with traits rather than abilities because of the difficulty in measuring EI as a cognitive ability. Therefore, Petrides et al. (2007) contended it was not feasible to measure EI attributes as individuals held crucial information necessary to judge one's own level of emotional ability.

Following the principles of Petrides et al. (2007), the Mayer and Salovey model is characterized as an ability measurement tool whereas the Bar-On and Goleman models are associated with trait or mixed models. Although discrepancies exist between the trait and ability EI models, Farnia and Nafukho (2016) identified recognition, awareness, and regulation of emotions as common among the EI model variations. Mayer, Roberts, and Barsade (2008) concluded that mixed EI can be sectioned into the following four content areas: (a) achievement motivation; (b) control-related qualities that theoretically overlap

with the personality trait of conscientiousness; (c) gregariousness and assertiveness (two facets of extraversion); and (d) self-related qualities, such as general self-efficacy.

Previous meta-analytic studies reported mixed findings regarding EI measures, and ability EI measures were only moderately intercorrelated (Joseph & Newman, 2010; Van Rooy & Viswesvaran, 2004). Joseph and Newman (2010) revealed mixed EI measures exhibited a higher validity ( $p = .47$ ) for predicting job performance as compared to ability EI measures ( $p = .18$ ). Other meta-analyses also supported mixed EI measures as a stronger indicator of job performance beyond cognitive ability and personality traits (Joseph & Newman, 2010; O'Boyle et al., 2011).

### **Personality Traits**

A historical review of influential personality theorists reveals how personality theories have been used in research. Freud's psychoanalytic view of personality consisted of three parts: the id; ego; and super-ego (Ara, Ghari, & Esfandiari, 2017; O'Neil, 2007). Freud concluded personality provided a resolution for unconscious conflict (Ewen, 2014). Rogers (1951) studied the actualization of a person's self-concept and an individual's desire to experience "oneself in a way that is consistent with one's conscious view of what is" , p.83). Eysenck et al. (1985) developed a personality model that categorized two dimensions of an individual's personality into neuroticism and introversion-extroversion (Siegling, Nielsen, & Petrides, 2014).

A universal definition of personality has not emerged (Ewen, 2014). Nonetheless, personality researchers have provided numerous definitions of personality. Burger (2013) defined personality as consistent behavior patterns and intrapersonal interactions

that originate within an individual. Maddi, Wadhwa, Haier's (1996) definition of personality stated personality was "a stable set of characteristics and tendencies that determine those commonalities and differences in the psychological behavior of people that have continuity in time and that may not be easily understood as the sole result of the social and biological pressures of the moment" (p. 9). Fontana (2000) noted that personality predicts what an individual will do in certain situations. Most definitions of personality focus on consistent characteristics of the person (Ormel, VonKorff, Jeronimus, & Riese, 2017), making personality traits reliable indicators in the study of human behavior.

Traits were initially identified as inherent qualities of an individual in the early scientific research on leadership (Ozbag, 2016). As leadership research evolved, the Great Man theory that assumed traits were genetically predetermined at birth (Borgatta, Bales, & Couch, 1954) were no longer universally accepted. Later, Stogdill (1948) conducted 124 separate inquiries that examined personal qualities of individuals in leadership roles. Most of these studies focused on the determination of the characteristic differences between leaders and followers (Stogdill, 1948). Stogdill found indicators of higher intelligence in leaders versus followers and positive relationships between adjustment, extroversion, dominance, and leadership traits. However, Stogdill did not find traits that were universal to all leaders. Stogdill's studies revealed a "person does not become a leader by virtue of the possession of some combination of traits" (1948, p. 63).



Personality traits are now largely seen as resulting from the interaction between the individual and the environment (Littunen, 2000). The terms personality *traits* and *characteristics* are used interchangeably in personality development literature, and Geukes, van Zalk, and Back (2017) recently concluded that personality characteristics are formed by the interplay between the individual and the environment. Jung (1969) categorized personality originally identified by Freud (Pierce, 2005). According to Adamski (2013), Jung classified personality based on inherent and environmental circumstances and is credited for distinguishing observable characteristics from psychological traits (Arnold & Silvester, 2005). Jung theorized two main types of characteristics, introversion and extroversion, and is noted for expanding the view of culture and personality (Chen, 2011).

### **The Five Factor Model**

Sir Francis Galton (1884) is noted among the first to categorize personality traits by counting dictionary words that reflected human character (Goldberg, 1999). The taxonomy of personality began to systematically form following McDougall's (1932) revelation that personality "may be broadly analyzed into five distinguishable but separate factors namely intellect, character, temperament, disposition, and temper" (p. 15). Cattell (1957) developed a categorization of individual differences that consisted of 36 related personality dimensions. According to Barrick and Mount (1991), Tupes and Chistal (1961) reanalyzed replicated Cattell's (1957) correlations found the five-factor model provided statistically significant correlations of analyzed data. The results of an empirical study conducted by Norman (1963) supported previous studies that identified

the following five personality factors: extraversion; emotional stability; agreeableness; conscientiousness; and culture. Norman's (1963) study is important because it provided personality labels that are commonly referred to in current personality literature. The emerging consensus of the early factor models remained dormant during the 1970s (McCrae & John, 1992). Digman (1990) reanalyzed the earlier five factor model data sets and Goldberg (1990) extended the model into the most widely accepted model of personality (Costa, Alves, Neto, Marvao, Portela, & Costa 2014; Magalhaes, Costa, & Costa, 2012; Polzehl, 2015).

The five-factor model has been recognized for the reliability generated across various theoretical frameworks and geographical cultures (Bono & Judge, 2004; Costa & McCrae, 1992; McCrae & Costa 1999). The Big Five model has been translated into several languages and applied to different cultures and contexts (Shane, Nicolaou, Cherkas, & Spector, 2010). The Big Five personality factors include: extraversion; agreeableness; conscientiousness; openness; and neuroticism (Costa & McCrae, 1992; Goldberg, 1990). Numerous studies have identified certain personality dimensions as indicators of job performance outcomes (Barrick & Mount, 1991; Hertz & Donovan, 2000; Judge, Heller, & Mount, 2002).

**Conscientiousness.** Conscientiousness was described by Digman (1990) as the will to achieve. Individuals scoring high in conscientiousness are believed to display self-discipline (Botwin & Buss, 1989; John, 1989), plan accordingly (Hogan & Onwa, 1997), and strive for academic achievement (Digman, 1990). Individuals who score low

in conscientiousness are more likely to display spontaneous and impulsive behavior (McCrea & Costa, 1999).

**Openness.** This dimension of personality has been interpreted by some scholars as intellect (Borgatta, 1964; Digman & Takemoto-Chock, 1981; Hogan & Ones, 1997) and labeled as openness to experience by McCrae and Costa (1999). Traits common to this dimension include creativity, culture, imagination, curiosity, intelligence, art appreciation, adventurousness, and open-mindedness (John & Srivastava, 1999).

**Extraversion.** Extraverts are often perceived as full of energy and enjoy interacting with people. This trait is marked by enthusiasm, assertiveness, sociability, and activity (Botwin & Buss, 1989; Judge et al., 2002; McCrae & Costa, 1999).

**Agreeableness.** Individuals who score high in agreeableness are considered to be cooperative rather than competitive or antagonistic toward others. Traits that describe this personality dimension are trusting, good-natured, compassionate, helpful, and flexible (Barrick & Mount, 1991).

**Neuroticism.** This dimension of personality has also been referred to as narcissism and emotional stability (Borgatta, 1964; McCrae & Costa, 1999). Researchers generally agree this category of personality is connected to a low tolerance for stress and a high tendency for negative emotions such as anger, anxiety, or depression (Digman, 1990).

### **Personality Traits and Emotional Intelligence**

For decades, psychologists have attempted to detect, measure, and modify personality characteristics and traits that impact an individual's behavior (Sevdalis,

Petrides, & Harvey, 2007). Empirical research addressed the early debates among EI scholars regarding the notion that EI was simply an extension of personality traits that have been studied in the past (Andrei, Siegling, Aloe, Baldaro, & Petrides, 2016).

Di Fabio, Palazzeschi, Asulin-Peretz, and Gati (2013) examined the relationships between EI, career indecision, indecisiveness, personality traits, career decision-making self-efficacy, and perceived social support. Di Fabio et al. (2013) surveyed 361 students attending the University of Florence and found EI “added significant incremental variance beyond that accounted for by personality traits in relation to career decision making and self-efficacy” (p. 177). The Di Fabio et al. (2013) study showed that emotional stability was strongly correlated with all three aspects of the emotional- and personality-related career difficulties of the Big Five.

Di Fabio et al. (2013) also found that career indecision had an inverse relationship with perceived social support and career decision self-efficacy. Indecision also correlated with an external factor, perceived social support (Di Fabio et al., 2013). Study participants who reported difficulties in managing anxiety also reported chronic indecisiveness. The study showed that emotional stability was strongly correlated with all three aspects of the emotional- and personality-related career difficulties of the Big Five Questionnaire (BFQ). Di Fabio et al. (2013) concluded that increasing EI could reduce both indecision and indecisiveness. The study supported EI as a critical factor contributing to improving individual social skills that can lead to improved career decision-making abilities.

Di Fabio and Saklofske (2014) conducted a quantitative study similar to that of Di Fabio et al. (2013) designed to examine the roles of self-reported and ability EI, fluid intelligence, and personality traits on career decision-making, career self-efficacy, career indecision, and indecisiveness. The study was administered to 194 junior and senior students attending an Italian high school. This study was representative of the growing interest in the role of EI in managing organizational performance enhancement and making career decisions. Di Fabio and Saklofske (2014) considered the role of EI and personality traits and the impact on organizational performance. Di Fabio and Saklofske (2014) found that both self-reported and assessed EI scores added significant variance beyond personality traits in making career decisions and career indecision and indecisiveness. Trait EI played a significant role in integrating emotional experiences related to career decision making.

Di Fabio and Saklofske (2014) used the MSCEIT to measure ability-based EI. The researchers used the Bar-On Emotional Intelligence Inventory to measure the self-reported EI and the Trait Emotional Intelligence Questionnaire (Petrides & Furnham, 2001) as an additional self-reported EI measure. Participants' personality traits were measured with the Big Five Questionnaire. Considering the independent variables, fluid intelligence and personality traits were the most significant predictor variables. Di Fabio and Saklofske (2014) focused on various measures of EI (i.e., ability, fluid, trait, and self-report) in an attempt to add more breadth and depth to the measure of EI than had been achieved by comparable quantitative studies.

Colomeischi (2015) conducted a quantitative study that analyzed burnout as a problem within the education context. The study included 575 teachers working in varying levels of education. The sample consisted of 375 women. Both rural and urban teachers were surveyed. EI was the independent variable of the study, and burnout was the dependent variable. The educational context was selected as it provided the foundation and premise for burnout to occur. The premise of the study was that teacher burnout can hinder the quality of education. The personality traits of teachers, along with EI, were considered to be internal factors. The study provided a glimpse into internal issues and personalities that influence burnout. The study hypothesized that an inverse relationship existed between high teacher EI and burnout. Additionally, certain personality traits of teachers were hypothesized to be linked to burnout (Colomeischi, 2015).

Comomeischi's (2015) study found that teachers with higher EI scores experienced lower levels of burnout. Additionally, teachers with higher levels of life satisfaction were less likely to become exhausted and feel unaccomplished. Colomeischi's (2015) results supported other studies regarding personality traits and job performance, as the results supported the hypothesis that teachers' personality traits affected their feelings of burnout and exhaustion. As found in the Cavazotte, Moreno, and Hickmann (2012) study, neuroticism resulted in negative effects on job performance. In Colomeischi's (2015) study, neuroticism increased burnout. Additionally, Colomeischi (2015) emphasized the importance of personality and that participants' individual characteristics be considered when studying burnout. Teachers with high self-

esteem were also more likely to preserve a sense of fulfillment while working in stressful situations than teachers with low self-esteem (Comomeischi, 2015). The role of the following personality traits had an inverse relationship with teacher burnout: extroversion; agreeableness; conscientiousness; and emotional stability (Colomeischi, 2015). Colomeischi (2015) recommended EI training and development to reduce burnout and improve the quality of educational environments.

Joseph et al. (2015) conducted a meta-analysis to compare mixed and ability measures of EI. Ability EI refers to EI as a facet of intelligence, and mixed EI involves a combination of self-perceived EI, personality, and cognitive abilities (Joseph et al., 2015). According to Joseph et al. (2015), “mixed EI measures have sampled from several well-established construct domains, including conscientiousness, extraversion, general self-efficacy, self-rated performance, ability EI, emotional stability, and cognitive ability” (p. 301).

Mixed EI measures may fail to display incremental validity when controlling for the common psychological causes of mixed EI and job performance (Joseph et al., 2015). The findings of Joseph et al.’s (2015) study showed that after controlling for the seven established psychological constructs, the relationship between job performance and mixed EI was near zero. The results also revealed mixed EI was linked with performance results through supervisor-rated job performance measures (Joseph et al., 2015). The study supported the construct validity of mixed EI measures and added to existing theoretical explanations for a high correlation between mixed EI and job performance. Past researchers have routinely contended that mixed EI measurements were an overall

better predictor of job performance compared to ability EI measurements (O'Boyle et al., 2011).

Joseph et al.'s (2015) study offered insights that the value of mixed EI as a predictor of job performance can be supported through ability EI, self-efficacy, self-rating job performance, personality, and cognitive ability. The findings of Joseph et al.'s (2015) study supported previous meta-analytic results suggesting that mixed EI predicts supervisor ratings of job performance (Joseph & Newman, 2010; O'Boyle et al., 2011). Joseph et al. (2015) additionally concluded that mixed EI would be a good indicator of job satisfaction. Joseph and colleagues (2015) also argued that researchers could use a single mixed EI measurement tool to secure a portion of the criterion-related validity that would otherwise be acquired by using a series of personality measurements. Joseph et al. (2015) concluded mixed EI results were indicative of a construct of personality and self-perceptions and may be used as part of a selection system for hiring, training, and development.

### **EI and Leadership Effectiveness**

According to George (2000), EI and leadership are “the most researched and debated topics in the organizational sciences” (p. 1028), and EI has been positively correlated with effective leadership (Zaccaro, Kemp, & Bader, 2004). Previous studies that revealed correlations between intelligence and leadership prompted researchers to pursue additional non-intellective traits that could predict an individual's behavioral tendencies (Ramchunder & Martins, 2014). The role of EI in improving leadership



performance and development has made EI an appealing construct for HRD scholars and practitioners.

Studies on the effect of trait EI on leader performance are founded on the notion that certain categories of personality characteristics are required in order for a leader to exert influence (Judge et al., 2009). Cavazotte et al. (2012) investigated the effects of intelligence, EI, and personality traits on transformational leadership and leadership performance in an organizational context. Cavazotte et al. (2012) conducted a quantitative study that included leadership and managerial performance as dependent variables. The independent variables included EI, intelligence, and the BigFive personality traits. Study participants included 134 managers employed by a large Brazilian energy company. Cavazotte et al. (2012) defined leader effectiveness based on organizational outcomes. The study results indicated leader effectiveness was directly impacted by the transformational behaviors and indirectly impacted by individual personality characteristics that were mediated through transformational behaviors. Additionally, the study revealed that when individual personality traits and abilities were controlled for, the effect of EI on leadership effectiveness was not significant. Cavazotte et al. (2012) called for future quantitative research based on sound measurement instruments and research designs in order to measure and assess EI and EI constructs that contribute to effective organizational leadership.

McCleskey (2014) conducted a literature review to investigate the relationship between EI and leadership. The review of the literature identified areas of focus in recent EI and leadership research, as well as leadership emergence in small groups. According

to McCleskey (2014), EI helped researchers understand the emergence of leadership characteristics and personality traits to better explain leader behaviors and effectiveness. Ability, emotional and/or social skills and abilities, and personality traits are the most commonly measured factors of EI (McCleskey, 2014). McCleskey (2014) found that the literature reviewed supported the “validity of EI as a construct related to leadership performance, organizational effectiveness, and important work outcomes” (p. 82). A key strength of McCleskey’s study was the in-depth explanation of EI measurement tools and the statistical validity of each instrument. McCleskey (2014) discussed the lack of effective and valid measurement tools with the biggest complaint being the subjective nature of self-report measures of EI.

Lopes, Grewal, Kadis, Gall, and Salovey (2006) conducted a multilevel analysis to investigate associations between EI and self-report, peer, and supervisor-rated performance measures. Survey data was collected from 44 analysts and administrative staff from a finance department of a Fortune 400 insurance company. EI was measured using the MSCEIT V2.0 (Mayer, Salovey, & Caruso, 2004). The hierarchical-linear and nonlinear modeling (HLM) program was used to analyze the data. The results revealed that performance outcomes were positively correlated to EI. Participants scoring higher in EI held positions of higher rank, received better performance measurement scores, and were granted higher merit increases than their counterparts.

Rosete and Ciarrochi (2005) used a correlated regression analysis to analyze the connections between EI, intelligence, personality, and leadership effectiveness of senior executives employed in a large Australian public service organization. Of the 41

participants, 24 were male and the average age of the respondents was 42. The majority of respondents (75%) had been with the organization for at least 10 years. EI was assessed using the MSCEIT V2.0 (Mayer, Salovey, Caruso, & Sitarenios, 2003). Personality was measured using Conn and Rieke's (1994) 16 personality factor questionnaire (16PF). Rosete and Ciarrochi (2005) purported the 16PR to be a valid and reliable instrument widely used in the Australian public service sector. Leadership effectiveness scores were derived from the 360degree performance assessment instrument implemented by the organization. Leadership effectiveness scores included a combination of results from direct supervisors and peer and subordinate scores. Each executive was assessed based on his or her ability to achieve organizational outcomes. Leadership effectiveness results included the executives' rating scores from their direct managers. The organizational outcomes were considered the "what" of performance. Respondents were also rated on their ability to build effective working relationships in addition to achieving performance results which were considered the "how" of performance (Rosete & Ciarrochi, 2005).

Rosete and Ciarrochi (2005) used a correlated regression analysis to analyze the connections between EI, intelligence, personality, and leadership effectiveness. Pearson correlation coefficients were used to analyze the relationship between EI and leadership effectiveness. The "how" of performance ratings revealed participants with high EI scores had higher performance rating scores. Perceiving emotions surfaced as the EI component that contributed the most to the "how" of performance. McCleskey (2014) found that individuals have varying degrees of ability to perceive and manage emotions.

Additionally, McCleskey (2014) revealed the controversy surrounding EI which, similar to leadership, suffers from too many unsubstantiated theoretical claims; however, McCleskey (2014) argued that the ability model by Mayer, Salovey, and associates has the best prospect to advance the field of EI due to the overlap with personality models evident in mixed EI research.

Viskupicova (2016) also studied EI and leadership and examined the relationship between EI and leadership within a Slovakian business environment. The main research question revolved around whether EI involved in business decisions was a factor in determining the effective performance of leaders. Viskupicova (2016) concluded that less than half of Slovakian companies considered EI skills as important when recruiting for management and leadership positions. Viskupicova's (2016) research is relevant to this study in that the main research question revolved around EI involved in business decisions as a factor in determining effective performance of leaders. The primary limitation of that study was the lack of comprehensive analysis of EI and leadership outcomes to support the main research question.

Ramchunder and Martins (2014) sought to gain insight into the link between EI and self-efficacy and to what extent or degree the relationship affected leadership effectiveness. The study was designed to gain psychological insight into the constructs of EI and self-efficacy and the effects on leadership in a law enforcement context. A quantitative study gathered data from a 107 police officers in the KwaZulu-Natal population of South Africa. Ramchunder and Martins (2014) highlighted the role of emotions in leadership by surveying and analyzing research on EI and leadership and

found intelligence and conscientiousness had the highest impact on leadership effectiveness. Results of the study revealed strong correlations between managing one's own emotions and leadership effectiveness. The study's findings supported the notion that the ability to manage one's emotions increases leadership effectiveness.

Ramchunder and Martins' (2014) research highlights the need to study the effects of EI on leader performance as mediated by personality traits, which may have been strengthened by consideration of the personality profiles of the participants. The researchers concluded that EI and self-efficacy impact leadership effectiveness and suggested that future researchers study personality and leadership styles to understand what styles impact effective leadership. Ramchunder and Martins' (2014) research supported the link between EI and leadership, and the authors stated that the extent to which EI accounts for effective leadership remains relatively unknown, which supports the need for quantitative studies that focus on EI predictors and leadership outcomes.

Gregory, Robbins, Schwaitzberg, and Harmon (2017) evaluated the potential use of a 360-degree performance evaluation feedback tool for assessing leadership quality within the healthcare field. Study participants were professional medical association (PMA) committee leaders. Gregory et al. (2016) utilized the 360-degree performance measurement to assess EI to the extent that self-assessments aligned with the ratings of others as a factor in determining leadership quality in leader candidates. The participants completed self-ratings regarding their perceived behavior.

The results of Gregory et al.'s (2016) study showed that participants who underestimated or accurately estimated their leadership behaviors correlated higher to

colleague and staff perceptions as compared to participants who overestimated their leadership behaviors. The conclusions drawn from the study supported EI being positively related to overall performance ratings of potential leaders. Given the impact PMA members have on healthcare, the results of the study supported healthcare organizations' consideration of 360-degree performance review results as a leadership development tool in the healthcare sector. The study results revealed leader candidates who reported humble or accurate self-ratings correlated with higher leadership, teamwork, and communication skills scores as compared to leader candidates with exaggerated self-ratings (Gregory et al., 2016). The study conducted by Gregory et al. (2016) is relevant to this study because the candidate pool consisted of healthcare leaders. The article notes that physicians may lack interpersonal communication skills and leadership training, and that a lack of leadership skills can be a barrier to effective leadership.

Despite the academic research, two inconsistent approaches to EI have emerged in the literature. Goleman (1998) stated,

We're being judged by a new yardstick: not just how smart we are, or by our training and expertise, but also by how well we handle ourselves and each other. This yardstick is increasingly applied in choosing who will be hired and who will not, who will be let go and who retained, who passed over and who promoted (p. 3).

Critics of EI argue that the outcomes touted by proponents of EI exceed scholarly support, and other scholars criticize the claims that EI results in improved leadership

performance (Weinberger, 2009). Antonakis (2003) stated “Emotional intelligence (EI) has been embraced by many practitioners and academicians without clear empirical support for the construct” (p. 355).

### **Personality Traits and Leadership Effectiveness**

Researchers and practitioners consider leadership to be crucial to organizational effectiveness (Mathieu, Maynard, Rapp, & Gilson, 2008; Siegling, Nielsen, & Petrides, 2014) and have tried to identify key leadership characteristics crucial to leader effectiveness. Some researchers consider the Big Five personality traits to be the most established model to assess personality (Antonakis, 2003, 2004; Hogan, Curphy, & Hogan, 1994; Langford, Dougall, & Parkes, 2017). Judge et al. (2002) conducted a qualitative review and meta-analysis and found, with the exception of agreeableness, that the Big Five personality traits predicted leader emergence and effectiveness. A review of successful team cohesiveness conducted by Ilgen, Hollenbeck, Johnson, and Jundt (2005) found teams that scored high in extraversion, conscientiousness, and agreeableness had higher social cohesion and experienced higher job satisfaction.

Because executives influence employee and organizational behaviors, Ozbag (2016) analyzed the ethical components of executive leadership. To examine the relationship between ethical leadership and employee outcomes, Ozbag (2016) used regression analysis to measure the connections between the Big Five personality traits and leadership. The study participants were business majors attending Kocaeli University, and 144 students responded to the survey. The Turkish version of the Big Five Personality Traits Scale was used to gauge the degree to which neuroticism,

extraversion, agreeableness, conscientiousness, and openness to experience were present and correlated to effective leadership.

Ozbag (2016) found neuroticism had a negative effect on leadership. Agreeableness, openness to experience, and conscientiousness served as precursors to effective leadership. The qualitative and meta-analysis conducted by Judge, Bono, et al. (2002) uncovered similar results regarding negative correlations between neuroticism and leadership effectiveness. The results of Judge et al.'s (2002a) study also suggest that, with the exception of agreeableness, the Big Five personality traits predict leader emergence and effectiveness.

Ozbag (2016) found that agreeableness was the most powerful personality trait that predicted effective leadership. The findings of this study were based on student evaluations. Additionally, Ozbag (2016) did not find that extraversion was a predictor of leadership effectiveness. The study added to HRD research by providing information on opportunities to strengthen personality traits that support decision making that can improve leadership effectiveness. Ozbag (2016) suggested collecting information from multiple sources other than from self-reports and recommended that future researchers consider peer ratings, customer ratings, and subordinate ratings to provide multiple sources of data beyond a leader's self-assessment. The findings of Ozbag's (2016) study supported use of the Goleman 360 rating because it allows for data collection from multiple sources beyond just self-reporting.

McElravy and Hastings (2014) examined the relationship between leadership, EI, and personality traits in youth leaders in development programs such as 4-H and Future



Farmers of America (FFA). The goal of the quantitative study was to gain insight into the traits of future leaders and examine the transfer of leadership from the Baby Boomer generation to younger generations in agricultural communities. McElvavy and Hastings (2014) used regression analysis to examine leadership, EI, and personality traits in youth leaders. The study was conducted at a conference in the summer of 2012, and participants were comprised of students attending public and private schools in Nebraska. Students were categorized into two groups. One group (n=74) contained incoming sixth graders. The other group (n=83) consisted of students who had completed sixth through twelfth grade. The older group self-selected to attend. Targeted students were members of career and vocational associations such as Future Business Leaders of America (FBLA), Delta Epsilon Chi, Distributive Education Clubs of America (DECA), Family, Career and Community Leaders of America (FCCLA), Future Farmers of America (FFA), Health Occupations Students of America (HOSA), and SkillsUSA.

Participants voluntarily completed a set of surveys that included the Youth Leadership Life Skills Development scale (YLLSDS), the Trait Emotional Intelligence Questionnaire – Adolescent Short Form (TEIQ-ASF), and the Big Five Inventory – Youth Form (BFI). Of the 157 students invited to participate, 115 completed the surveys. The majority of participants were female (64%). The results of the quantitative study revealed trait-based EI to be the best predictor of self-perceived leadership traits and skills. McElvavy and Hastings (2014) did not find personality traits to be significant predictors of self-perceived leadership skills. Neuroticism was found to be partially related to self-perceived leadership skills. Extraversion, openness, and agreeableness

were found to all be positively related to self-perceived leadership in youth (McElvay & Hastings, 2014).

### **Summary of the Chapter**

Chapter 2 highlighted relevant theoretical and empirical work that informed this study. The objective of this research was to measure the relationship between EI and the Big Five personality dimensions on leader effectiveness. While IQ and certain personality traits have indicated leadership efficacy (Bono & Judge, 2004), many doubts surround the contribution of EI to leadership effectiveness (Antonakis et al., 2009; Schulte, Ree, & Carretta, 2004.) As the interest in EI and leadership effectiveness have grown, various calls have been made for more empirical research supporting the unique role of EI on leadership effectiveness. Antonakis (2003) called for empirical studies that control for personality types to support the claims that EI contributes to organizational hiring, promotion, or retention decisions.

## Literature Review Summary

### Leadership Effectiveness

The Great Man Theory Thomas Carlyle (19 <sup>th</sup> Century)	Held that effective leaders are born with innate leadership abilities
Situational Leadership Hersey et al., (1969)	Emphasized that effective leaders adapt their style to the follower's level of development or style
Trait Leadership McCall and Lombardo (1983)	Identified primary traits that could lead to leadership success or failure
Transformational Leadership Theory Bass (1990)	Defined transformational leaders in terms of how the leader transforms followers' abilities Transformational leaders effectively invoke charisma and possess morals and ethics

### Emotional Intelligence

Salovey and Mayer (1990)	First introduced Emotional Intelligence (EI)
Goleman (1995, 1998)	Elevated EI's status with the best-selling 1995 and 1998 EI books Recognized by Time magazine in 2011 as one of top 25 most influential books of all time

### Emotional Intelligence Models

Ability Model - Mayer and Salovey (1997) Multifactor Emotional Intelligence Scale (MEIS 1997) Mayer-Salovey Caruso Emotional Intelligence Test Model (MSCEIT) (1999)	Salovey and Mayer models measure EI based on the following four abilities: perceived emotions; use of emotions to facilitate thought; understanding of emotions; and managing emotions
Mixed Model - Bar-On Model (1997a)	Bar-On Emotional-Quotient Inventory (EQI) measures EI based on the following five domains: intrapersonal skills; interpersonal skills; adaptability; stress management; and general mood
Goleman's competency EI Model	Goleman's competency model measures EI based on the following four domains: self-awareness; social awareness; self-management; and relationship management

### Personality

Sir Francis Galton (1884)	Noted as among the first to categorize personality traits by counting dictionary words that reflected human character
Jung (1933)	Classified personality based on inherent/environmental circumstances and is credited for distinguishing observable characteristics from psychological traits
Cattell (1957)	Applied empirical analysis to construct 36 related personality dimensions

Goldberg (1990)	Well known for the five-factor model or the Big Five The Big Five is widely recognized as a leading personality indicator include the following five categories: neuroticism; extraversion; openness; agreeableness; and conscientiousness
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*Figure 3. Summary of literature review*

## **Chapter 3**

### **Research Design and Methodology**

#### **Purpose of the Study**

The purpose of this study was to explore the influence of EI and the Big Five personality traits on leadership effectiveness. This study (a) presented and empirically tested a conceptual model of EI and the Big Five personality traits on leadership effectiveness; (b) investigated how constructs of EI, the Big Five, and leadership effectiveness within a healthcare organization were related in keeping with the model; and (c) presented and discussed results.

This chapter will detail the research method and design of the study and is organized into the following sections: design of the study; research question; research hypotheses; study population and sample; measurement instrumentation; survey design; data collection; data analysis; descriptive statistics; and limitations of the study.

#### **Design of the Study**

An empirical study was conducted that analyzed primary and secondary data to examine the relationship among the independent and dependent variables. Quantitative research methods are frequently used when data is gathered in order to analyze relationships between two or more variables (Williams & Monge, 2001). Creswell (1994) defined quantitative research based on “testing a theory composed of variables, measured with numbers, and analyzed with statistical procedures, in order to determine whether the predictive generalizations of the theory hold true” (p. 2). The research design of this study is considered nonexperimental because the dependent variable and an

independent variable have already been established and cannot be manipulated (Kerlinger & Lee, 2000). This quantitative study investigated the likelihood of organizational effectiveness relative to the EI and personality traits of individual institutional leaders. The research site is one healthcare institution in the Southwestern region in the United States. The selected site provided a real-world organizational setting to study actual leaders as suggested by (Neufeld, Dong, & Higgins, 2007).

The population for this study was comprised of physicians, executives, department directors, and managers currently employed in leadership positions. The population consists of leaders of patient-care and non-patient care services. Data for this study was collected using two data sources. The study utilized secondary data that included leadership effectiveness and EI. This data was provided to the researcher by a research department within a university healthcare system located in a southeastern state. The study also gathered primary data related to the Big Five personality profile. Primary data on personality traits was collected utilizing an online Qualtrics® survey.

The researcher provided personality trait survey questions and instructions to the healthcare institution in order to collect the Big Five primary data. The healthcare institution administered the survey online through a link that was made available to members of the institution's leadership academy.

After the primary data was collected, the university healthcare research department combined the primary data along with previously collected secondary data and provided the information to the researcher for data analysis. Prior to delivering the data to the researcher, the healthcare institution coded participant information and

removed any identifiers to ensure participant anonymity and the integrity of the research.

Data was analyzed using IBM® SPSS®.

### **Research Question**

The research question this study sought to investigate was: *What influence do EI and personality style have on leadership effectiveness?*

### **Research Hypotheses**

Figure 1 shows the research model tested in this study. Existing literature advocates that effective leadership has a positive impact on organizational outcomes (Bass, 1990; Cavazotte et al., 2012). Nafukho (2009) suggests that improving leadership effectiveness will improve performance at the individual and organizational levels. EI has emerged as a popular construct linked to improving leadership effectiveness (Mayer & Salovey, 1993; Nafukho, Hairston, & Brooks, 2004). Although there is debate among scholars regarding the role EI plays on leadership effectiveness, there is a consistent call for empirical studies that concurrently collect EI and leadership effectiveness data to support the claims in the literature (Antonakis et al., 2009; Cavazotte et al., 2012; Farnia & Nafukho, 2016). In light of the literature and discussions, the following hypothesis was proposed:

*H1. A positive relationship exists between EI and Effective Leadership.*

Leadership extends beyond function and interaction and includes skills used by individual leaders (Brown & Moshavi, 2005). Petrides (2010) described EI as “a collection of personality traits concerning people’s perceptions of their emotional

abilities” (p. 1). Petrides analyzed various case studies and found strong correlations between EI and the Big Five personality traits. A study conducted by Van der Zee, Thijs, and Schakel (2002) found positive relationships between EI and extraversion, openness and conscientiousness. An investigation into the capabilities and characteristics possessed by university majors conducted by Pérez-González and Sanchez-Ruiz (2014) found a positive correlation between EI and the Big Five personality characteristics. Therefore, the following hypothesis was developed:

*H2. A positive relationship exists between EI and the Big Five Personality characteristics (extraversion, conscientiousness, openness, and agreeableness).*

Research supports the premise that a certain set of personality characteristics is necessary to exert influence over others (Bono & Judge, 2004; Judge et al., 2009). The Big Five personality model combines the following personality traits: extraversion; agreeableness; conscientiousness; openness to experiences; and neuroticism (Costa & McCrae, 1992; Deinert, Homan, Boer, Voelpel, & Gutermann, 2015). A meta-analysis conducted by Deinert et al. (2015) found the Big Five factor model explained “28% of the variability in leadership emergence and 15% in leadership effectiveness” (p. 1107). Additionally, a meta-analysis conducted by Bono and Judge (2004) observed the following correlations specific to the 5-factors: positive correlations for extraversion (0.24); conscientiousness (0.13); openness (0.15); and agreeableness (0.14); and a negative correlation for neuroticism (−0.17). Therefore, based on previous findings that assessed specific personality factors, the following hypothesis was tested:



*H3. A positive relationship exists between The Big Five Personality characteristics (extraversion, conscientiousness, openness, and agreeableness) and leadership effectiveness.*

Neuroticism has been found to have a negative relationship with leadership effectiveness. Bono and Judge (2004) found a negative correlation for neuroticism (-0.17). These results were similar to a meta-analysis conducted by Judge et al. (2002) that reported neuroticism was negatively correlated with leadership effectiveness (-.022). Therefore, based on previous findings that assessed specific personality factors, the following hypothesis is proposed: Therefore, this study tested the following hypothesis:

*H4. A negative relationship exists between The Big Five Personality characteristic neuroticism and leadership effectiveness.*

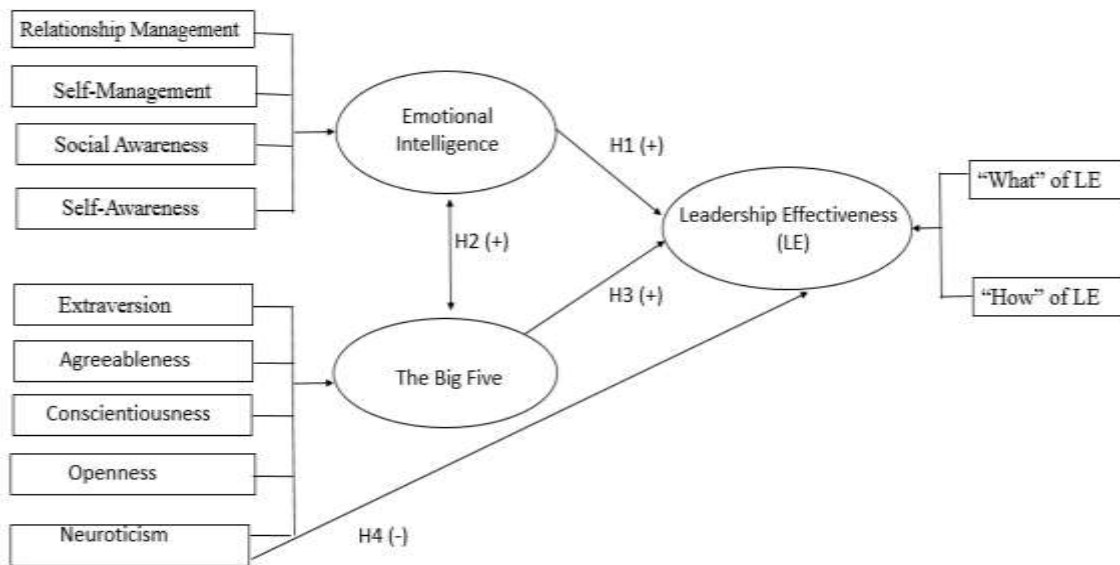


Figure 4. Research model.

## **Study Population and Sample**

The population for this study consisted of physicians, administrators, and other healthcare leaders. It was important to assess the role EI plays in leadership effectiveness within healthcare leadership (Mintz & Stoller, 2014). The research was conducted at a large healthcare institution in a southeastern state that provides an appropriate sample of practicing leaders (BeShears, 2005; Schulte, 2003).

The selected healthcare institution conducts an annual leadership development program for mid-level managers who aspire to more senior leadership roles. As a component of this leadership development program, the Emotional and Social Competence Inventory (ESCI) is completed. Over the past few cycles of this program, 96 individual participants completed the program and the ESCI. The results for these 96 participants comprise the ESCI dataset for this study. To gain access to the participants, the Organizational Development Department within the healthcare institution coordinated contact with each participant to gain informed consent to participate in the research study.

The leadership academy participants provided for a study screening mechanism as all participants were active leaders or designated by executives as future leaders. The Affordable Care Act of 2010 prompted certain healthcare institutions to restructure and seek innovative and cost-efficient practices to reduce the cost of delivering healthcare (Manchikanti, Helm, Benyamin, & Hirsch, 2017). As outlined by Grol, Bosch, Hulscher, Eccles, and Wensing (2007), the benefits of studying leadership effectiveness in healthcare facilities include participant involvement in a leadership culture that is

expected to communicate, collaborate, and innovate across a wide spectrum of organizational departments while facilitating and maintaining community relations.

**Secondary data.** The EI results and 360-degree performance results were previously collected by the healthcare institution and were submitted to the researcher for analysis. The healthcare system utilized the Hay Group to administer and maintain the ESCI data. The healthcare facility obtained the coded data sets from the Hay Group and provided the EI scores to the researcher for this study. In addition to the EI scores, the institution provided the 360-degree scores of leadership academy member participants which related to their performance achievements.

**Primary data.** In addition to the provided secondary EI and leadership effectiveness scores, the institution assisted in the collection of primary data. The personality traits of each participant were assessed using Goldberg's (1999) Big Five framework (BFI) measure. The researcher provided the survey instructions, questions, and demographic questions, and the institution administered the Big Five survey to leadership academy members electronically via Qualtrics®. The institution combined the primary personality trait data with the EI and leadership effectiveness data and provided the information to the researcher.

### **Sample size**

The healthcare institution's leadership program currently has 96 individual participants. Members of the academy have been identified by the institutions executive staff as potential current and future leaders. Academy members have been previously assessed on both performance and EI. The institution uses the ESCI (Boyatzis et al.,

2007) instrument to measure EI. Academy members are also assessed using 360-degree performance assessments to measure performance.

The members of the academy have each received a minimum of 10 hours of executive coaching within the first year of academy membership. Leadership academy members were previously assessed on EI and performance. The sample population included 54 leadership program leaders. The 54 individual scores are based upon responses from academy members, along with member peers, followers, and customers. The study analyzed a total of 143 measured constructs. After the primary and secondary data results were combined, the number of surveyed responses were 902 (nEI=599 , nLE=249, nBigFive= 54).

### **Measurement Instrumentation**

**Measures.** Three sets of measures were used to test the study's conceptual model. The ECI (Boyatzis et al., 1999) was used to measure EI. Goldberg's (1999) five-factor model (FFM) was used to assess the Big Five personality traits. Feedback from each leader academy member's 360-degree performance evaluation was utilized to obtain a leadership effectiveness score (Rosete & Ciarrochi, 2005).

**ESCI.** The healthcare institution's research department annually administers the ESCI (Boyatzis et al., 2007) to measure leadership academy participant EI scores. The ESCI is a multi-rater assessment tool that measures 12 competencies that are categorized into the following four clusters: self-awareness; self-management; social awareness; and relationship management. The ESCI tool was developed by the Hay Group and is based on EI competencies identified by Goleman (1998) and Boyatzi's (2006) self-assessment

questionnaire. A study conducted by Boyatzis and Sala (2004) reported the ESCI tool displayed an overall average reliability of .63. The ESCI has been used in numerous studies to assess individual EI (Boyatzis et al., 1999; Boyatzis & Sala, 2004; Byrne, Dominick, Smither, & Reilly, 2007).

Goleman (2001b) contends the four domains of the ECI model are distinct from cognitive ability domains. The ECI model is based on Goleman's premise that the mechanisms of IQ and EI are located in different regions of the brain. Goleman (2001b) stated "intellectual abilities like verbal fluency, spatial logic and abstract reasoning are based primary in specific areas of the neocortex" (p. 30), as compared to the EI components that are noted as "behavioral manifestations of underlying neurological circuitry that primarily links the limbic areas for emotion, centering on the amygdala and its extended networks throughout the brain, to areas in the prefrontal cortex, the brain's executive center" (Goleman, 2001b, p. 30).

The ESCI is noted by O'Boyle et al. (2011) to have substantial percentage (13.2) and a  $R^2$  contribution of 0.065 that support EI as an indicator of leader performance. ESCI is a mixed model approach measurement of EI. Results of studies conducted by Boyatzis (2006) and Hopkins and Bilimoria (2008) present evidence of reliability and validity for ESCI.

**The Big Five factor model.** There are several scales that measure the Big Five factors of personality (John & Srivastava, 1999). The Big Five model developed by Goldberg (1992) was used to capture primary data in order to measure the personality

traits of study participants. The Big Five is a widely recognized personality psychology tool used to identify personality traits (Funder, 2006; Shi, Liu, Wang, & Wang, 2015).

The instrument used in this study to measure the Big Five included 50 items on a 5-point Likert scale. The study used the 50-item scale from the International Personality Item Pool (IPIP) (Goldberg, 1999). Goldberg, Johnson, Eber, Hogan, Ashton, and Cloninger (2006) reported the following alpha reliability for the Goldberg (1992) version of the IPIP scale: Extraversion, .87; Agreeableness, .82; Conscientiousness, .79; Neuroticism, .86; and Openness to Experience, .84. According to Goldberg (1999) the scores on these scales have relatively high reliability and also have convergent validity with other measures of personality. A study conducted by Byrne et al. (2007) found the measurement tool demonstrated convergent, discriminant, and internal validity. Examples of instrument questions are: Extraversion ('I talk to a lot of different people at parties'), Agreeableness ('I am interested in others'), Conscientiousness ('I like order'), Emotional Stability/Neuroticism (here referred to as neuroticism 'I am often blue'), and Intellect/ Imagination (here referred to as Intellect, 'I am interested in abstract ideas'). A previous study conducted by Leutner, Ahmetoglu, Akhtar, and Chamorro-Premuzic, (2014) reported the following Cronbach alpha values: extraversion = .75; agreeableness = .70; conscientiousness = .78, emotional stability = .65; and openness/intellect = .64.

**Leadership effectiveness.** Leadership effectiveness has been difficult to measure due to a lack of objective criteria (Murensky, 2000). Rosete and Ciarrochi (2005) used 360-degree performance measurement scores to assess leadership effectiveness. Rosete and Ciarrochi (2005) contended that leadership effectiveness should be based on: (a)

“whether a leader has managed to attain organization goals that allows the organization to grow” (referred to in this study as the “what” in leadership effectiveness), and (b) “whether in achieving results the leader builds effective working relationships (in this study this “how” in leadership effectiveness) (p. 393). Australia’s Management Advisory Committee (2001) supported 360 performance assessments as good indicator of an individual’s leadership effectiveness. The “what” and the “how” constructs represent two separate, yet related aspects of leadership effectiveness (Management Advisory Committee, 2001).

Study participants are assessed annually by the healthcare institution. The healthcare institution assesses healthcare leaders utilizing 360-degree performance evaluations. Each leadership academy member who participated in this study has received a 360-degree evaluation score. The score is comprised of feedback from the leader’s boss, followers, peers, and designated customer(s). The leadership effectiveness score was compiled by replicating a method utilized by Rosete and Ciarrochi (2005). Following the suggestion of Antonakis (2003), leadership effectiveness scores should be derived from followers, peers, and supervisors of the respective leader and should not contain self-reported scores collected from the leader. Rosete and Ciarrochi (2005) conducted a study that assessed 41 senior executives’ leadership effectiveness using an objective measure of performance and a 360-degree assessment that involved each leader’s subordinates and direct manager. The healthcare institution provided 33 items from the 360 multi-rater assessment form to distinguish between participant supervisor’s

ratings and direct report or follower ratings to measure participant leadership effectiveness.

The participants had been previously assessed by their respective supervisors and subordinates on a 5-point Likert scale. The following are definitions of each rating:

Exceptional = 5; Superior = 4; Effective = 3; Below Average = 2; Unsatisfactory = 1.

None of the 33-items provided to the researcher contained negatively worded items.

### **Survey Design**

The survey used to collect primary data for the study was developed using Qualtrics® survey software. The survey was organized into three blocks. The first block included the survey instructions and informed content. The second block included the first half of the Big Five personality trait questions and an instructional manipulation check. Block 3 consisted of the remaining Big Five personality trait questions. Block 4 included demographic questions.

The survey used to collect the primary data contained questions from Goldbeg's (1999) Big Five personality measures and was provided electronically to the research department at the healthcare institution. The healthcare institution administered the survey to capture primary data and demographic questions. The survey also included an instrumentation manipulation check (IMC) as recommended by Oppenheimer, Meyvis, and Davidenko (2009) to detect responses that pose a threat to the quality and integrity of the results. The logo for the sponsoring academic institution was displayed to increase response rates (Fan & Yan, 2010). Statements regarding participant anonymity and assurances of no right or wrong answers were included on the survey in an effort to



reduce participant evaluation apprehension. The survey deployment time was less than 13 minutes to increase response rate and control for non-response bias as suggested by Fan and Yan (2010). Survey instructions were provided to build topic salience and interest to positively affect the response rate (Johnson & Eagly, 1989).

Although prior studies question the impact of progress bars on survey attrition rates (Villar, Callegaro, & Yang, 2013), a progress bar was included to improve respondent attention and reduce survey abandonment. To prohibit respondents from changing original responses, the back button option was not activated. The survey used a forced response option in order to increase the accuracy of participant responses (Krosnick, 1999).

Demographic survey questions were based on the characteristics of the study population. The survey collected demographic data regarding gender, ethnicity, generational cohort, education level, leadership level, and the respondent's number of direct and indirect reports. Questions related to the respondent's demographic characteristics were placed at the end of the survey (Teclaw, Price, & Osatuke, 2012).

### **Data Collection**

Prior to collecting primary and secondary data the researcher obtained Institutional Review Board (IRB) approval through The University of Texas at Tyler. The Organizational Development Department within the healthcare institution coordinated contact with each participant to gain informed consent to participate in the research. The names and other identifying markers were removed from all collected data to protect the anonymity and confidentiality of participants. The survey used for primary

data collection was not deployed until IRB approval was granted. Additionally, IRB protocols for both UT Tyler and the healthcare institution were followed regarding access and use of primary and secondary data.

### **Data Analysis**

**Data cleaning.** The primary and secondary data was collected and analyzed to identify scenarios for data elimination. The cases that did not agree with the consent statement or failed the instructional manipulation (Oppenheimer et al., 2009) were removed. The time respondents spent in the survey and responses that formed a straight line were analyzed to preserve the quality and integrity of the data. There is research that supports the notion of validity in straight-lined survey responses (Cole, McCormick, & Gonvea, 2012) however, responses to survey items in this study covering the predictor variables that were straight-lined were removed due to the number of survey statements that were negatively worded. Additionally, survey responses that were completed in less than two minutes or more than an hour were purged from the dataset. SPSS® software was utilized to reverse code the negatively worded statements in the Big Five measurement scales.

Following the guidelines regarded by Cheng and Phillips (2014), the healthcare institution recoded the secondary data set, removed participant names, and then provided the data to the researcher. The researcher checked the secondary data for missing values. The data provided by the healthcare institution was added to the primary data and provided to the researcher electronically. The primary and secondary

data was combined and presented in an Excel spreadsheet. The researcher uploaded the data in SPSS software. The researcher did not alter the original data in any way.

**Construct validity.** Construct validity was examined using exploratory factor (EFA) and conducting reliability analyses. A sample size of 54 respondents were evaluated. The principal axis factoring and promax rotation were selected to analyze the EFA. The selected methods support the underlying theoretical structure hypothesized in this study that presume correlated factors. The number factors for extraction for the Big Five items were based on the factor amounts curtailed from methodological decisions to complete an accurate analysis dependent upon quality decisions regarding the accurate number of factors that best assess the variance of the measured items (Henson & Roberts, 2006). Because the secondary data was summarized by the institution, none of the provided factors from the EI and leadership effectiveness will be removed. The EFA should produce five EI factors, two leadership effectiveness factors, and five Big Five factors. As suggested by Bryman and Bell (2011), the alpha coefficient calculation is a standard measure of internal consistency and was used in this study to check for reliability.

**Analysis.** The sample size was smaller than anticipated; as such, structural equation modeling could not be conducted. Cronbach's alpha was used to evaluate the reliability of the study measures. A linear regression analysis was conducted to assess whether the EI predicted Leadership Effectiveness, controlling for the personality (i.e., the Big Five domains). Prior to conducting the linear regression, the assumptions of

normality of residuals, homoscedasticity of residuals, absence of multicollinearity, and the lack of outliers were examined.

An exploratory factor analysis was used to assess the construct validity of EI and the Big Five. The primary test of hypotheses included correlation analyses to examine linear relationships between EI, the Big Five, and Leadership Effectiveness. Secondary analyses were conducted to examine the influence of demographic variables on these relationships.

The data analysis included an analysis of the demographic variables. A series of multivariate analysis of variance (MANOVA) were performed to investigate if there were significant differences in the linear combination of the following: the Big Five variables and gender; leadership effectiveness, self-management, self-awareness, social awareness, and relationship management, and years of leading.

### **Descriptive Statistics**

After the data analysis was conducted and hypothesis testing was completed, the results of the data analysis was reported. The reported statistics included the following: means; standard deviations; standard errors; kurtosis; and skewness. Cronbach's alpha was used to evaluate the study's reliability. Additionally, the study results included the results of the EFA and retained items, scale scores and descriptive statistics.

### **Limitations**

Several limitations of this study exist. The small sample size is a study limitation. The focus of this study is limited to EI and personality research within HRD specifically within a healthcare institution. While the HRD field provides a broad spectrum, a

limitation of the study is the exclusion of EI models and articles that may be relevant yet did not contain the key terms. Another limitation of the study is that the survey format that collected participant information was based on the intentions of individual behavior rather than actual behavior thus introducing social bias into the study (Gatewood & Carrol, 1991).

The context of the study was limited to healthcare professions which may limit the generalizability of the study to other institutions. Additionally, the data was collected from an academic healthcare institution and that can limit the generalizations to other healthcare institutions. The self-reported data collected from participants may invite bias and increase the chances for common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). It is also important to question whether the limitations of collecting data through different strategies at different times could limit the study's results.

### **Summary of the Chapter**

This chapter included the design and methodology strategies that were used in the study. The chapter provided a review of the purpose of the study, the research question and hypotheses, population and sample, data collection procedures, data analysis and hypotheses testing, and limitations.

## **Chapter 4**

### **Results and Discussion**

This chapter presents the data collected and analyzed for this study. The chapter outlines the results of the data collection and hypothesis testing. The chapter includes data screening, demographics, assumptions testing, reliability analysis, control variables analysis, common method variance, construct validity, and hypothesis testing.

#### **Research Question**

What influence do EI and personality style have on leadership effectiveness?

#### **Research Hypotheses**

Four hypotheses were tested in this study:

H1: *A positive relationship exists between EI (Self-Awareness, Self-Management, Social Awareness, and Relationship Management) and Effective Leadership*

H2: *A positive relationship exists between EI and the Big Five Personality characteristics (extraversion, conscientiousness, openness, and agreeableness).*

H3: *A positive relationship exists between The Big Five Personality characteristics (extraversion, conscientiousness, openness, and agreeableness) and leadership effectiveness.*

H4: *A negative relationship exists between The Big Five Personality characteristics (neuroticism) and leadership effectiveness.*

## **Data Screening**

The researcher provided the healthcare institution screening questions, survey questions, and demographic questions in order to gather information regarding the primary Big Five survey data. The healthcare institution administered the Big Five survey to leadership academy members through the use of the institution's Qualtrics account. Additionally, the Vice Chancellor of Human Resources (VC of HR) emailed leadership academy members to notify them of the survey. Data were collected from an online survey. Surveys were distributed to leadership academy members over the course of three weeks. The VP of HR sent weekly email reminders to academy members to request survey participation.

The total number of email invitations sent through Qualtrics was 96. A total of 63 responses were collected through the Qualtrics delivery method. A few email recipients contacted the VP of HR directly to verify the legitimacy of the survey (Appendix N). Of these responses, 1 individual did not agree to the Informed Consent section of the survey and were removed from the sample. Respondents who took less than two minutes to complete the survey were identified and resulted in 2 removals. Four participant responses were removed because of straight-lined responses. Additionally, 2 respondents who failed the IMC check were removed. The final number of usable responses equaled 54. The overall response rate for the Big Five survey used to collect primary data was 56 percent.

## Demographics

Demographics were analyzed to determine the sample characteristics. The majority of the sample were non-patient care leaders (62.96%). Over half of the sample was female (60.78%) and White (68.52%). Approximately half of the respondents (50.98%) were between the ages of 39 and 53 (approximated based on year of birth). Roughly 35% of the sample had been serving in supervisory or managerial roles for more than 11 years; 11.76% had been supervisors for less than 2 years, 23.53% for 3-4 years, 7.84% for 5-7 years, and 15.69% for 8-10 years. The majority of the sample had a Master's degree (41.18%). Only one respondents (1.79%) reported having less than a high school diploma. Approximately 20% of the sample were department directors. Full descriptive statistics for demographic variables are presented in Table 1.

Table 1.

### *Frequencies of Demographic Variables*

<b>Demographics</b>	<b><i>n</i> <i>Pt Care</i></b>	<b><i>n</i> <i>Non-Pt Care</i></b>	<b>%</b>	<b>%</b>
<b>Gender</b>				
Male	8	13	40.00%	38.24%
Female	12	21	60.00%	61.76%



<b>Ethnicity</b>				
African American	3	6	15.00%	17.65%
American Indian	0	1	0.00%	2.94%
Asian	2	2	10.00%	5.88%
Hispanic	0	1	0.00%	2.94%
White	14	23	70.00%	67.65%
Other	1	1	5.00%	2.94%
<b>Generational Cohort</b>				
Baby Boomers (1945-1964)	3	11	15.00%	32.35%
Generation X (1965-1980)	9	18	45.00%	52.94%
Millennials (1981+)	8	5	40.00%	14.71%
<b>Number of Years Supervised Others</b>				
0-2 years	2	4	10.00%	10.53%
3-4 years	6	7	30.00%	18.42%
5-7 years	2	3	10.00%	7.89%
8-10 years	5	6	25.00%	15.79%
11 + years	5	18	25.00%	43.37%
<b>Education Level</b>				
High school diploma	1	0	5.00%	0.00
4 yr degree	3	6	15.00%	17.65%
Masters degree	6	17	30.00%	50.00%
Professional degree	0	8	0.00%	23.53%
Doctorate degree	1	3	5.00%	8.82%
Medical degree	9	0	45.00%	0.00%
<b>Occupation</b>				
Healthcare administrator	1	1	5.00%	2.94%
Manager	2	13	10.00%	38.24%
Director	0	4	0.00%	11.76%
Healthcare executive	1	4	5.00%	11.76%
Physician leader	9	0	45.00%	0.00%
Departmental director	0	11	0.00%	32.35%
Nursing Director/Manager	6	0	30.00%	0.00%
Faculty	1	1	5.00%	2.94%

### Reliability and Validity

Composite scores for the four clusters of EI were constructed by averaging the items (note: self-awareness only has a single item measurement). An overall score for EI was also computed by averaging all items in the scale. Similarly, mean composite scores

were created for each of the Big Five domains and a mean composite score was created for leadership effectiveness.

Reliability of the measurement scales was tested by using Cronbach's alpha ( $\alpha$ ). Based on the guidelines by George and Mallery (2016), values above .9 are considered to have excellent reliability, values above .8 are considered to have good reliability, and values above .7 are considered to have acceptable reliability. All scales demonstrated acceptable reliability. Table 2 lists the Cronbach's alpha values for each of the study's constructs.

*Table 2.*

*Cronbach's Alpha Values for Measurement Scales*

<b>Construct</b>	<b>Standardized <math>\alpha</math></b>	<b># of items</b>
Emotional Intelligence		
Self-Management	.873	4
Relationship Management	.877	5
Social Awareness	.757	2
Overall	.940	12
The Big Five Personality Traits		
Extraversion	.789	10
Agreeableness	.772	10
Conscientiousness	.835	10
Emotional Stability	.811	10
Openness	.759	10
Leadership Effectiveness	.837	4

*Note.*  $\alpha$  = Cronbach's alpha

### **Construct Validity**

**Exploratory Factor Analysis.** To assess the construct validity of the Big Five, an exploratory factor analysis (EFA) was conducted using the software program IBM® SPSS® Statistics 25. This procedure was used to determine how, and to what extent, the

variables are linked to their underlying factors (Byrne, 2013). EFA can also be used to reduce the number of dimensions within a given construct by creating a simple order factor structure. An important limitation to note is that the sample size for this study falls below the recommended sample size for EFA (Comrey & Lee, 1992; Tabachnick & Fidell, 2012). As such, these results should be interpreted with caution.

The analysis was conducted using an oblique rotation method (i.e., promax), as it was expected that the factors would be correlated (Costello & Osborne, 2005; Kahn, 2006; Kline, 2016; Osborne, 2015). The 50 Big Five items were included in the analysis; extraction was constrained to five factors and loadings below .40 were suppressed.

**Assumptions.** The assumptions of factorability and multicollinearity were tested by examining correlation matrix. To assess the factorability of the data, Pearson correlations were calculated to determine the intercorrelations for each variable. According to Tabachnick and Fidell (2012), correlation coefficients should exceed .30 in order to justify comprising the data into factors. All variables had at least one correlation coefficient greater than .30 and appear suitable for factor analysis. Although variables should be intercorrelated with one another, variables that are too highly correlated can cause problems in EFA. To assess multicollinearity, the determinant of the correlation matrix was calculated. A determinant that is  $\leq 0.00001$  indicates that multicollinearity exists in the data (Field, 2005). The value of the determinant for the correlation matrix was  $< 0.00001$ , indicating that there is multicollinearity in the data and the model results may be unreliable.

The Kaiser-Meyer-Olkin (KMO) measure was to verify the sampling adequacy for the analysis, however, the calculated value of .145 falls into the “unacceptable” range as outlined by Hutcheson and Sofroniou (1999). The Bartlett test of sphericity yielded a p-value less than .001, demonstrating that the inter-item correlation matrix was statistically significantly different than an identity matrix.

**Results.** Factor 1 accounted for 18.70 % of variance with an eigenvalue of 9.35. Factor 2 accounted for 10.64% of variance with an eigenvalue of 5.32. Factor 3 accounted for 6.49% of variance with an eigenvalue of 3.25. Factor 4 accounted for 6.48% of variance with an eigenvalue of 3.24. Factor 5 accounted for 5.29% of variance with an eigenvalue of 2.65. The five-factor model accounted for 47.60% of total variance in the data. The factor analysis summary is shown in Table 3.

Table 3

*Eigenvalues, Percentages of Variance, and Cumulative Percentages for Factors for the 50 Item Variable Set*

Factor	Eigenvalue	% of variance	Cumulative %
1	9.35	18.70	18.70
2	5.32	10.64	29.34
3	3.25	6.49	35.84
4	3.24	6.48	42.31
5	2.65	5.29	47.60

**Factor Interpretation.** The pattern and structure matrices and the item communalities are present in Table 4. The items within each factor generally loaded together on their theoretical constructs.

Table 4

*Standardized Path (P) and Structure (S) Coefficients for Big Five Items*

Item	Factor 1 Conscientiousness		Factor 2 Extraversion		Factor 3 Agreeableness		Factor 4 Openness		Factor 5 Emotional Stability		$h^2$
	P	S	P	S	P	S	P	S	P	S	
F1-1			0.520	<b>0.607</b>							0.482
F1-2						0.424					0.408
F1-3											0.122
F1-4					0.584	0.581					0.416
F1-5			0.847	<b>0.669</b>							0.679
F1-6		0.406	0.666	<b>0.758</b>							0.65
F1-7			0.726	<b>0.735</b>							0.576
F1-8			0.589	<b>0.543</b>							0.387
F1-9			0.696	<b>0.68</b>							0.509
F1-10			0.675	<b>0.687</b>							0.598
F2-1	0.409	0.514				<b>0.459</b>					0.408
F2-2					0.561	<b>0.556</b>					0.319
F2-3					0.585	<b>0.557</b>					0.319
F2-4							-0.415				0.284
F2-5					0.470	<b>0.519</b>					0.323
F2-6					0.431	<b>0.432</b>					0.323
F2-7					0.611	<b>0.598</b>					0.514
F2-8					0.587	<b>0.573</b>					0.536
F2-9					0.639	<b>0.648</b>					0.43
F2-10					0.628	<b>0.653</b>					0.464
F3-1	0.472	<b>0.617</b>		0.458							0.458
F3-2	0.648	<b>0.707</b>				0.405					0.593
F3-3		<b>0.49</b>				0.423					0.354
F3-4	0.497	<b>0.593</b>				0.463					0.479
F3-5	0.459						-0.573	-0.454			0.471
F3-6	0.694	<b>0.653</b>						0.485			0.609
F3-7	0.670	<b>0.596</b>									0.379
F3-8	0.65	<b>0.733</b>				0.405					0.605
F3-9	0.558	<b>0.472</b>				0.406					0.426
F3-10	0.618	<b>0.607</b>									0.659
F4-1							0.555	0.620		<b>0.487</b>	0.574
F4-2											0.22
F4-3									0.677	<b>0.714</b>	0.592
F4-4									0.614	<b>0.596</b>	0.422
F4-5									0.409	<b>0.449</b>	0.381
F4-6			0.448				-0.534	-0.415			0.435
F4-7	0.585	0.513							0.483	<b>0.518</b>	0.568
F4-8	0.788	0.713								<b>0.417</b>	0.744
F4-9		0.438		0.406					0.622	<b>0.671</b>	0.646
F4-10	0.644	0.678									0.477
F5-1				0.439			0.429	<b>0.482</b>			0.567
F5-2				0.428			0.582	<b>0.553</b>			0.545
F5-3									-0.506	-0.476	0.262
F5-4		0.546		0.424				<b>0.433</b>			0.469

F5-5				-0.539	-0.492	0.43
F5-6			0.545	<b>0.579</b>		0.382
F5-7		0.412	0.749	<b>0.797</b>		0.722
F5-8			0.679	<b>0.78</b>	0.452	0.721
F5-9			0.735	<b>0.704</b>		0.509
F5-10	0.496	0.523				0.354

Items that did not load with their theoretical construct were removed and new composite scales were created using this simple factor structure. Reliability was assessed again on these new scales (see Table 5). With the exception of Agreeableness, all composite scales demonstrated improved reliability using the simple factor structure over the original scales; therefore, the simple factor composites were retained for analysis.

Table 5.

*Reliability analysis for Big Five simple factor structure.*

Construct	Original $\alpha$	# of items	Simple Factor $\alpha$	# of items
The Big Five Personality Traits				
Extraversion	.789	10	.833	7
Agreeableness	.772	10	.772	9
Conscientiousness	.835	10	.840	9
Emotional Stability	.811	10	.816	7
Openness	.759	10	.801	7

## Hypothesis Testing

To test the primary hypotheses, several analyses were conducted to determine the relationships between EI, personality, and leadership effectiveness. Because the “what” and “how” components of leadership effectiveness were highly correlated ( $r = .705, p < .0001$ ), they were combined to create a single measure of leadership effectiveness.

Correlation analyses were used to determine bivariate relationships between variables and

a multiple linear regression analysis was used to determine the unique predictive value of the EI and personality on leadership effectiveness.

Supporting Hypotheses 1, all four clusters of EI were positively correlated with Leadership Effectiveness, indicating that as emotional intelligence increased, leadership effectiveness also increased. There was a strong relationship between leadership effectiveness ( $r = .850$ ) and self-management, relationship management ( $r = .706$ ), and social awareness ( $r = .718$ ). There was a moderate relationship between leadership effectiveness and self-awareness ( $r = .504$ ).

Hypothesis 2 was partially supported; Agreeableness and Conscientiousness were positively related to the four EI clusters (self-management, relationship management, social awareness, and self-awareness). Agreeableness was strongly correlated with all four clusters ( $r = .757$ ,  $r = .699$ ,  $r = .759$ , and  $r = .477$  respectively). Conscientiousness was moderately correlated with the four clusters of EI ( $r = .482$ ,  $r = .373$ ,  $r = .441$ , and  $r = .373$  respectively). Extraversion, Emotional Stability, and Openness were not related to emotional intelligence.

Hypothesis 3 was partially supported. Agreeableness and Conscientiousness were positively associated with leadership effectiveness. Agreeableness had a strong relationship with leadership effectiveness ( $r = .792$ ) and Conscientiousness had a moderate relationship with leadership effectiveness ( $r = .522$ ). Extraversion and Openness were not related to leadership effectiveness.

Hypothesis 4 was not supported; emotional stability (i.e., neuroticism) was not significantly correlated with leadership effectiveness. These results are presented in Table 6.

Table 6

*Correlation Matrix for Leadership Effectiveness, Emotional Intelligence, and Personality (Big Five)*

	1	2	3	4	5	6	7	8	9	10
1. Leadership Effectiveness	--									
2. Self-Management	.850**	--								
3. Relationship Management	.706**	.833**	--							
4. Social Awareness	.718**	.834**	.846**	--						
5. Self-Awareness	.504**	.519**	.572**	.629**	--					
6. Extraversion	.133	.063	.115	.119	.267	--				
7. Agreeableness	.792**	.757**	.699**	.759**	.477**	.174	--			
8. Conscientiousness	.522**	.482**	.373**	.441**	.373**	.349**	.424**	--		
9. Emotional Stability	.038	.111	-.005	.055	-.018	.298*	.129	.367**	--	
10. Openness	-.085	-.072	-.208	-.063	-.146	.362**	.019	.287*	.405**	--

Note: \* $p < .05$ ; \*\* $p < .01$

**Linear Regression Analysis**

A linear regression analysis was conducted to assess whether EI (Self Management, Relationship Management, Social Awareness, Self Awareness) and personality (Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness) significantly predicted Leadership Effectiveness. The 'Enter' variable selection method was chosen for the linear regression model, which includes all of the selected predictors.



**Assumptions.** Prior to conducting the linear regression, the assumptions of normality of residuals, homoscedasticity of residuals, absence of multicollinearity, and the lack of outliers were examined.

**Normality.** Normality was evaluated using a Q-Q scatterplot (Field, 2005; Bates, Machler, Bolker, & Walker, 2014; DeCarlo, 1997). The Q-Q scatterplot compares the distribution of the residuals with a normal distribution (a theoretical distribution which follows a bell curve). In the Q-Q scatterplot, the solid line represents the theoretical quantiles of a normal distribution. Normality can be assumed if the points form a relatively straight line. The Q-Q scatterplot for normality are presented in Figure 5.

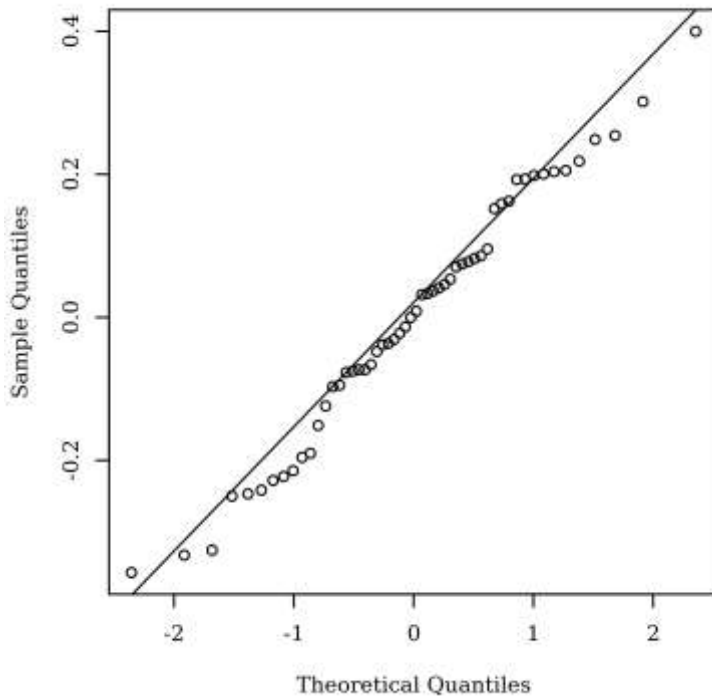
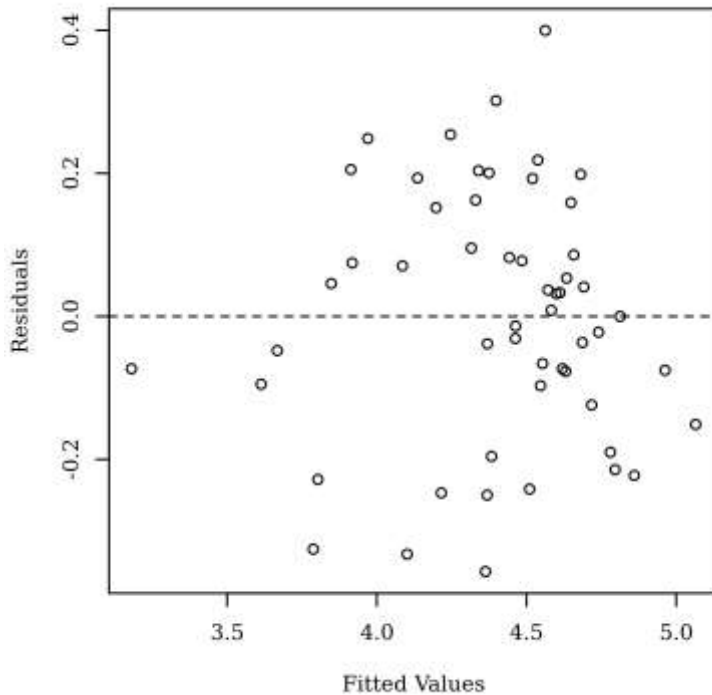


Figure 5. Q-Q scatterplot testing normality

**Homoscedasticity.** Homoscedasticity was evaluated by plotting the residuals against the predicted values (Field, 2005; Bates et al., 2014; Osborne & Walters, 2002).

The assumption is met if the points appear randomly distributed with a mean of zero and no apparent curvature. Figure 6 presents a scatterplot of predicted values and model residuals.



*Figure 6.* Residuals scatterplot testing homoscedasticity

**Variance Inflation Factors.** Variance Inflation Factors (VIFs) were calculated to detect the presence of multicollinearity between predictors. High VIFs indicate increased effects of multicollinearity in the model. VIFs greater than 5 are cause for concern, whereas VIFs of 10 should be considered the maximum upper limit (Menard, 2009). All predictors in the regression model have VIFs less than 10. Table 7 presents the VIF for each predictor in the model.

Table 7.

*Variance Inflation Factors for Self Management, Relationship Management, Social Awareness, Self Awareness, Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness*

Variable	VIF
Self Management	5.00
Relationship Management	5.01
Social Awareness	5.51
Self Awareness	1.95
Extraversion	1.49
Agreeableness	2.77
Conscientiousness	1.75
Emotional Stability	1.36
Openness	1.60

**Outliers.** To identify influential points, Studentized residuals were calculated and the absolute values were plotted against the observation numbers (Field, 2005; Stevens, 2009). Studentized residuals are calculated by dividing the model residuals by the estimated residual standard deviation. An observation with a Studentized residual greater than 3.25 in absolute value, the .999 quartile of a *t* distribution with 53 degrees of freedom, was considered to have significant influence on the results of the model. Figure 7 presents the Studentized residuals plot of the observations. No outliers were observed.

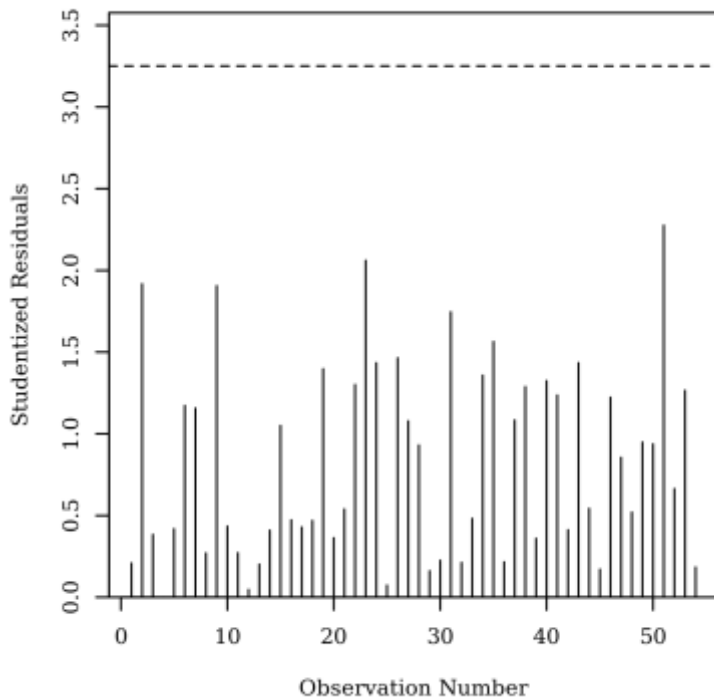


Figure 7. Studentized residuals plot for outlier detection.

**Results.** The results of the linear regression model were significant,  $F(9,44) = 21.59, p < .001, R^2 = 0.82$ , indicating that approximately 82% of the variance in Leadership Effectiveness is explainable by EI (Self Management, Relationship Management, Social Awareness, Self Awareness) and personality (Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness). Self Management significantly predicted Leadership Effectiveness,  $B = 1.05, t(44) = 4.62, p < .001$ . This indicates that on average, a one-unit increase of Self Management will increase the value of Leadership Effectiveness by 1.05 units. Agreeableness also significantly predicted Leadership Effectiveness,  $B = 0.44, t(44) = 3.65, p < .001$ . This indicates that on average, a one-unit increase of Agreeableness will increase the value of Leadership

Effectiveness by 0.44 units. Conscientiousness significantly predicted Leadership Effectiveness,  $B = 0.13$ ,  $t(44) = 2.12$ ,  $p = .040$ , indicating that a one-unit increase in Conscientiousness predicts a 0.13 increase in Leadership Effectiveness. When controlling for all clusters of EI and personality, Relationship Management, Social Awareness and Self Awareness (which were previously related to Leadership Effectiveness in bivariate analyses) did not significantly predict Leadership Effectiveness. Table 8 summarizes the results of the regression model.

Table 8.

*Results for Linear Regression with Self Management, Relationship Management, Social Awareness, Self Awareness, Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness predicting Leadership Effectiveness*

Variable	<i>B</i>	<i>SE</i>	95% CI	<i>B</i>	<i>t</i>	<i>p</i>
(Intercept)	-0.59	0.55	[-1.70, 0.52]	0.00	-1.07	.289
Self Management	1.05	0.23	[0.59, 1.50]	0.67	4.62	< .001
Relationship Management	-0.15	0.20	[-0.54, 0.24]	-0.11	-0.77	.447
Social Awareness	-0.23	0.24	[-0.70, 0.25]	-0.15	-0.97	.336
Self Awareness	0.03	0.09	[-0.15, 0.20]	0.03	0.31	.761
Extraversion	0.03	0.05	[-0.06, 0.13]	0.05	0.68	.502
Agreeableness	0.44	0.12	[0.20, 0.68]	0.39	3.65	< .001
Conscientiousness	0.13	0.06	[0.01, 0.25]	0.18	2.12	.040
Emotional Stability	-0.09	0.05	[-0.19, 0.02]	-0.12	-1.63	.110
Openness	-0.07	0.06	[-0.19, 0.05]	-0.09	-1.15	.254

*Note.* Results:  $F(9,44) = 21.59$ ,  $p < .001$ ,  $R^2 = 0.82$

Unstandardized Regression Equation: Leadership Effectiveness =  $-0.59 + 1.05*\text{Self Management} - 0.15*\text{Relationship Management} - 0.23*\text{Social Awareness} + 0.03*\text{Self Awareness} + 0.03*\text{Extraversion} + 0.44*\text{Agreeableness} + 0.13*\text{Conscientiousness} - 0.09*\text{Emotional Stability} - 0.07*\text{Openness}$

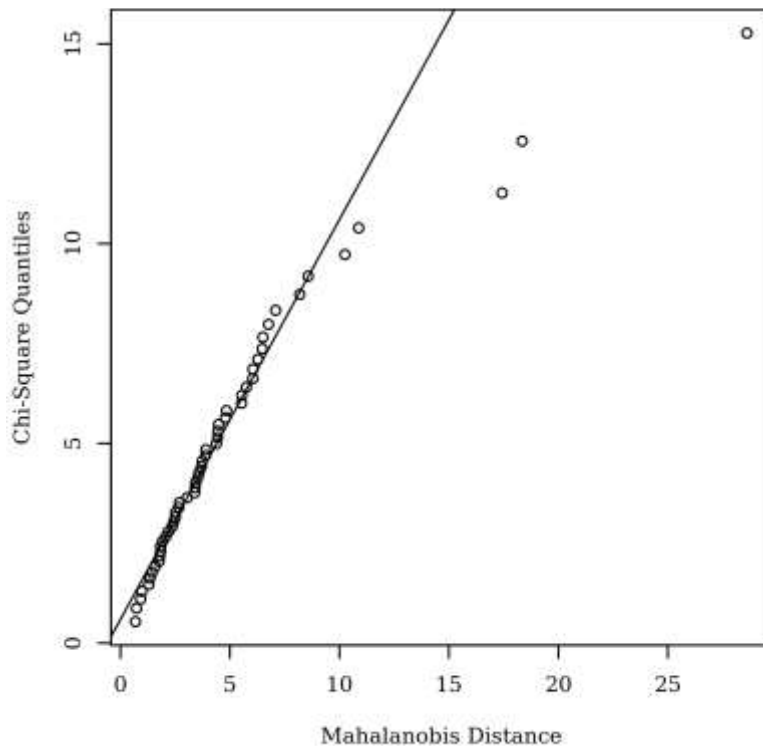
## Supplementary Analyses

**Demographic Analyses.** Further analyses were conducted to determine if participant demographic factors influenced these results. The data was coded to reflect respondents who are in patient care roles ( $n = 20$ ) compared to those who are not ( $n =$

34). Additionally, years of experience was coded as less than 5 years ( $n = 18$ ) compared to 5 or more years ( $n = 36$ ). Finally, gender was compared (21 male, 33 female).

Multivariate analyses of variance (MANOVA) were conducted to determine whether EI and Leadership Effectiveness differed as a function of these factors.

**Assumptions.** Prior to conducting the analyses, the assumptions of multivariate normality and homogeneity of covariance matrices were assessed. To assess the assumption of multivariate normality, Mahalanobis distances were calculated for the residuals and plotted against the quantiles of a Chi-square distribution (Field, 2005; DeCarlo, 1997). In the scatterplot, the solid line represents the theoretical quantiles of a normal distribution. Normality can be assumed if the points form a relatively straight line. As can be seen in Figure 8, there is some deviation from the line, indicating the assumption of normality may be violated.



*Figure 8.* Mahalanobis distance scatterplot testing multivariate normality.

To examine the assumption of homogeneity of covariance matrices, Box's  $M$  test was conducted. The results were not significant,  $\chi^2(15) = 18.38, p = .243$  for Patient Care, indicating that the covariance matrices for each group of Patient Care were similar to one another and that the assumption was met. The results were not significant for Gender,  $\chi^2(15) = 23.84, p = .068$ , indicating the assumption was met. Additionally, an analysis of variance (ANOVA) was conducted to determine whether there were significant differences in the Big Five and EI constructs and Gender. Neither the MANOVA or the ANOVA analysis found significant results for Gender. The detailed results of the ANOVA analysis are located in the bibliography section. The MANOVA results were not significant for Years of Experience,  $\chi^2(15) = 19.96, p = .173$ , indicating the assumption was met.

**Patient Care.** The results of the MANOVA were not statistically significant, Wilks  $\lambda = .996, F(5, 48) = 0.04, p = .999, \eta^2_p = 0.00$ , suggesting that there were not differences in EI and Leadership Effectiveness between patient care and non-patient care providers.

Bivariate correlations among EI, personality, and leadership effectiveness were also examined for each subgroup. The patterns of relationships were generally consistent between those who are in patient care provider roles and those who are not. One difference did emerge: For patient care provider, extraversion was positively associated with the Self Awareness cluster of emotional intelligence ( $r = .38$ ) but this relationship was not a significant for non-patient care providers.

## Summary of the Chapter

This chapter provided the demographics of the sample population. The results of the data analyses were presented that included descriptive statistics, construct validity, assumptions testing, reliability testing, exploratory factor analysis, and analysis of the study hypotheses. Results of the data analysis revealed a significant relationship between EI and effective leadership. The results indicated supported for the EI and leadership measurement scales. The chapter concluded with hypothesis testing of the relationships between the constructs in the study. The hypothesis findings were summarized and discussed. Table 9 displays the summary of the hypothesis findings.

Table 9.

### *Summary of Research Hypotheses Results*

<b>Hypothesis</b>	<b>Hypothesis Description</b>	<b>Result</b>
1	A positive relationship exists between EI and Effective Leadership .	Supported
2	A positive relationship exists between EI and the Big Five Personality characteristics (extraversion, conscientiousness, openness, and agreeableness).	Partially
3	A positive relationship exists between The Big Five Personality characteristics (extraversion, conscientiousness, openness, and agreeableness) and leadership effectiveness.	Partially
4	A negative relationship exists between The Big Five Personality characteristic neuroticism and leadership effectiveness.	Not Supported



## Chapter 5

### Conclusions and Recommendations

This chapter provides a discussion of the data analysis results found in Chapter 4. Next, implications for research, HRD practice, and healthcare organizations are provided. Finally, limitations of the study and suggestions for future research are offered.

#### Discussion of Study Findings

This study was guided by the quest to examine the effect of EI and personality traits on leadership effectiveness. The study focused on the relationship of the independent variables of EI and Big Five personality traits with the dependent variable of leadership effectiveness. The results of this study suggest EI competencies predicted leadership effectiveness beyond personality. The study also found agreeableness and conscientiousness had a positive relationship with EI and leadership effectiveness.

An analysis on the relationship between EI, personality, and leadership effectiveness was conducted. Four hypotheses were used to test the proposed conceptual relationships; and each hypothesis will be discussed. The results of this study provide full or partial support for three of the four hypotheses tested.

**H1.** Hypothesis one predicted a positive relationship between EI (i.e., self-awareness, self-management, social awareness, and relationship management) and effective leadership. A primary finding from the study was that a significant positive relationship existed between all four EI quadrants and leadership effectiveness. Pearson correlation coefficients were used to examine the relationships between EI and leadership effectiveness as determined by the participant's performance assessment ratings.

Reliability and internal consistency were assessed through Cronbach's alpha test scores. According to guidelines presented by George and Mallery (2010), the EI reliability score (of .94) indicated excellent reliability. The study results showed a significant and positive relationship between self-management, relationship management, social awareness and leadership effectiveness. A moderate relationship was found between self-awareness and leadership effectiveness.

The bivariate analyses revealed the EI quadrant of relationship management to be statistically significant to overall leadership effectiveness. Of the five relationship management competencies, influence was found to have the highest correlation ( $\beta = .740$ ,  $p = < .01$ ) with overall leadership effectiveness. Healthcare leaders who scored the highest in the relationship management quadrant were more likely to achieve the "what" as related to performance management. Additionally, healthcare leaders who scored highest in self-management correlated the highest to the "how" within the leadership effectiveness construct. Study participants ranked by their employees and supervisors to be superior leaders scored the highest in the social awareness and relationship management quadrants of EI. The results suggest that EI positively impacts both the "what" and "how" components of the leadership construct. The results of H1 are important to the HRD field as it provides empirical support to the EI components that are strongly related to leadership effectiveness. Because all four quadrants of EI had a positive relationship with leadership effectiveness, hypothesis one was fully supported.

The linear regression analysis revealed self-management EI significantly predicted leadership effectiveness,  $B = 1.05$ ,  $t(44) = 4.62$ ,  $p < .001$ . The results indicated that on average, a one-unit increase of self-management will increase the value of leadership effectiveness by 1.05 units. These findings suggest individuals who are astute in adaptability, self-control, optimism, and achievement orientation are more likely to build positive social relationships in the process of achieving organizational goals.

**H<sub>2</sub>**. Hypothesis two predicted a positive relationship between EI and the Big Five Personality characteristics (of extraversion, conscientiousness, openness, and agreeableness). Two statistically significant relationships emerged between EI and the Big Five. Agreeableness and Conscientiousness were positively related to the four clusters of emotional intelligence. The four EI clusters (relationship management, self-management, social awareness, and self-awareness) had a strong correlation with agreeableness ( $r = .757$ ,  $r = .699$ ,  $r = .759$ , and  $r = .477$  respectively). The EI clusters had a moderate correlation with conscientiousness. These positive correlations suggests that as a leader's ability to consistently apply EI when dealing with others goes up, agreeableness and conscientiousness also goes up.

In this study, agreeableness correlated the highest with social awareness and self-management. Boyatzis (2007) defined the self-management EI construct as an ability to recognize and effectively manage one's own emotions. Social awareness was defined as the ability to recognize and understand the emotions of others. Agreeableness is associated with trust, cooperation, kindness, and social networks (Judge et al., 2002). Eby, Maher and Butts (2010) reported leaders high in agreeableness experienced a greater amount of

positive work interactions. This study suggested leaders high in agreeableness are more likely to recognize their own emotions as well as the emotions in others and to management those emotions in a manner that build relationships in the process of achieving organizational goals. The results align with Goleman's (2001a) findings that leaders high in EI have the capacity to sense the emotions of others at work and to manage their own emotions to gain trust of employees to improve performance by setting a particular work climate. The results advocated leaders high in the EI clusters tend to be high in agreeableness.

Conscientious has been linked with self-control, persistence, behavior regulation, and goal attainment. The moderate positive correlations between the EI clusters and conscientious suggest leaders that score high in EI tend to have higher levels of conscientiousness. The results of this study suggested leaders that tended to be more organized and mindful of details were also higher in self-management, social awareness, and relationship management. Because there was only two positive correlations between EI and the Big Five personality traits, this hypothesis was only partially supported.

**H3:** The third hypothesis predicted a positive relationship between the Big Five Personality characteristics and leadership effectiveness. Discriminant analysis was used to determine whether personality factors correlated to leadership effectiveness. Hypothesis three (H3) was partially supported. Only conscientiousness and agreeableness correlated with leadership effectiveness. Higher scores on conscientiousness were associated with higher scores of leadership effectiveness ( $r = .522$ ). The results suggest conscientiousness has the greatest influence on a leader's ability to achieve agreed upon

business outputs. Because a wide variation of jobs and departments were sampled across a larger organization, the results of this study are consistent with John et al.'s (2008) finding that conscientiousness is a general predictor of job performance across a broad category of jobs.

Agreeableness positively correlated with leadership effectiveness. According to John et al, (2008), an individual who scored high in agreeableness was generally considered by others to be tactful and could get along well with others. The sampling of healthcare leaders indicated those who scored higher in agreeableness are more likely to be considered effective by their supervisors and subordinates. Because there were only two positive correlations between the Big Five personality traits and leadership effectiveness, this hypothesis was only partially supported.

The collected data included leaders who worked in patient related and non-patient related leadership roles. In order to discern distinguishing characteristics between patient care leaders and non-patient care leaders, the researcher divided the data between patient-related and non-patient related occupations. Although the small sample size may limit broad generalizations, a multivariate analysis of variance determined extraversion was positively associated with self-awareness for leaders in patient care roles ( $n = 20$ ). According to John et al. (2008), an individual who scored high in extraversion was generally considered by others to be outgoing and engage in social situations. The sampling of patient care leaders indicated those who scored higher in extraversion are more likely to recognize and understand their own emotions.

**H4.** Hypothesis 4 predicted that a negative relationship exists between the Big Five Personality characteristic neuroticism and leadership effectiveness. The findings of the study did not reveal a significant relationship between neuroticism characteristics and leadership effectiveness. Since a negative relationship between neuroticism and leadership effectiveness did not emerge, H<sub>4</sub> was not supported. This is noteworthy because the predominant conclusions of other empirical studies that examined the effects of personality traits on leadership effectiveness found neuroticism had negative effects on leadership effectiveness (Bono & Judge, 2004; Cavazotte et al., 2012; Judge et al., 2002).

### **Implications of the Study**

Although the small sample size may limit broad generalizations, the findings of the study have implications for HRD, leadership, and healthcare research and practice. This study was significant to advance the theory, research, and future practice of EI, personality trait assessment, and leadership. The study addressed the gap in the literature and previous calls for empirical evidence that support EI as a contributing factor to leadership effectiveness aside from personality. The study analyzed former gaps in the literature and tested hypothesized relationships between variables that were previously under-reported. The results of the study illuminated future research possibilities for researchers and practitioners to consider as they examine ways to improve leadership effectiveness. The study results demonstrated EI to be a significant predictor to leadership effectiveness over personality. The results also suggest that personality plays

a role in determining the “how” and “what” aspects of leadership effectiveness in healthcare institutions.

**Implications for research.** The first contribution to EI research is the use of empirical data to analyze the effect of EI on leadership effectiveness using actual performance scores to define leadership effectiveness. A review of the literature revealed the majority of EI studies within HRD consisted of qualitative studies. The results of this study advances EI research by measuring the EI of practicing leaders against leadership effectiveness scores. Additionally, the study served to clarify inconsistent findings that EI and personality have on leadership effectiveness. The results of this study support Goleman’s (2004) claims that self-awareness, self-management, and relationship management are linked to effective leadership.

The second implication for research is related to personality traits by job category as the study was conducted within the context of a healthcare institution. Though caution must be taken before making broad applications given the small sample size of the study, the interactions of personality traits of healthcare leaders help future researchers fine-tune and develop a better understanding of how different traits are important to performance in different job environments. Pienaar (2011) stipulated that character flaws and an inability to manage one’s emotions are likely to decrease leadership effectiveness.

**Implications for HRD.** The study has several implications for HRD. HRD professionals provide input into organizational recruiting and selection, leadership development, performance management, and compensation and rewards.

The first implication for HRD involves recruitment and selection. The results of the study may support the inclusion and consideration of a leader's overall EI score within internal and external recruitment and selection processes. Senior management and those who make hiring decisions can analyze EI traits, agreeableness, and conscientious personality behaviors of prospective applicants and use those scores as an indicator of leadership effectiveness.

The second HRD implication involves leadership development. The EI and leadership effectiveness scores used in this study were derived from 360-degree feedback from the leader's followers, peers, and supervisors. The use of 360-degree instrumentation allows individual perceptions to be considered along with the perceptions of others. The results of the study indicate EI and personality scores may be important to identify behaviors and traits that need to be developed. Coaching is typically focused on the development of specific areas that can improve an individual's leadership effectiveness. According to Brett and Atwater (2001), leaders who over-rate their skills and abilities are more likely to consider constructive feedback as negative and less likely to take corrective measures. HRD professionals and executive coaches may use the leader's personality traits and self-awareness EI scores to tailor executive coaching plans to better develop the leader's capacity to manage and influence the behaviors and attitudes of his or her followers.

The role EI and leadership effectiveness play on the performance management process is the third implication for HRD. In terms of performance management, it is important for leaders to deliver on the performance aspects (the "what") and deal



effectively with others (the “how”). Rosete and Ciarrochi (2005) contended it may be common for a leader to score high in the “what” category of leadership effectiveness and score low in the “how” category. For example, a surgeon may perform complex tasks that yield high organizational outputs and also be ineffective in leading subordinates, which in turn leads to increased turnover. The high correlations between EI and leadership effectiveness indicate self-management, relationship management, and social awareness components may improve the overall leadership effectiveness. Individuals who scored higher in EI are predicted to reduce conflict, build positive relations, exert influence, and develop others. If HRD professionals understand employees perceive a leader who has high EI to be an effective leader then EI may serve as a predictor of the leaders’ performance rating. These findings show that EI may inform HRD professional who is and is not likely to deal effectively with others.

The significant relationship between EI, personality, and leadership effectiveness may serve as a predictor of leadership effectiveness. Leaders who were considered superior in leadership effectiveness in both “what” (>4) and “how” (>4) were analyzed against EI and personality traits. The leaders who received superior ratings scored high in agreeableness and conscientiousness personality traits. Additionally, superior leaders scored high in the four EI clusters. These findings suggest that leaders who have higher EI, agreeableness, and conscientiousness are more likely to be considered by their supervisors and subordinates to be effective leaders.

The final implication for HRD is compensation. Performance reviews should include a component that encourages leader growth and improvement, which ultimately

leads to enhanced patient satisfaction. It is appropriate for institutions that use EI and personality traits as a tool to improve a leader's effectiveness to link specific outcomes of improved leadership effectiveness to compensation. According to Goleman and Boyatzis (2017), EI is often too narrowly defined. An individual EI score should be viewed in four distinct areas (self-management, self-awareness, social awareness, and relationship management). Additionally, each one of the four areas of EI has distinct supporting components. Leader EI results are often averaged together instead of uniquely assessed. For example, a leader may score high in empathy and yet lack the skills to provide difficult feedback to subordinates in a way that would enable the employee to deliver organizational change. If institutional efforts are to improve leader EI, which in turn improves employee engagement and patient satisfaction, then leaders should be measured on an outcome that can be connected to patient satisfaction. Shuck and Rocco (2011) suggested patient satisfaction scores strongly correlate with employee engagement. Institutions that want to improve employee engagement and patient satisfaction should assess leaders on how well they are improving EI and personality traits that will lead to increases in these outcomes.

**Implications for leadership.** Although broad applications of the findings limited, there are notable implications. The first implication for leadership regards achieving successful outcomes. The findings of this study indicate leaders who score higher in self-management, relationship management, agreeableness, and conscientiousness are more likely to be considered effective by their supervisor and subordinates. Leaders with higher achievement orientation and conscientiousness

received higher “what” leadership effectiveness scores. Participants who had higher influence and agreeableness scored higher in the “how” category of leadership effectiveness. Leaders are responsible for their own self-awareness and can enhance their skills by proactively engaging in development activities that build their ability to organize, influence, and goal achievement in order to accomplish organizational goals.

The second implication for leadership is the use of an empirical study to consider the relationship between EI and effective leadership as a separate construct from personality. Two clear factors emerged from the exploratory factor analysis. One contained all of the EI items, and the other contained all of the Big Five items. These separations suggest that EI and the Big Five are distinct constructs that have unique implications for leadership effectiveness.

The third implication is for leadership ineffectiveness. The leaders who scored high in leadership effectiveness also scored high in EI. These results concur with the findings of Pienaar (2011) who found that leaders are more likely to be considered effective if they have the ability to effectively manage their emotions and maintain interpersonal relationships.

The fourth implication for leadership regards the implications for teamwork. Emotionally intelligent leaders who are able to assess the emotional climate of their team and work group, and in turn, generate emotions that assist and regulate the emotions of others, are perceived as able to improve the emotional climate of the team and organization. The results of this study concur with other studies that found agreeableness to be associated with trust and team performance (Neuman, Wagner, &

Christiansen,1999). Given the importance of teamwork in today's organizations, enhancing emotional intelligence and agreeableness should be a priority for organizations.

The fifth implication for leadership is team development. The results of the study revealed a positive relationship between social awareness and leadership effectiveness in both "what" and "how" leadership effectiveness components. Individual's who scored high in social awareness were perceived to possess higher interpersonal skills. Interpersonal skills are important in the development of effective work groups. The results of this study assert that the development of EI skills will improve the relationships among team members and work units.

The sixth implication is for the consideration of the possibility that leadership may improve EI. The majority of the leaders in the study have been with the organization for more than five years (88%). If leadership tenure has the potential to improve EI, mentoring programs that pair effective seasoned leader with new leader may improve EI and leadership effectiveness scores.

The last implication for leadership is related to leadership and gender. The mean averages of leadership effectiveness scores did not vary between female and male leaders. According to Thorn, Doherty, Richardson and Thorn (2013), modern organizations face complex and changing work environments that press HRD practitioners and organizational leaders to facilitate the systematic changes regarding masculinized cultures. The results of this study did not indicate any real biases toward gender and EI on leadership or organizational effectiveness.

**Implications for healthcare organizations.** The first implication for healthcare organizations is related to the existence of a leadership academy. All study participants were pre-selected by the healthcare organization to be members of the institution's leadership academy. The study consisted of a combination of mid-level to upper-level positions. The range of management levels and positions combined with the percent of superior ratings suggest a systemic approach was utilized in the design of the healthcare institution's leadership academy. The leadership effectiveness scores indicate that academy members were successful in both the "what" and "how" of leadership effectiveness. The results of the study emphasized an organizational commitment to leadership development suggested by Amagoh (2009). These findings are important to other healthcare institutions that may be considering ways to increase leadership effectiveness.

The second implication for healthcare organizations is to consider the personality and EI differences of individuals that affiliate with academic healthcare institutions as compared to non-academic healthcare institutions. The study participants were members of an academic healthcare system. Physician participation accounted for 20% of the sampled population. There was no variance between leadership effectiveness scores of physicians and the other study participants. These results may be important to other healthcare institutions that are non-academically based as the personality of participants may vary among academic based institutions versus non-academic based institutions.

The third implication regards EI as a leadership development tool within the healthcare arena. EI has gained notoriety in the healthcare field as a possible mechanism

to improve the efficiency of a hospital system (Mintz & Stoller, 2014; Nowacki et al., 2016). The results of the study support EI as a positive indicator of effective leadership decisions within the healthcare field. The high EI scores indicate healthcare leaders who scored high in EI in both patient-centered and non-patient centered positions scored higher in leadership effectiveness. These results provide support for healthcare institutions using EI as a training and development tool to improve leadership performance.

The last implication of this study regards the empirical support for EI strategies to be used in physician leadership training and development as suggested by Pronovost and Marsteller (2011) . This study is specific to healthcare and addressed the call for additional studies within a healthcare organization. This study may provide insight for institutions that are considering whether the organizational sector influences leadership roles and perceptions of effectiveness.

### **Limitations and Future Research**

In this study, as is common to all research, limitations are acknowledged. The first limitation of this study was the small sample size. Although the data collection consisted of a total of 902 responses (nEI=599 , nLE=249, nBigFive= 54), the number of primary data participants was limited to 54. The data file was divided based on patient care. The data split provided additional interesting observations; however, because the sample size was further reduced the findings are not conclusive. Future studies should analyze EI, the Big Five factors, and leadership effectiveness across a larger sample size.

A clear ceiling effect emerged within leadership effectiveness. The high scores and lack of variance in leadership effectiveness may have suppressed the effects on the variables. The majority of study participants were mid-management and above (74%) and had an education level equal to or above a master's degree (80%); therefore, the study may have limited range that decrease broader implications of human behavior.

The study used the 50-question IPIP measurement tool to assess the participant's personality styles. The questions were relatively transparent and easily understood. John et al., (2008) suggested an extended measure of the personality assessment instrument may be more appropriate when the sampled population is predominantly well-educated. With the exception of one participant, all of this study's participants had a college degree. Future studies should consider replicating this study and using the 240-item NEO-PI-R instrument (John et al, 2008).

Additionally, the EI of the study was assessed based on a mixed-model of EI. Mixed EI models measure EI differently than ability based models. Prior studies report mixed-models correlate with personality (Ciarrochi et al., 2001). Another study assessing EI based on an ability model such as the MSCEIT may provide different results.

Common method bias is a common concern in research. Common method bias may influence empirical results and produce misleading conclusions (Campbell & Fiske, 1959). However, Doty and Glick (1998) investigated common methods bias in multimethod correlation studies published over a 12-year period in a variety of journals, and concluded that, although self-reported method bias is cause for concern, it does not invalidate many research findings.

Conway and Lance (2010) suggested researchers address the following when using self-reported data: specify the necessity of collecting self-reported data; support the validity of the instrument; provide a lack of overlap of different constructs; and take proactive steps to minimize the threat of common method bias. Conway and Lance's (2010) expectations were considered by the researcher. Self-reported data was necessary to analyze the Big Five personality constructs. The Goldberg (1992) FFM was previously validated as a measure of personality. EI and the Big Five factors emerged as two separate and distinct constructs. The leadership effectiveness and EI data did not consist of self-reported data, which reduced the chance of halo effects with EI and the Big Five. Further, the survey included a broad range of leadership positions. Future studies focused on patient related leadership positions may yield different results than those found in this study. The majority of respondents were non-patient related, which may account for the overall lack of statistical significance between extravert, agreeableness, and openness personality constructs and leadership effectiveness.

The results of the study indicated that conscientiousness traits are related to the "what" category of leadership effectiveness. However, this study did not reveal why conscientiousness was important. For example, is conscientiousness related to the "what" category of leadership effectiveness because, as suggested by Judge et al., (2002), individuals excel at process aspects such as goal setting and persistence? This study did not illuminate specific processes that supported the correlations between personality and leadership effectiveness and EI. Future studies should investigate individual processes and situations that are relative to personality and leadership effectiveness. In other



words, future studies should be concerned with the explanations between the Big Five traits and leadership effectiveness. An example of this is if a conscientious leader is successful because he or she possesses initiative and persistence.

This study hypothesized that EI factors and certain personality traits were positively related to leadership effectiveness. The results suggested a link between the number of years a person leads others and leadership effectiveness scores. A suggestion for future research is to conduct a longitudinal study that measures EI and personality scores of newly hired leaders. A longitudinal study might distinguish whether EI improves leadership performance or whether successful leadership improves EI.

This study was limited to the healthcare industry. Future studies could include a broader range of industries. The results of the study may be additionally limited as the data was collected within an academic university healthcare institution. Individuals working within an academic healthcare system may have different personality and EI characteristics that may not be generalizable across the healthcare field and may limit the findings of this study across a broader spectrum of healthcare institutions. Despite the limitations, this study adds to the literature on EI and personality traits on leadership effectiveness.

Finally, this study revealed that EI was statistically significantly linked to leadership effectiveness. Leadership effectiveness was based on performance measures specific to individual leaders' positions. When investigating the healthcare field, or another organizational field, it is important to consider desired outcomes and their main drivers. Several studies indicate employee engagement is strongly correlated to patient

satisfaction (Lucas, Spence, Laschinger, & Wong, 2008; Shuck & Rocco, 2011). Future researchers should consider specific leadership effectiveness outcomes, such as employee engagement, to better support the mission of healthcare (i.e., patient care).

### **Summary of the Chapter**

This chapter included a summary of the study findings, which are unique in that EI was shown to contribute significant, unique variance in predicting leadership effectiveness, as compared with personality. Hypotheses predicted relationships between the EI and effective leadership variables, and were discussed at length. Results of this study supported H1, partially supported H2 and H3, and failed to support H4. Implications for research and practice were provided. Practical applications for organizations and the field of HRD were provided and specific suggestions regarding how HRD could help organizations incorporate self-management, relationship management, conscientiousness, and social awareness into the management systems of healthcare organizations were outlined. Activities such as recruiting and selection, leadership development, performance appraisals, and compensation will benefit from heightened consideration of and inclusion in these processes. Finally, limitations and suggestions for future research were addressed. Future studies that involve larger samples across broader industries and occupations, different personality measures, an employee engagement measure, and ability EI measurements will enhance the knowledge base of EI and personality on leadership effectiveness.

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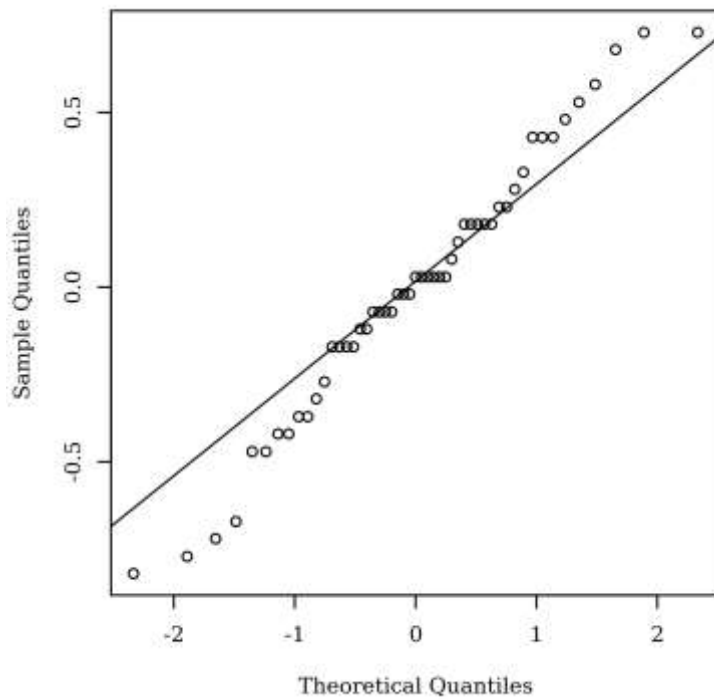
### ANOVA

**Introduction.** An analysis of variance (ANOVA) was conducted to determine whether there were significant differences in Extraversion by Gender. Prior to the analysis, ANOVA assumptions were examined.

**Assumptions.** Prior to conducting the analysis, the assumptions of univariate normality of residuals, homoscedasticity of residuals, and the lack of outliers were assessed.

**Normality.** Normality was evaluated using a Q-Q scatterplot (Field, 2005; Bates, Mächler, Bolker, & Walker, 2014; DeCarlo, 1997). The Q-Q scatterplot compares the distribution of the residuals with a normal distribution (a theoretical distribution which follows a bell curve). In the Q-Q scatterplot, the solid line represents the theoretical quantiles of a normal distribution. Normality can be assumed if the points form a relatively straight line. The Q-Q scatterplot for normality are presented in Figure 9.





*Figure 9.* Q-Q scatterplot testing normality

**Homoscedasticity.** Homoscedasticity was evaluated by plotting the residuals against the predicted values (Field, 2005; Bates et al., 2014; Osborne & Walters, 2002). The assumption is met if the points appear randomly distributed with a mean of zero and no apparent curvature. Figure 10 presents a scatterplot of predicted values and model residuals.

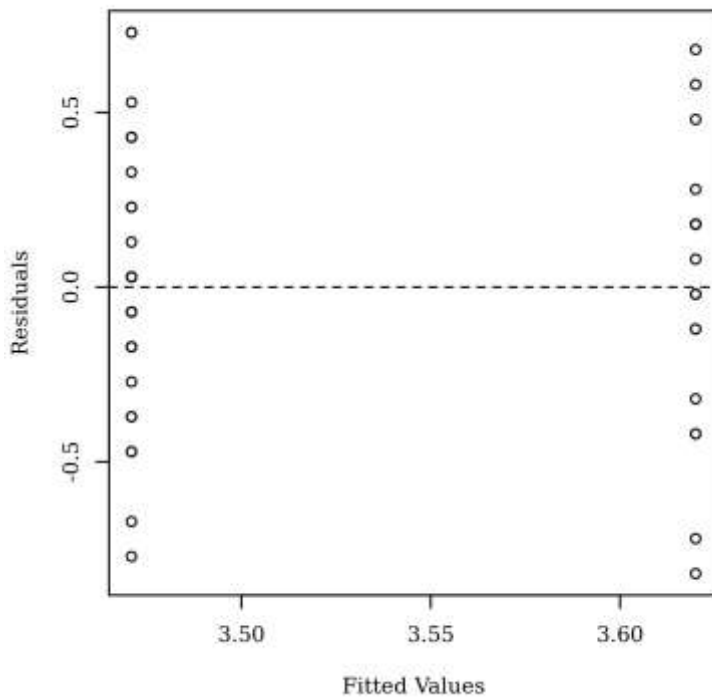


Figure 10. Residuals scatterplot testing homoscedasticity

**Outliers.** To identify influential points, Studentized residuals were calculated and the absolute values were plotted against the observation numbers (Field, 2005; Stevens, 2009). Studentized residuals are calculated by dividing the model residuals by the estimated residual standard deviation. An observation with a Studentized residual greater than 3.26 in absolute value, the .999 quartile of a  $t$  distribution with 50 degrees of freedom, was considered to have significant influence on the results of the model. Figure 11 presents the Studentized residuals plot of the observations. Observation numbers are specified next to each point with a Studentized residual greater than three.

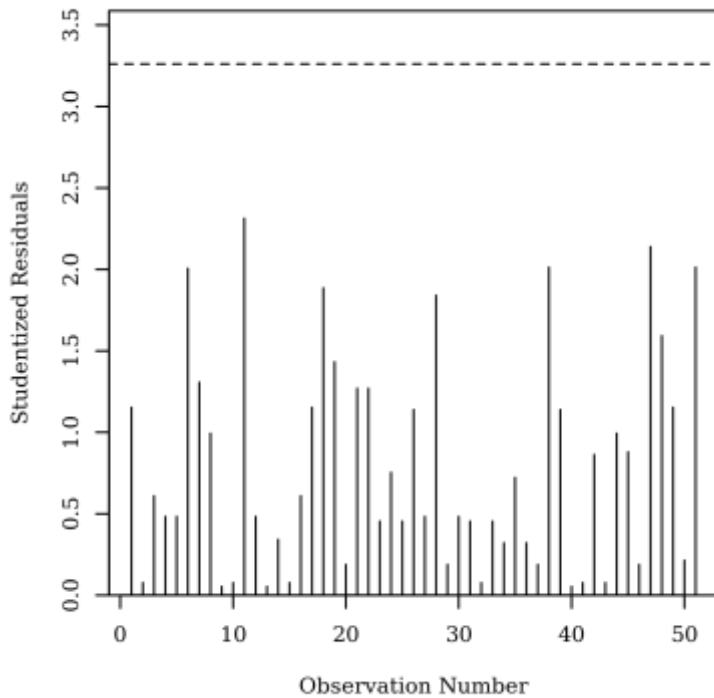


Figure 11. Studentized residuals plot for outlier detection.

**Results.** The results of the ANOVA were not significant,  $F(1, 49) = 1.88, p = .177$ , indicating the differences in Extraversion among the levels of Gender were all similar (Table 10). The main effect, gender was not significant at the 95% confidence level,  $F(1, 49) = 1.88, p = .177$ , indicating there were no significant differences of Extraversion by Gender levels. The means and standard deviations are presented in Table 11.

Table 10.

*Analysis of Variance Table for Extraversion by Gender*

Term	<i>SS</i>	<i>df</i>	<i>F</i>	<i>P</i>	$\eta_p^2$
Gender	0.27	1	1.88	.177	0.04
Residuals	7.06	49			

Table 11.

*Means, Standard Deviations, and Sample Size for Extraversion by Gender*

Combination	<i>M</i>	<i>SD</i>	<i>n</i>
Female	3.47	0.37	31
Male	3.62	0.39	20

*Note.* - indicate sample size was too small to calculate statistic.

**Post-hoc.** There were no significant effects in the model. As a result, posthoc comparisons were not conducted.

## ANOVA

**Introduction.** An analysis of variance (ANOVA) was conducted to determine whether there were significant differences in Agreeable by Gender. Prior to the analysis, ANOVA assumptions were examined.

**Assumptions.** Prior to conducting the analysis, the assumptions of univariate normality of residuals, homoscedasticity of residuals, and the lack of outliers were assessed.

**Normality.** Normality was evaluated using a Q-Q scatterplot (Field, 2005; Bates, Mächler, Bolker, & Walker, 2014; DeCarlo, 1997). The Q-Q scatterplot compares the distribution of the residuals with a normal distribution (a theoretical distribution which follows a bell curve). In the Q-Q scatterplot, the solid line represents the theoretical quantiles of a normal distribution. Normality can be assumed if the points form a relatively straight line. The Q-Q scatterplot for normality are presented in Figure 12.

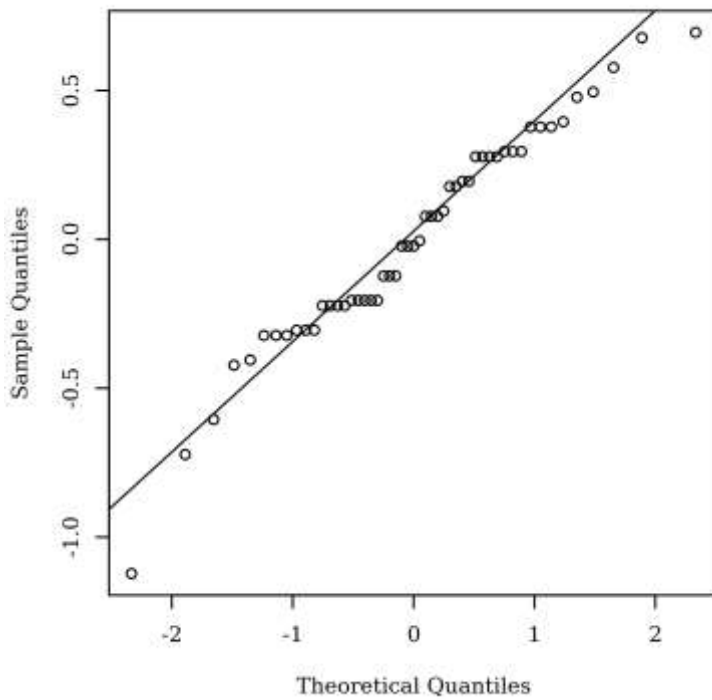


Figure 12. Q-Q scatterplot testing normality

**Homoscedasticity.** Homoscedasticity was evaluated by plotting the residuals against the predicted values (Field, 2005; Bates et al., 2014; Osborne & Walters, 2002). The assumption is met if the points appear randomly distributed with a mean of zero and no apparent curvature. Figure 13 presents a scatterplot of predicted values and model residuals.

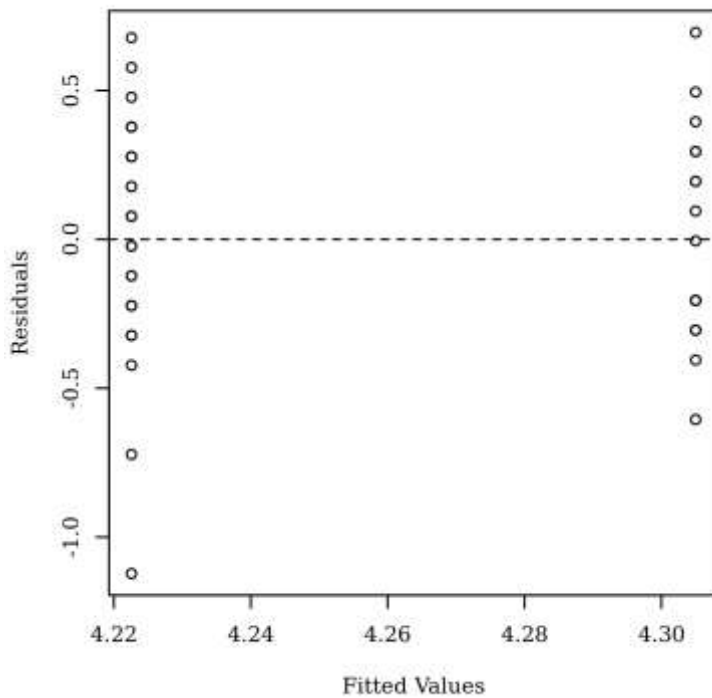


Figure 13. Residuals scatterplot testing homoscedasticity

**Outliers.** To identify influential points, Studentized residuals were calculated and the absolute values were plotted against the observation numbers (Field, 2005; Stevens, 2009). Studentized residuals are calculated by dividing the model residuals by the estimated residual standard deviation. An observation with a Studentized residual greater than 3.26 in absolute value, the .999 quartile of a  $t$  distribution with 50 degrees of freedom, was considered to have significant influence on the results of the model. Figure 14 presents the Studentized residuals plot of the observations. Observation numbers are specified next to each point with a Studentized residual greater than three.

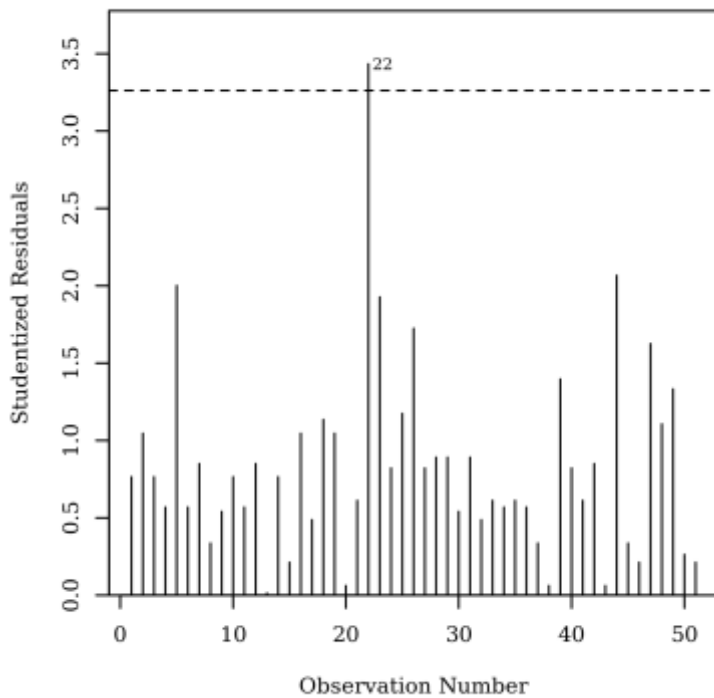


Figure 14. Studentized residuals plot for outlier detection.

**Results.** The results of the ANOVA were not significant,  $F(1, 49) = 0.61, p = .438$ , indicating the differences in Agreeable among the levels of Gender were all similar (Table 12). The main effect, Gender was not significant at the 95% confidence level,  $F(1, 49) = 0.61, p = .438$ , indicating there were no significant differences of Agreeable by Gender levels. The means and standard deviations are presented in Table 13.

Table 12.

*Analysis of Variance Table for Agreeable by Gender*

Term	SS	df	F	P	$\eta_p^2$
Gender	0.08	1	0.61	.438	0.01
Residuals	6.60	49			

Table 13.

*Means, Standard Deviations, and Sample Size for Agreeable by Gender*

Combination	<i>M</i>	<i>SD</i>	<i>n</i>
Female	4.22	0.38	31
Male	4.3	0.34	20

*Note.* - indicate sample size was too small to calculate statistic.

**Post-hoc.** There were no significant effects in the model. As a result, posthoc comparisons were not conducted.

## ANOVA

**Introduction.** An analysis of variance (ANOVA) was conducted to determine whether there were significant differences in Conscientious by Gender. Prior to the analysis, ANOVA assumptions were examined.

**Assumptions.** Prior to conducting the analysis, the assumptions of univariate normality of residuals, homoscedasticity of residuals, and the lack of outliers were assessed.

**Normality.** Normality was evaluated using a Q-Q scatterplot (Field, 2005; Bates, Mächler, Bolker, & Walker, 2014; DeCarlo, 1997). The Q-Q scatterplot compares the distribution of the residuals with a normal distribution (a theoretical distribution which follows a bell curve). In the Q-Q scatterplot, the solid line represents the theoretical quantiles of a normal distribution. Normality can be assumed if the points form a relatively straight line. The Q-Q scatterplot for normality are presented in Figure 15.



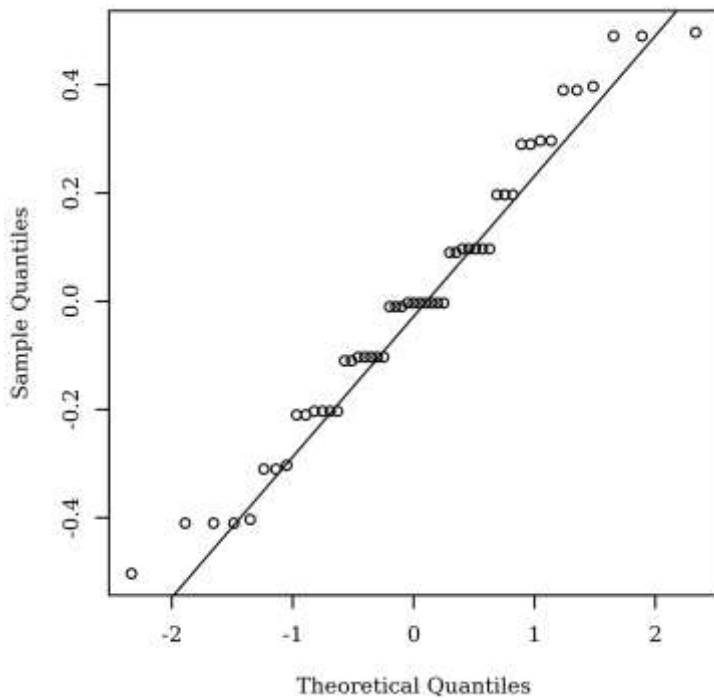


Figure 14. Q-Q scatterplot testing normality

**Homoscedasticity.** Homoscedasticity was evaluated by plotting the residuals against the predicted values (Field, 2005; Bates et al., 2014; Osborne & Walters, 2002). The assumption is met if the points appear randomly distributed with a mean of zero and no apparent curvature. Figure 16 presents a scatterplot of predicted values and model residuals.

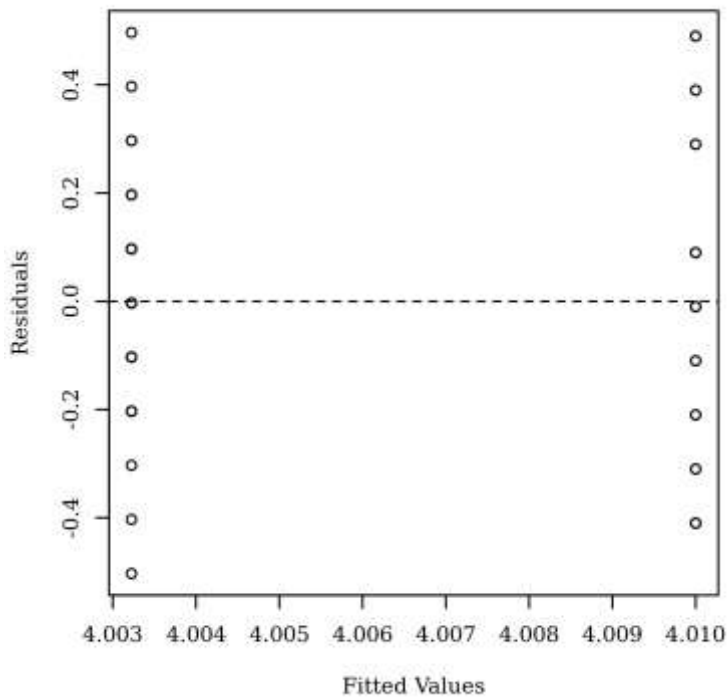


Figure 16. Residuals scatterplot testing homoscedasticity

**Outliers.** To identify influential points, Studentized residuals were calculated and the absolute values were plotted against the observation numbers (Field, 2005; Stevens, 2009). Studentized residuals are calculated by dividing the model residuals by the estimated residual standard deviation. An observation with a Studentized residual greater than 3.26 in absolute value, the .999 quartile of a  $t$  distribution with 50 degrees of freedom, was considered to have significant influence on the results of the model. Figure 17 presents the Studentized residuals plot of the observations. Observation numbers are specified next to each point with a Studentized residual greater than three.

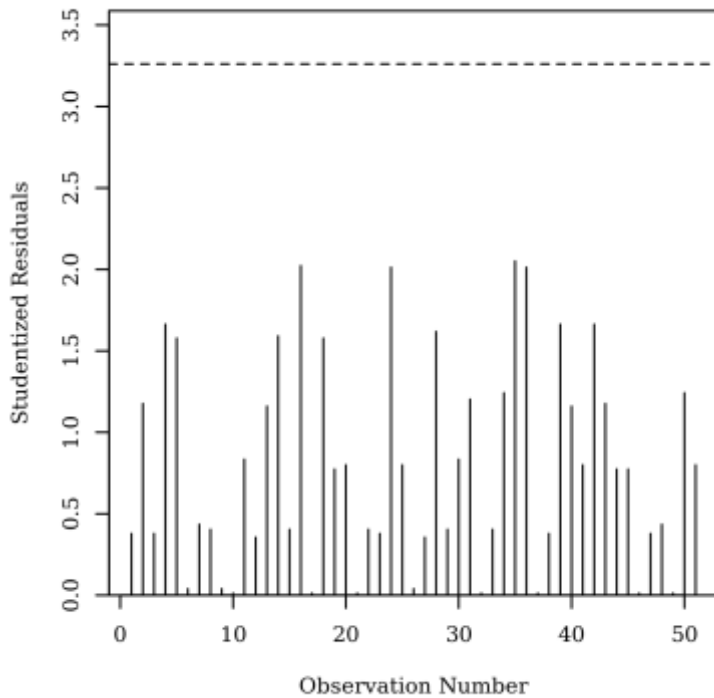


Figure 17. Studentized residuals plot for outlier detection.

**Results.** The results of the ANOVA were not significant,  $F(1, 49) = 0.01, p = .927$ , indicating the differences in Conscientious among the levels of Gender were all similar (Table 14). The main effect, Gender was not significant at the 95% confidence level,  $F(1, 49) = 0.01, p = .927$ , indicating there were no significant differences of Conscientious by Gender levels. The means and standard deviations are presented in Table 15.

Table 14.

*Analysis of Variance Table for Conscientious by Gender*

Term	<i>SS</i>	<i>df</i>	<i>F</i>	<i>P</i>	$\eta_p^2$
Gender	0.00	1	0.01	.927	0.00
Residuals	3.25	49			

Table 15.

*Means, Standard Deviations, and Sample Size for Conscientious by Gender*

Combination	<i>M</i>	<i>SD</i>	<i>n</i>
Female	4	0.22	31
Male	4.01	0.31	20

*Note.* - indicate sample size was too small to calculate statistic.

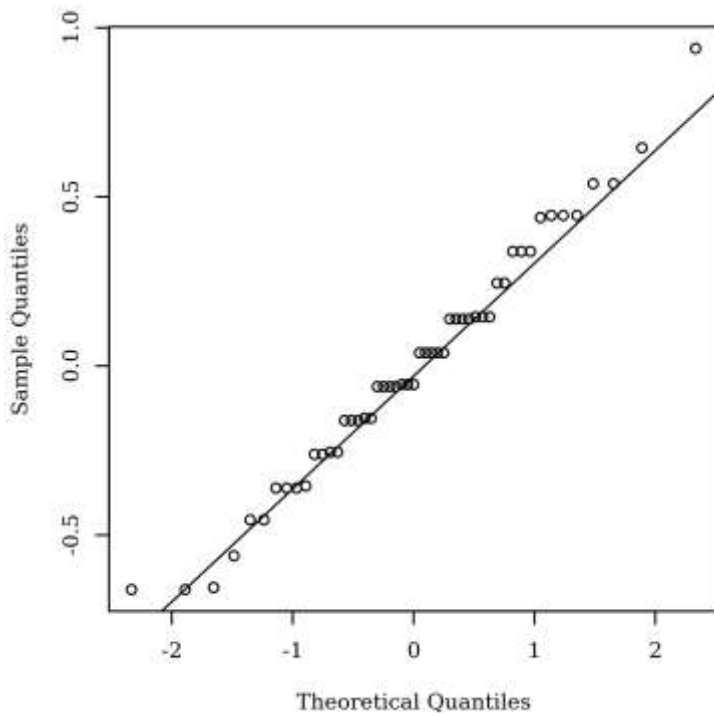
**Post-hoc.** There were no significant effects in the model. As a result, posthoc comparisons were not conducted.

## ANOVA

**Introduction.** An analysis of variance (ANOVA) was conducted to determine whether there were significant differences in EmoStability by Gender. Prior to the analysis, ANOVA assumptions were examined.

**Assumptions.** Prior to conducting the analysis, the assumptions of univariate normality of residuals, homoscedasticity of residuals, and the lack of outliers were assessed.

**Normality.** Normality was evaluated using a Q-Q scatterplot (Field, 2005; Bates, Mächler, Bolker, & Walker, 2014; DeCarlo, 1997). The Q-Q scatterplot compares the distribution of the residuals with a normal distribution (a theoretical distribution which follows a bell curve). In the Q-Q scatterplot, the solid line represents the theoretical quantiles of a normal distribution. Normality can be assumed if the points form a relatively straight line. The Q-Q scatterplot for normality are presented in Figure 18.



*Figure 18.* Q-Q scatterplot testing normality

**Homoscedasticity.** Homoscedasticity was evaluated by plotting the residuals against the predicted values (Field, 2005; Bates et al., 2014; Osborne & Walters, 2002). The assumption is met if the points appear randomly distributed with a mean of zero and no apparent curvature. Figure 19 presents a scatterplot of predicted values and model residuals.

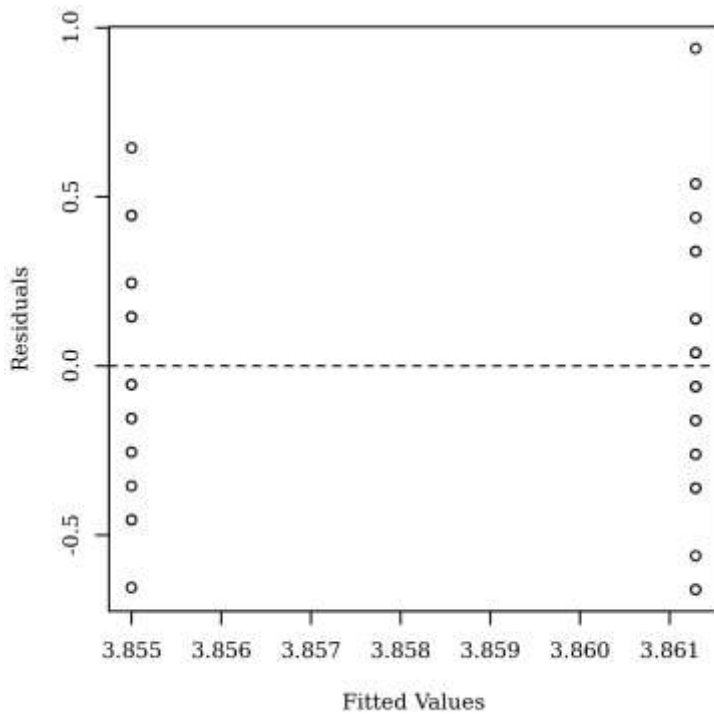


Figure 19. Residuals scatterplot testing homoscedasticity

**Outliers.** To identify influential points, Studentized residuals were calculated and the absolute values were plotted against the observation numbers (Field, 2005; Stevens, 2009). Studentized residuals are calculated by dividing the model residuals by the estimated residual standard deviation. An observation with a Studentized residual greater than 3.26 in absolute value, the .999 quartile of a  $t$  distribution with 50 degrees of freedom, was considered to have significant influence on the results of the model. Figure 20 presents the Studentized residuals plot of the observations. Observation numbers are specified next to each point with a Studentized residual greater than three.

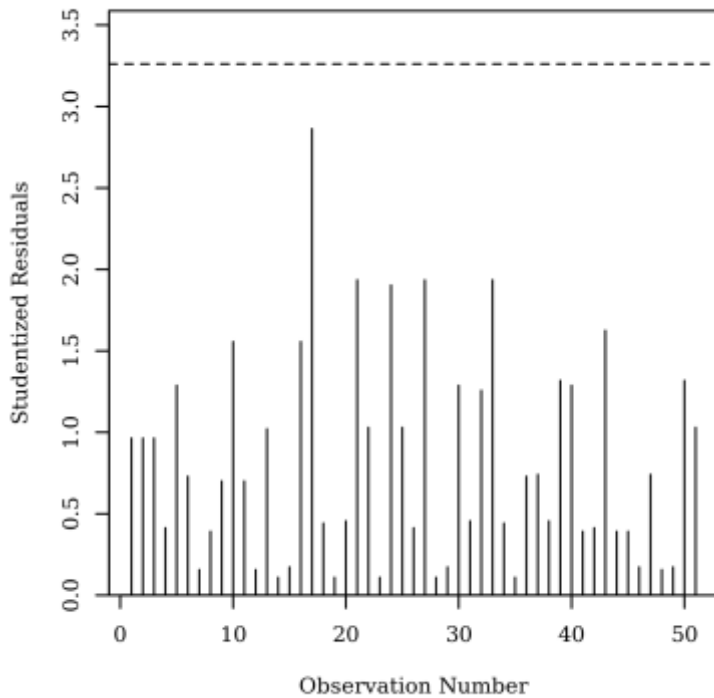


Figure 20. Studentized residuals plot for outlier detection.

**Results.** The results of the ANOVA were not significant,  $F(1, 49) = 0.00, p = .951$ , indicating the differences in Emotional Stability among the levels of Gender were all similar (Table 16). The main effect, Gender was not significant at the 95% confidence level,  $F(1, 49) = 0.00, p = .951$ , indicating there were no significant differences of Emotional Stability by Gender levels. The means and standard deviations are presented in Table 17.

Table 16.

*Analysis of Variance Table for Emotional Stability by Gender*

Term	<i>SS</i>	<i>df</i>	<i>F</i>	<i>P</i>	$\eta_p^2$
Gender	0.00	1	0.00	.951	0.00
Residuals	6.24	49			

Table 17.

*Means, Standard Deviations, and Sample Size for EmoStability by Gender*

Combination	<i>M</i>	<i>SD</i>	<i>n</i>
Female	3.86	0.36	31
Male	3.85	0.35	20

*Note.* - indicate sample size was too small to calculate statistic.

**Post-hoc.** There were no significant effects in the model. As a result, posthoc comparisons were not conducted.

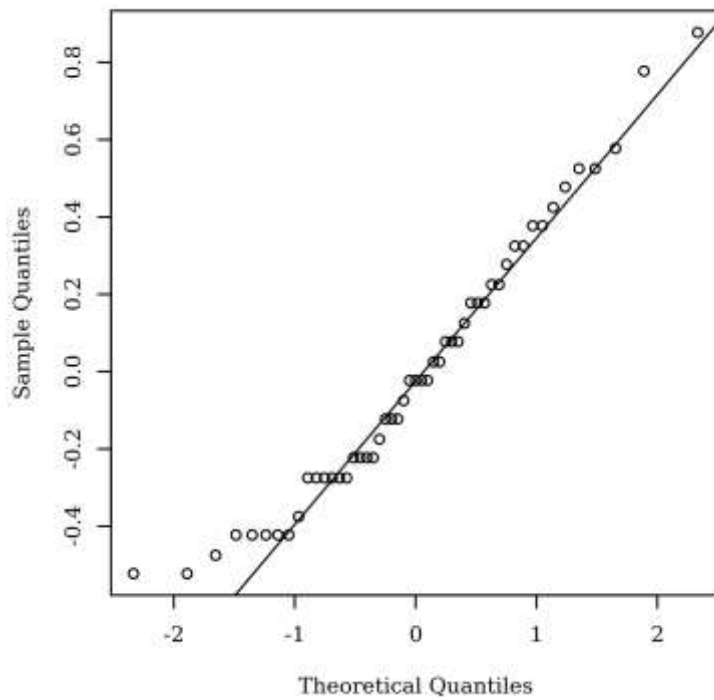
## ANOVA

**Introduction.** An analysis of variance (ANOVA) was conducted to determine whether there were significant differences in Openness by Gender. Prior to the analysis, ANOVA assumptions were examined.

**Assumptions.** Prior to conducting the analysis, the assumptions of univariate normality of residuals, homoscedasticity of residuals, and the lack of outliers were assessed.

**Normality.** Normality was evaluated using a Q-Q scatterplot (Field, 2005; Bates, Mächler, Bolker, & Walker, 2014; DeCarlo, 1997). The Q-Q scatterplot compares the distribution of the residuals with a normal distribution (a theoretical distribution which follows a bell curve). In the Q-Q scatterplot, the solid line represents the theoretical quantiles of a normal distribution. Normality can be assumed if the points form a relatively straight line. The Q-Q scatterplot for normality are presented in Figure 21.





*Figure 21.* Q-Q scatterplot testing normality

**Homoscedasticity.** Homoscedasticity was evaluated by plotting the residuals against the predicted values (Field, 2005; Bates et al., 2014; Osborne & Walters, 2002). The assumption is met if the points appear randomly distributed with a mean of zero and no apparent curvature. Figure 22 presents a scatterplot of predicted values and model residuals.

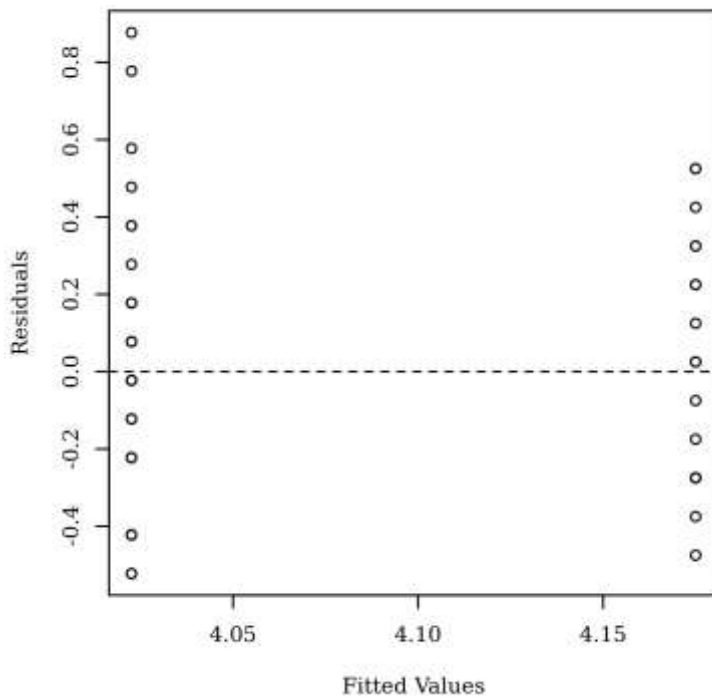


Figure 22. Residuals scatterplot testing homoscedasticity

**Outliers.** To identify influential points, Studentized residuals were calculated and the absolute values were plotted against the observation numbers (Field, 2005; Stevens, 2009). Studentized residuals are calculated by dividing the model residuals by the estimated residual standard deviation. An observation with a Studentized residual greater than 3.26 in absolute value, the .999 quartile of a  $t$  distribution with 50 degrees of freedom, was considered to have significant influence on the results of the model. Figure 22 presents the Studentized residuals plot of the observations. Observation numbers are specified next to each point with a Studentized residual greater than three.

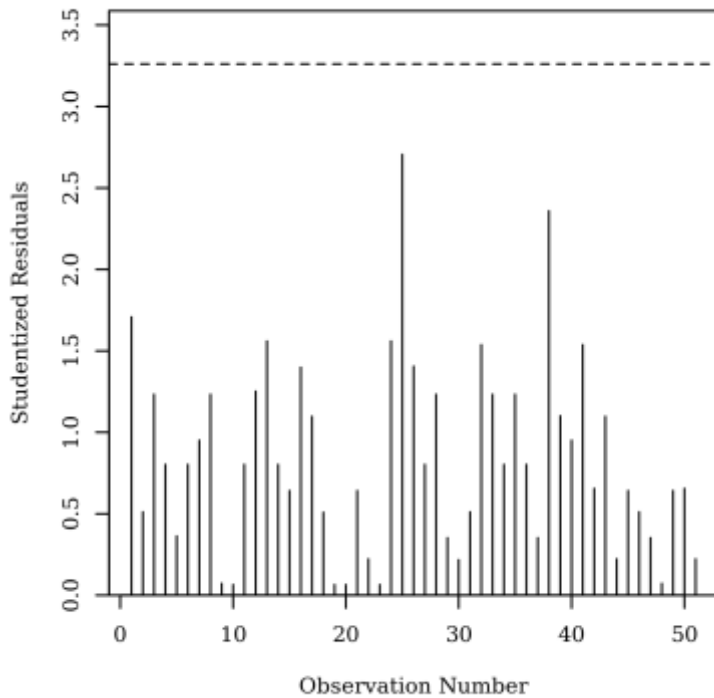


Figure 22. Studentized residuals plot for outlier detection.

**Results.** The results of the ANOVA were not significant,  $F(1, 49) = 2.30, p = .136$ , indicating the differences in Openness among the levels of Gender were all similar (Table 18). The main effect, Gender was not significant at the 95% confidence level,  $F(1, 49) = 2.30, p = .136$ , indicating there were no significant differences of Openness by gender levels. The means and standard deviations are presented in Table 19.

Table 18.

*Analysis of Variance Table for Openness by Gender*

Term	SS	df	F	p	$\eta_p^2$
Gender	0.28	1	2.30	.136	0.04
Residuals	6.01	49			

Table 19.

*Means, Standard Deviations, and Sample Size for Openness by Gender*

Combination	<i>M</i>	<i>SD</i>	<i>n</i>
Female	4.02	0.37	31
Male	4.17	0.32	20

*Note.* - indicate sample size was too small to calculate statistic.

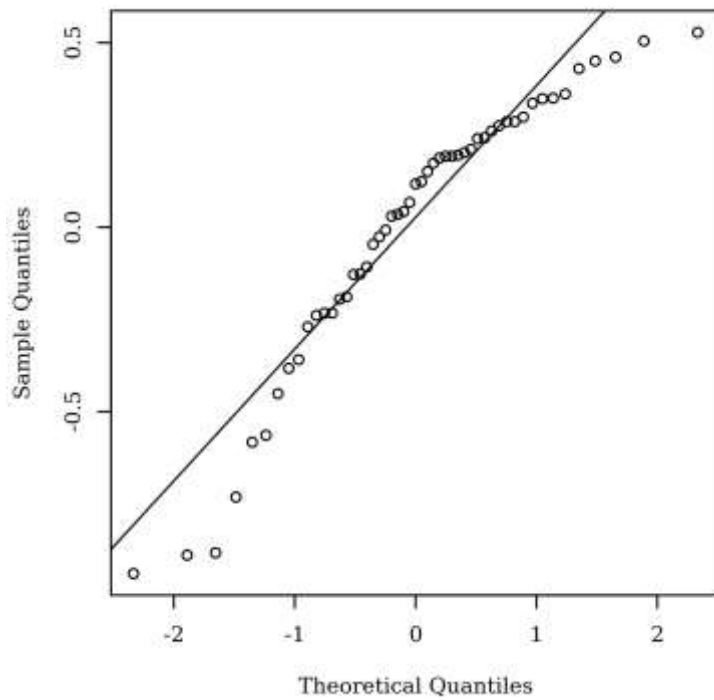
**Post-hoc.** There were no significant effects in the model. As a result, posthoc comparisons were not conducted.

### ANOVA

**Introduction.** An analysis of variance (ANOVA) was conducted to determine whether there were significant differences in Total\_LE by Gender. Prior to the analysis, ANOVA assumptions were examined.

**Assumptions.** Prior to conducting the analysis, the assumptions of univariate normality of residuals, homoscedasticity of residuals, and the lack of outliers were assessed.

**Normality.** Normality was evaluated using a Q-Q scatterplot (Field, 2005; Bates, Mächler, Bolker, & Walker, 2014; DeCarlo, 1997). The Q-Q scatterplot compares the distribution of the residuals with a normal distribution (a theoretical distribution which follows a bell curve). In the Q-Q scatterplot, the solid line represents the theoretical quantiles of a normal distribution. Normality can be assumed if the points form a relatively straight line. The Q-Q scatterplot for normality are presented in Figure 24.



*Figure 24.* Q-Q scatterplot testing normality

**Homoscedasticity.** Homoscedasticity was evaluated by plotting the residuals against the predicted values (Field, 2005; Bates et al., 2014; Osborne & Walters, 2002). The assumption is met if the points appear randomly distributed with a mean of zero and no apparent curvature. Figure 25 presents a scatterplot of predicted values and model residuals.

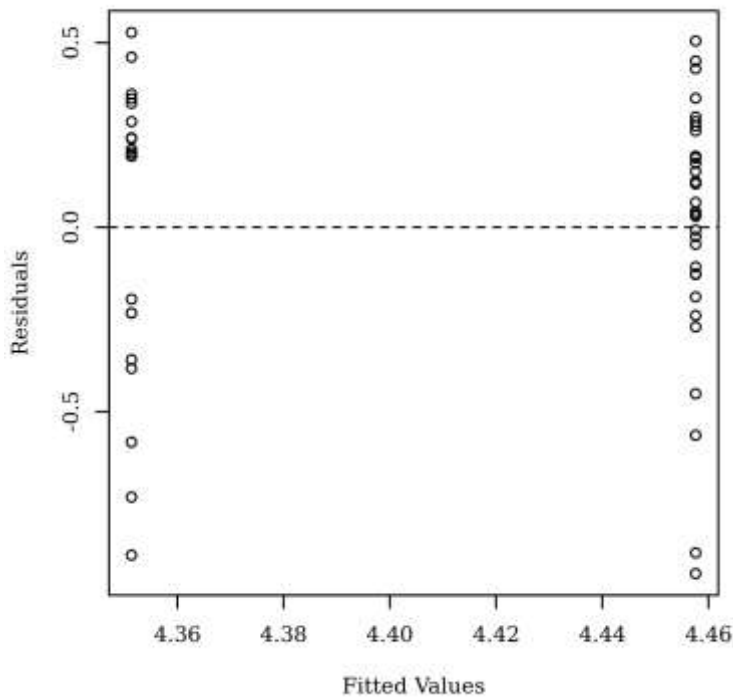


Figure 25. Residuals scatterplot testing homoscedasticity

**Outliers.** To identify influential points, Studentized residuals were calculated and the absolute values were plotted against the observation numbers (Field, 2005; Stevens, 2009). Studentized residuals are calculated by dividing the model residuals by the estimated residual standard deviation. An observation with a Studentized residual greater than 3.26 in absolute value, the .999 quartile of a  $t$  distribution with 50 degrees of freedom, was considered to have significant influence on the results of the model. Figure 26 presents the Studentized residuals plot of the observations. Observation numbers are specified next to each point with a Studentized residual greater than three.

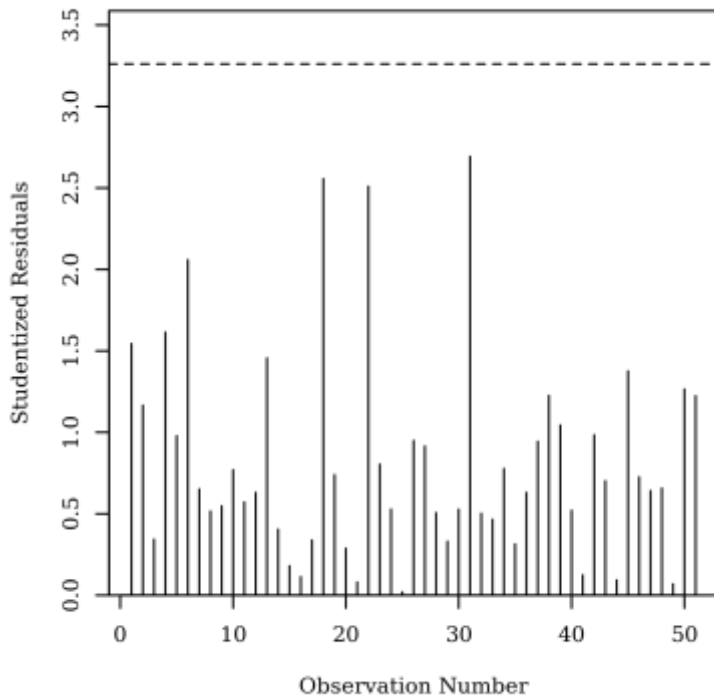


Figure 26. Studentized residuals plot for outlier detection.

**Results.** The results of the ANOVA were not significant,  $F(1, 49) = 0.97, p = .330$ , indicating the differences in leadership effectiveness (Total\_LE) among the levels of gender were all similar (Table 20). The main effect, gender was not significant at the 95% confidence level,  $F(1, 49) = 0.97, p = .330$ , indicating there were no significant differences of Total\_LE by Gender levels. The means and standard deviations are presented in Table 21.

Table 20.

*Analysis of Variance Table for Total\_LE by Gender*

Term	SS	df	F	p	$\eta_p^2$
Gender	0.14	1	0.97	.330	0.02
Residuals	6.94	49			

Table 21.

*Means, Standard Deviations, and Sample Size for Total\_LE by Gender*

Combination	<i>M</i>	<i>SD</i>	<i>n</i>
Female	4.46	0.35	31
Male	4.35	0.42	20

*Note.* - indicate sample size was too small to calculate statistic.

**Post-hoc.** There were no significant effects in the model. As a result, posthoc comparisons were not conducted.

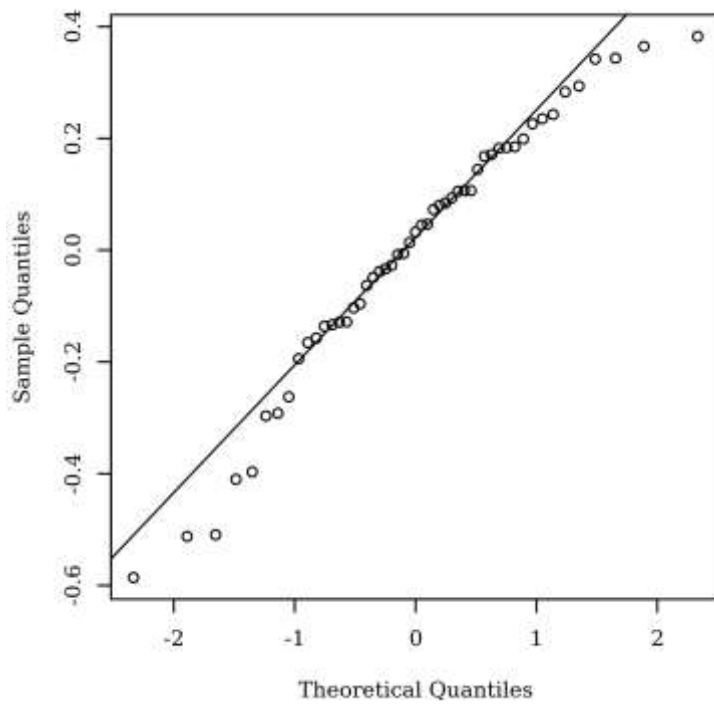
## ANOVA

**Introduction.** An analysis of variance (ANOVA) was conducted to determine whether there were significant differences in SelfManagement by Gender. Prior to the analysis, ANOVA assumptions were examined.

**Assumptions.** Prior to conducting the analysis, the assumptions of univariate normality of residuals, homoscedasticity of residuals, and the lack of outliers were assessed.

**Normality.** Normality was evaluated using a Q-Q scatterplot (Field, 2005; Bates, Mächler, Bolker, & Walker, 2014; DeCarlo, 1997). The Q-Q scatterplot compares the distribution of the residuals with a normal distribution (a theoretical distribution which follows a bell curve). In the Q-Q scatterplot, the solid line represents the theoretical quantiles of a normal distribution. Normality can be assumed if the points form a relatively straight line. The Q-Q scatterplot for normality are presented in Figure 27.





*Figure 27.* Q-Q scatterplot testing normality

**Homoscedasticity.** Homoscedasticity was evaluated by plotting the residuals against the predicted values (Field, 2005; Bates et al., 2014; Osborne & Walters, 2002). The assumption is met if the points appear randomly distributed with a mean of zero and no apparent curvature. Figure 28 presents a scatterplot of predicted values and model residuals.

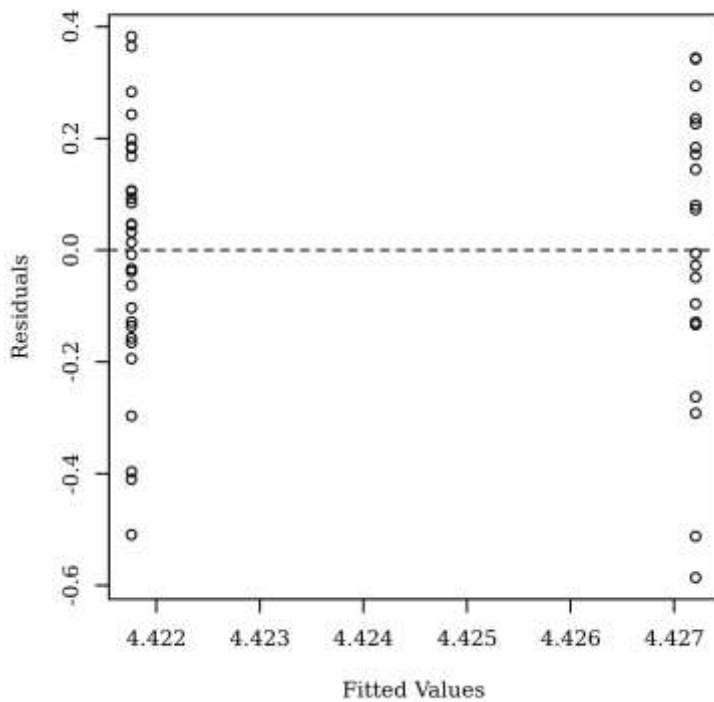


Figure 28. Residuals scatterplot testing homoscedasticity

**Outliers.** To identify influential points, Studentized residuals were calculated and the absolute values were plotted against the observation numbers (Field, 2005; Stevens, 2009). Studentized residuals are calculated by dividing the model residuals by the estimated residual standard deviation. An observation with a Studentized residual greater than 3.26 in absolute value, the .999 quartile of a  $t$  distribution with 50 degrees of freedom, was considered to have significant influence on the results of the model. Figure 29 presents the Studentized residuals plot of the observations. Observation numbers are specified next to each point with a Studentized residual greater than three.

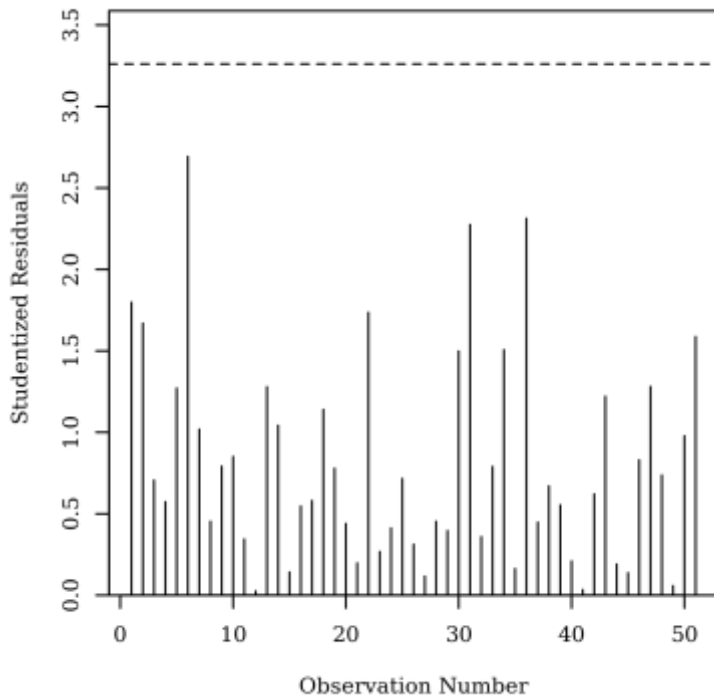


Figure 29. Studentized residuals plot for outlier detection.

**Results.** The results of the ANOVA were not significant,  $F(1, 49) = 0.01, p = .936$ , indicating the differences in SelfManagement among the levels of Gender were all similar (Table 22). The main effect, Gender was not significant at the 95% confidence level,  $F(1, 49) = 0.01, p = .936$ , indicating there were no significant differences of SelfManagement by Gender levels. The means and standard deviations are presented in Table 23.

Table 22.

*Analysis of Variance Table for SelfManagement by Gender*

Term	<i>SS</i>	<i>df</i>	<i>F</i>	<i>p</i>	$\eta_p^2$
Gender	0.00	1	0.01	.936	0.00
Residuals	2.75	49			

Table 23.

*Means, Standard Deviations, and Sample Size for SelfManagement by Gender*

Combination	<i>M</i>	<i>SD</i>	<i>n</i>
Female	4.42	0.22	31
Male	4.43	0.26	20

*Note.* - indicate sample size was too small to calculate statistic.

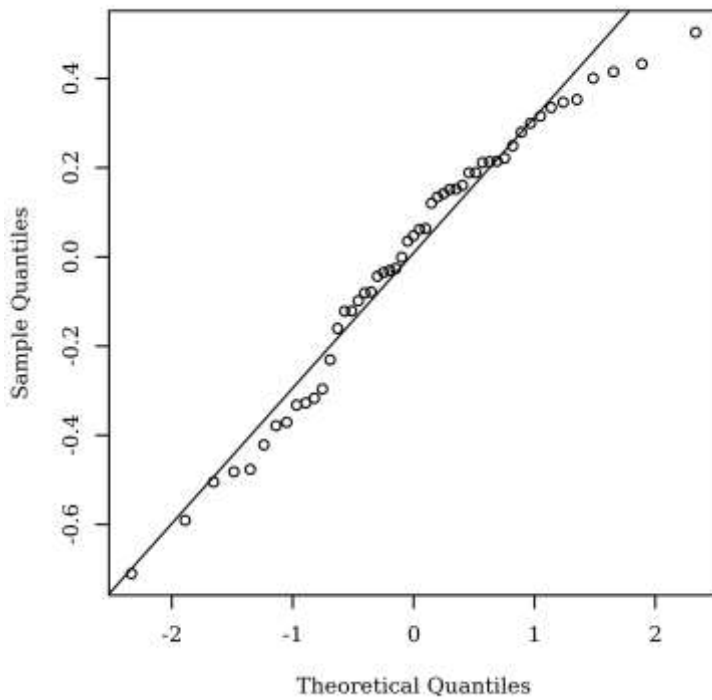
**Post-hoc.** There were no significant effects in the model. As a result, posthoc comparisons were not conducted.

## ANOVA

**Introduction.** An analysis of variance (ANOVA) was conducted to determine whether there were significant differences in RelateManagement by Gender. Prior to the analysis, ANOVA assumptions were examined.

**Assumptions.** Prior to conducting the analysis, the assumptions of univariate normality of residuals, homoscedasticity of residuals, and the lack of outliers were assessed.

**Normality.** Normality was evaluated using a Q-Q scatterplot (Field, 2005; Bates, Mächler, Bolker, & Walker, 2014; DeCarlo, 1997). The Q-Q scatterplot compares the distribution of the residuals with a normal distribution (a theoretical distribution which follows a bell curve). In the Q-Q scatterplot, the solid line represents the theoretical quantiles of a normal distribution. Normality can be assumed if the points form a relatively straight line. The Q-Q scatterplot for normality are presented in Figure 30.



*Figure 30.* Q-Q scatterplot testing normality

**Homoscedasticity.** Homoscedasticity was evaluated by plotting the residuals against the predicted values (Field, 2005; Bates et al., 2014; Osborne & Walters, 2002). The assumption is met if the points appear randomly distributed with a mean of zero and no apparent curvature. Figure 31 presents a scatterplot of predicted values and model residuals.

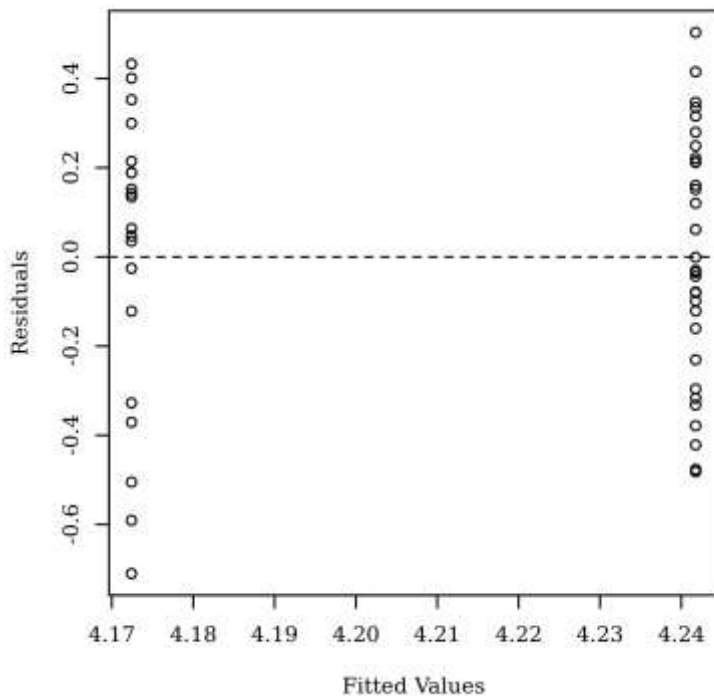


Figure 31. Residuals scatterplot testing homoscedasticity

**Outliers.** To identify influential points, Studentized residuals were calculated and the absolute values were plotted against the observation numbers (Field, 2005; Stevens, 2009). Studentized residuals are calculated by dividing the model residuals by the estimated residual standard deviation. An observation with a Studentized residual greater than 3.26 in absolute value, the .999 quartile of a  $t$  distribution with 50 degrees of freedom, was considered to have significant influence on the results of the model. Figure 32 presents the Studentized residuals plot of the observations. Observation numbers are specified next to each point with a Studentized residual greater than three.

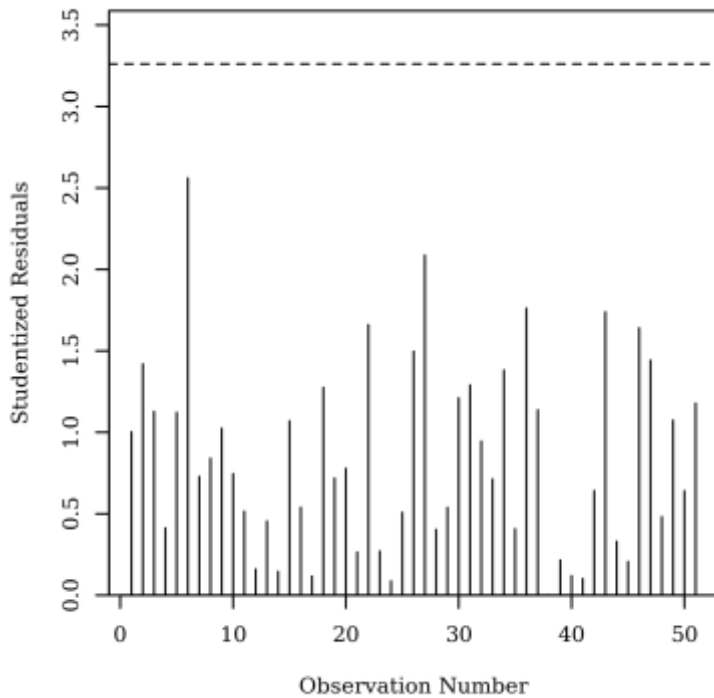


Figure 32. Studentized residuals plot for outlier detection.

**Results.** The results of the ANOVA were not significant,  $F(1, 49) = 0.65, p = .425$ , indicating the differences in relationship management (RelateManagement) among the levels of gender were all similar (Table 24). The main effect, gender was not significant at the 95% confidence level,  $F(1, 49) = 0.65, p = .425$ , indicating there were no significant differences of RelateManagement by gender levels. The means and standard deviations are presented in Table 25.

Table 24.

*Analysis of Variance Table for Relationship Management by Gender*

Term	<i>SS</i>	<i>df</i>	<i>F</i>	<i>p</i>	$\eta_p^2$
Gender	0.06	1	0.65	.425	0.01
Residuals	4.42	49			

Table 25.

*Means, Standard Deviations, and Sample Size for RelateManagement by Gender*

Combination	<i>M</i>	<i>SD</i>	<i>n</i>
Female	4.24	0.28	31
Male	4.17	0.33	20

*Note.* - indicate sample size was too small to calculate statistic.

**Post-hoc.** There were no significant effects in the model. As a result, posthoc comparisons were not conducted.

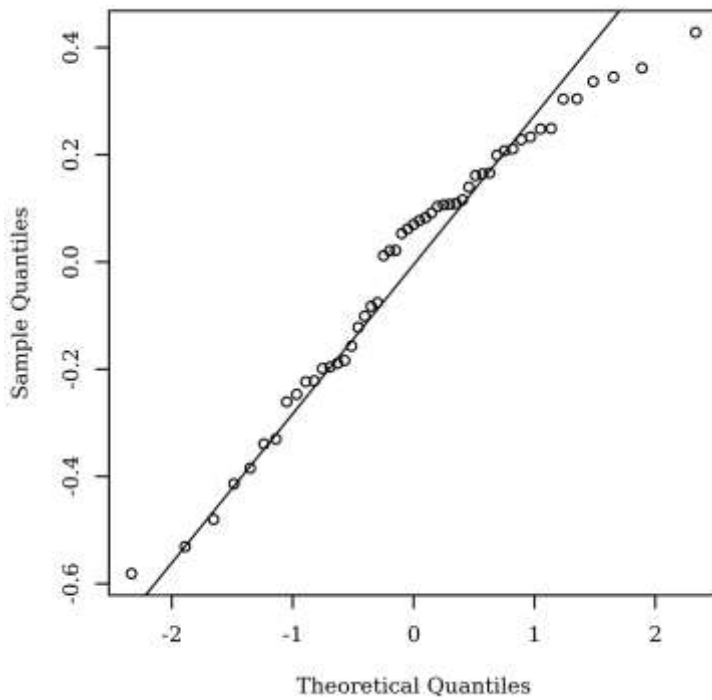
## ANOVA

**Introduction.** An analysis of variance (ANOVA) was conducted to determine whether there were significant differences in SocialAwareness by gender. Prior to the analysis, ANOVA assumptions were examined.

**Assumptions.** Prior to conducting the analysis, the assumptions of univariate normality of residuals, homoscedasticity of residuals, and the lack of outliers were assessed.

**Normality.** Normality was evaluated using a Q-Q scatterplot (Field, 2005; Bates, Mächler, Bolker, & Walker, 2014; DeCarlo, 1997). The Q-Q scatterplot compares the distribution of the residuals with a normal distribution (a theoretical distribution which follows a bell curve). In the Q-Q scatterplot, the solid line represents the theoretical quantiles of a normal distribution. Normality can be assumed if the points form a relatively straight line. The Q-Q scatterplot for normality are presented in Figure 33.





*Figure 33.* Q-Q scatterplot testing normality

**Homoscedasticity.** Homoscedasticity was evaluated by plotting the residuals against the predicted values (Field, 2005; Bates et al., 2014; Osborne & Walters, 2002). The assumption is met if the points appear randomly distributed with a mean of zero and no apparent curvature. Figure 34 presents a scatterplot of predicted values and model residuals.

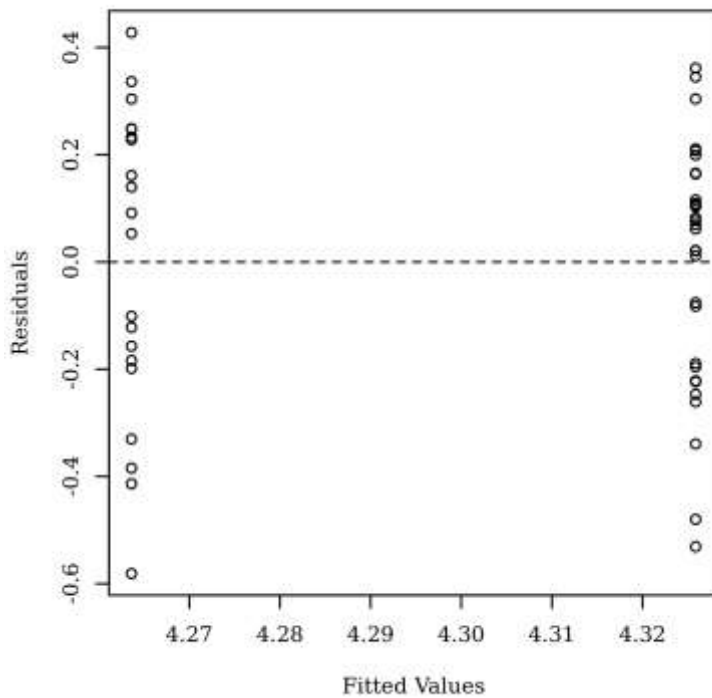


Figure 34. Residuals scatterplot testing homoscedasticity

**Outliers.** To identify influential points, Studentized residuals were calculated and the absolute values were plotted against the observation numbers (Field, 2005; Stevens, 2009). Studentized residuals are calculated by dividing the model residuals by the estimated residual standard deviation. An observation with a Studentized residual greater than 3.26 in absolute value, the .999 quartile of a  $t$  distribution with 50 degrees of freedom, was considered to have significant influence on the results of the model. Figure 35 presents the Studentized residuals plot of the observations. Observation numbers are specified next to each point with a Studentized residual greater than three.

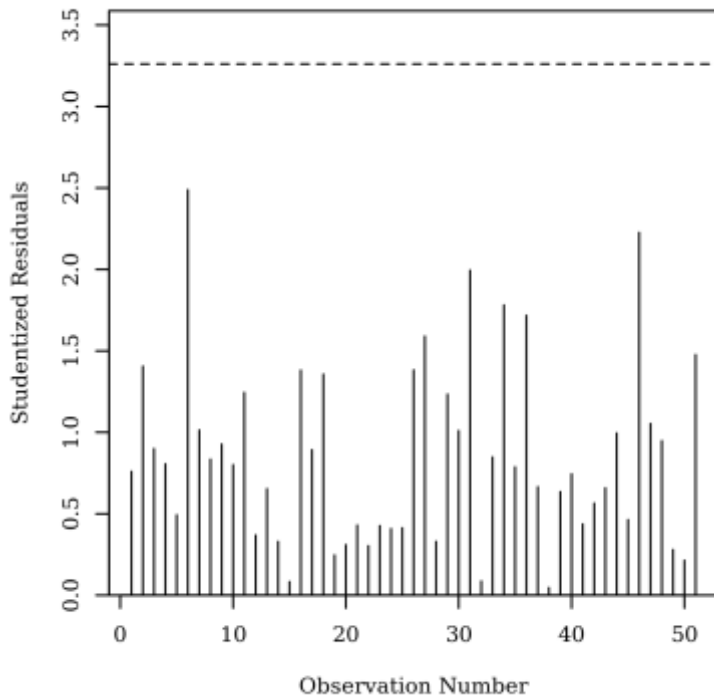


Figure 35. Studentized residuals plot for outlier detection.

**Results.** The results of the ANOVA were not significant,  $F(1, 49) = 0.74, p = .393$ , indicating the differences in Social Awareness among the levels of gender were all similar (Table 26). The main effect, gender was not significant at the 95% confidence level,  $F(1, 49) = 0.74, p = .393$ , indicating there were no significant differences of Social Awareness by Gender levels. The means and standard deviations are presented in Table 27.

Table 26.

*Analysis of Variance Table for Social Awareness by Gender*

Term	<i>SS</i>	<i>Df</i>	<i>F</i>	<i>p</i>	$\eta_p^2$
Gender	0.05	1	0.74	.393	0.01
Residuals	3.11	49			

Table 27.

*Means, Standard Deviations, and Sample Size for Social Awareness by Gender*

Combination	<i>M</i>	<i>SD</i>	<i>n</i>
Female	4.33	0.23	31
Male	4.26	0.29	20

*Note.* - indicate sample size was too small to calculate statistic.

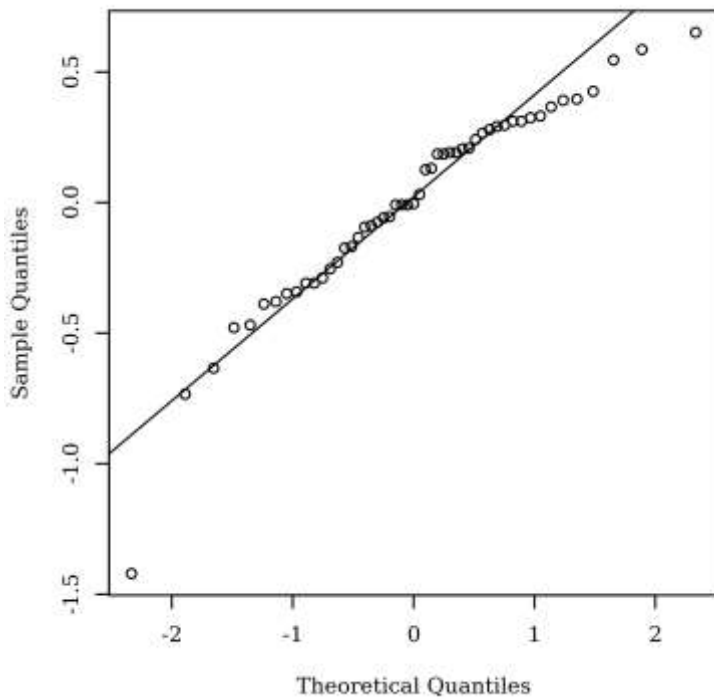
**Post-hoc.** There were no significant effects in the model. As a result, posthoc comparisons were not conducted.

## ANOVA

**Introduction.** An analysis of variance (ANOVA) was conducted to determine whether there were significant differences in SelfAware by gender. Prior to the analysis, ANOVA assumptions were examined.

**Assumptions.** Prior to conducting the analysis, the assumptions of univariate normality of residuals, homoscedasticity of residuals, and the lack of outliers were assessed.

**Normality.** Normality was evaluated using a Q-Q scatterplot (Field, 2005; Bates, Mächler, Bolker, & Walker, 2014; DeCarlo, 1997). The Q-Q scatterplot compares the distribution of the residuals with a normal distribution (a theoretical distribution which follows a bell curve). In the Q-Q scatterplot, the solid line represents the theoretical quantiles of a normal distribution. Normality can be assumed if the points form a relatively straight line. The Q-Q scatterplot for normality are presented in Figure 36.



*Figure 36.* Q-Q scatterplot testing normality

**Homoscedasticity.** Homoscedasticity was evaluated by plotting the residuals against the predicted values (Field, 2005; Bates et al., 2014; Osborne & Walters, 2002). The assumption is met if the points appear randomly distributed with a mean of zero and no apparent curvature. Figure 37 presents a scatterplot of predicted values and model residuals.

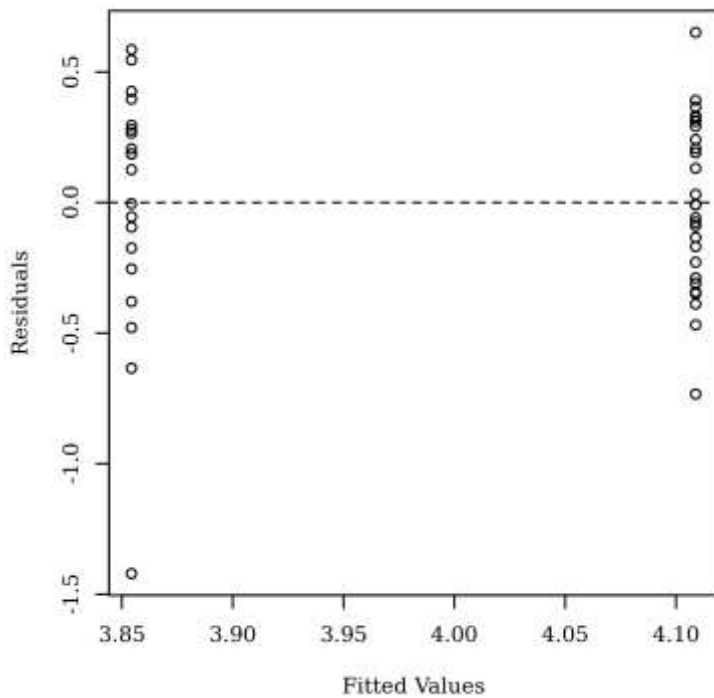


Figure 37. Residuals scatterplot testing homoscedasticity

**Outliers.** To identify influential points, Studentized residuals were calculated and the absolute values were plotted against the observation numbers (Field, 2005; Stevens, 2009). Studentized residuals are calculated by dividing the model residuals by the estimated residual standard deviation. An observation with a Studentized residual greater than 3.26 in absolute value, the .999 quartile of a  $t$  distribution with 50 degrees of freedom, was considered to have significant influence on the results of the model. Figure 38 presents the Studentized residuals plot of the observations. Observation numbers are specified next to each point with a Studentized residual greater than three.

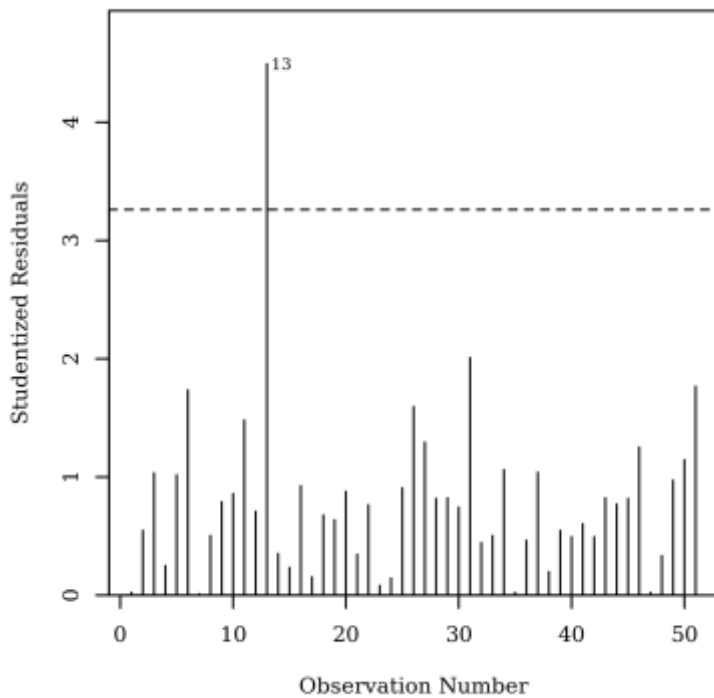


Figure 38. Studentized residuals plot for outlier detection.

**Results.** The results of the ANOVA were significant,  $F(1, 49) = 5.38, p = .025$ , indicating there were significant differences in self-awareness (SelfAware) among the levels of Gender (Table 28). The eta squared was 0.10 indicating gender explains approximately 10% of the variance in SelfAware. The means and standard deviations are presented in Table 29.

Table 28.

*Analysis of Variance Table for Self-Awareness by Gender*

Term	SS	Df	F	p	$\eta_p^2$
Gender	0.79	1	5.38	.025	0.10
Residuals	7.18	49			

Table 29.

*Means, Standard Deviations, and Sample Size for Self-Awareness by Gender*

Combination	<i>M</i>	<i>SD</i>	<i>n</i>
Female	4.11	0.31	31
Male	3.85	0.47	20

*Note.* - indicate sample size was too small to calculate statistic.

**Post-hoc.** To further examine the differences among the variables, *t*-tests were calculated between each pair of measurements. Tukey pairwise comparisons were conducted for all significant effects. For the main effect of gender, the mean of SelfAware for Female ( $M = 4.11$ ,  $SD = 0.31$ ) was significantly larger than for Male ( $M = 3.85$ ,  $SD = 0.47$ ).



Appendix A. The Big Five Survey  
(Goldberg, 1999).

1. I am the life of the party
2. I feel little concern for others. (R)
3. I am always prepared.
4. I get stressed out easily. (R)
5. I have a rich vocabulary.
6. I don't talk a lot (R).
7. I am interested in people.
8. I leave my belongings around. (R)
9. I am relaxed most of the time.
10. I have difficulty understanding abstract ideas. (R)
11. I feel comfortable around people.
12. I insult people. (R)
13. I pay attention to details.
14. I worry about things. (R)
15. I have a vivid imagination.
16. I keep in the background (R).
17. I sympathize with others' feelings.
18. I make a mess of things. (R)
19. I seldom feel blue.
20. I am not interested in abstract ideas. (R)
21. I start conversations.
22. I am not interested in other people's problems. (R).
23. I get chores done right away.
24. I am easily disturbed. (R)
25. I have excellent ideas.
26. I have little to say. (R)
27. I have a soft heart.
28. I often forget to put things back in their proper place. (R)
29. I get upset easily. (R)
30. I do not have a good imagination. (R)
31. I talk to a lot of different people at parties.
32. I am not really interested in others. (R)
33. I like order.
34. I change my mood a lot.
35. I am quick to understand things.
36. I don't like to draw attention to myself. (R)

37. I take time out for others.
38. I shirk my duties. (R)
39. I have frequent mood swings. (R)
40. I use difficult words.
41. I don't mind being the center of attention.
42. I feel others' emotions.
- 43 I follow a schedule.
44. I get irritated easily. (R)
45. I spend time reflecting on things.
46. I am quiet around strangers. (R)not
47. I make people feel at ease.
48. I am exacting in my work.
49. I often feel blue. (R)
50. I am full of ideas.

## **Appendix B: Permission/Approval to Use Big Five Measure of Personality**

The study used the 50-item scale from the International Personality Item Pool (IPIP) (Goldberg, 1992). The scale was obtained from the following website: [http://ipip.ori.org/New\\_IPIP-50-item-scale.htm#SampleQuestionnaire](http://ipip.ori.org/New_IPIP-50-item-scale.htm#SampleQuestionnaire). The 50-item scale International Personality Item Pool (Goldberg, 1992) is in the public domain. Users have complete freedom to use the IPIP in any way that suits their purposes.

**Appendix C: Permission from Healthcare Institution Granting Permission for  
Research**

**From:** jcooper3621@yahoo.com

**Sent:** April 24, 2016 9:28 PM

████████████████████

**Subject:** Access to Leadership Academy Membership Data

██████,

I would like to inquire about the possibility to gain access the ████████ database scores for your ████████████████████'s emotional intelligence scores. Additionally, I was wondering if the Human Resource Department or research facility would share the results of the 360-degree survey results for research purposes to support my doctoral dissertation study.

Thanks,

Joy

## Appendix D: Permission to Gain Access to Secondary Data

**From:** [REDACTED]  
**Sent:** April 26, 2016 1:39 PM  
**To:** jcooper3621@yahoo.com  
**Subject:** Re: Access to Leadership Academy Membership Data

Joy,

Thank you for sharing the details of your study. I have spoken with [REDACTED] regarding your request for data. [REDACTED] will be the contact that will generate the results from the Hay Group. Additionally, I think you will find the direct report and employee responses for the 360 performance assessment will satisfy the leadership effectiveness questions for your research.

We look forward to assisting you with your study.

Sincerely,

[REDACTED]

## Appendix E: UT Tyler Institutional Review Board (IRB) Approval



THE UNIVERSITY OF TEXAS AT TYLER  
3900 University Blvd. • Tyler, TX 75799 • 903.565.5774 • FAX: 903.565.5858

Office of Research and  
Technology Transfer

Institutional Review Board

January 29, 2018

Dear Ms. Cooper,

Your request to conduct the study: *The Influence of Emotional Intelligence and Personality Traits on Effective Leadership*, IRB #SP2018-72 has been approved by The University of Texas at Tyler Institutional Review Board under expedited review. This approval includes the use of signed informed consent, and your assurance of participant knowledge of the following prior to study participation: this is a research study; participation is completely voluntary with no obligations to continue participating, and with no adverse consequences for non-participation; and assurance of confidentiality of their data.

In addition, please ensure that any research assistants are knowledgeable about research ethics and confidentiality, and any co-investigators have completed human protection training within the past three years, and have forwarded their certificates to the IRB office (G. Duke).

Please review the UT Tyler IRB Principal Investigator Responsibilities, and acknowledge your understanding of these responsibilities and the following through return of this email to the IRB Chair within one week after receipt of this approval letter:

- This approval is for one year, as of the date of the approval letter
- **The Progress Report form must be completed for projects extending past one year.** Your protocol will automatically expire on the one year anniversary of this letter if a Progress Report is not submitted, per HHS Regulations **prior** to that date (45 CFR 46.108(b) and 109(e): <http://www.hhs.gov/ohrp/policy/contrev0107.html>)
- Prompt reporting to the UT Tyler IRB of any proposed changes to this research activity
- **Prompt reporting to the UT Tyler IRB and academic department administration will be done of any unanticipated problems involving risks to subjects or others.**
- Suspension or termination of approval may be done if there is evidence of any serious or continuing noncompliance with Federal Regulations or any aberrations in original proposal.

EQUAL OPPORTUNITY EMPLOYER

- Any change in proposal procedures must be promptly reported to the IRB prior to implementing any changes except when necessary to eliminate apparent immediate hazards to the subject.
- Expedited approval with signed consent

Best of luck in your research, and do not hesitate to contact me if you need any further assistance.

Sincerely,

*Gloria Duke, PhD, RN*

Gloria Duke, PhD, RN  
Chair, UT Tyler IRB

EO/AAE EMPLOYMENT

## Appendix F: Qualtrics Survey

Welcome to this survey for healthcare professionals. The first step is to make sure you understand the purpose of this survey and to seek your consent to participate.

The purpose of this research project is to measure personality characteristics of leaders in a healthcare setting. This is a research project is being conducted by a doctoral student as a requirement for a course at the University of Texas at Tyler.

Your participation in this research study is completely voluntary. You may choose not to participate. If you decide to participate in this research study, you may withdraw at any time by closing your browser. The procedure involves completing an online survey with multiple choice questions about your personality characteristics. You are being asked to participate in a survey that will take approximately 3 to 8 minutes to complete. After you read each question or statement, select the button that best corresponds to your response. You may need to scroll down the page to answer all the questions. Select NEXT to continue after each page.

To protect your confidentiality, any identifying information such as your name, email address, computer number or IP number collected for this survey and for previous surveys will be removed by UAMS and this information will not be provided to the primary researcher. The researcher anticipates no side effects or risks associated with your participation in this study. The results of this study may be shared with The University of Texas at Tyler representatives but will be used only for scholarly purposes. Only a summary of the data will be shared during a final course presentation.

This study has been approved by The University of Texas at Tyler Institutional Review Board and if you have any questions about this study, please contact the Principal Investigator: Joy Cooper at [jcooper17@patriots.edu](mailto:jcooper17@patriots.edu)

If you have any questions about your rights as a research participant, contact Gloria Duke, PhD, RN, Chair of UT Tyler IRB @ [gduke@uttyler.edu](mailto:gduke@uttyler.edu)



ELECTRONIC CONSENT. Please select your choice below.

Selecting the "Agree" button below indicates that:

You have read the above information.

You voluntarily agree to participate.

You are at least 18 years of age.

If you do not wish to participate in the research study, please decline participation by clicking on the "Disagree" button.

Agree

Disagree

Please rate the following 50 items on how true they are about you on a five point scale where 1= Strongly Disagree, 2 = Disagree, 3=Neutral, 4 = Agree and 5= Strongly Agree. Please read each statement carefully and indicate to what extent you agree or disagree with the statement. Please be honest as there are no right or wrong answers. Often, the best approach is to select the first response that comes to your mind.

Please rate the following 50 items on how true they are about you on a five point scale where 1= Strongly Disagree, 2 = Disagree, 3=Neutral, 4 = Agree and 5= Strongly Agree. Please read each statement carefully and indicate to what extent you agree or disagree with the statement. Please be honest as there are no right or wrong answers. Often, the best approach is to select the first response that comes to your mind.

Please rate each item

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am the life of the party.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel little concern for others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am always prepared.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get stressed out easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a rich vocabulary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I don't talk a lot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am interested in people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I leave my belongings around.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am relaxed most of the time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have difficulty understanding abstract ideas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I feel comfortable around people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I insult people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I pay attention to details.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I worry about things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have a vivid imagination.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I keep in the background.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I sympathize with others' feelings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I make a mess of things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I seldom feel blue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not interested in abstract ideas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I start conversations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not interested in other people's problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get chores done right away.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Please select Strongly Disagree to this statement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am easily disturbed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have excellent ideas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have little to say.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have a soft heart.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I often forget to put things back in their proper place.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I get upset easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I do not have a good imagination.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I talk to a lot of different people at parties.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am not really interested in others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I like order.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I change my mood a lot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am quick to understand things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I don't like to draw attention to myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I take time out for others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I shirk my duties.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have frequent mood swings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I use difficult words.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I don't mind being the center of attention.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I feel others' emotions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I follow a schedule.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I get irritated easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I spend time reflecting on things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am quiet around strangers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I make people feel at ease.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am exacting in my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I often feel blue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am full of ideas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Demographics

What is your gender?

- Male
- Female

What is your ethnicity?

- African American
- American Indian
- Asian
- Hispanic
- White
- Other

When were you born?

- 1901 - 1925
- 1926 - 1945
- 1946 - 1964
- 1965 - 1979
- 1980 – present

Please provide the number of years you have supervised or managed others:

- 0 – 2 years
- 3 – 4 years
- 5 – 7 years
- 8 – 10 years
- 11 + years

- Some high school, no diploma
- High school graduate, diploma or the equivalent (for example: GED)
- Some college credit, no degree
- Trade/technical/vocational training
- Associate degree
- Bachelor's degree
- Master's degree
- Professional degree
- Doctorate degree
- Medical degree

Please select your current position:

- Healthcare administrator
- Healthcare executive
- Physician leader
- Department Director
- Nursing Director/Manager
- Other (please provide in the blank)

## Appendix G: Respondent Recruitment Email

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Everyone,

I would like to ask your assistance for a classmate of mine who is conducting some leadership research for a class we are in together. The link below is for a personality survey that takes about 5 minutes to complete.

The survey results will be correlated with a few of the items from the emotional intelligence survey that you completed in the Leadership Institute.

Where your name is required to pair this survey with the previous survey items no one besides myself will see any names and once I have paired the data, all names will be deleted and not kept in any record.

For the statistical techniques that my classmate is running, a large response will be required so thank you in advance for your consideration in participating.

Please let me know if I can address any question that you may have.

Thanks!

**Appendix H: Emails from Respondents Regarding Spam Concerns**

**From:** "Sun, [REDACTED]  
**Date:** Wednesday, February 7, 2018 at 10:09 AM  
**To:** "[REDACTED]" >  
**Subject:** Received email regarding Leadership Survey - possible email spam

Hi [REDACTED]

I received an email that appears to have been sent by you with a subject header 'Leadership Survey'. Since I did not see a UAMS email address, I didn't open the email nor click on the embedded links as I suspect this most likely is a spam.

I just want to let you know. Please confirm that the email did not originate from you. I will then contact the Help Desk to inform them of the email spam.

Thanks.

\*\*\*\*\*

**From:** "[REDACTED]" >  
**Date:** Wednesday, February 21, 2018 at 1:44 PM  
**To:** "[REDACTED]" >  
**Subject:** RE: Leadership Survey

Mr. [REDACTED]

I've been asked to vet a suspicious email which appears to offer a survey

Is this something legitimate that you can vouch for, or have we encountered a highly targeted phishing campaign?

