

Quantitatively Studying the Relationship between Emotional Intelligence and Leadership

Competencies in Health Care

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by

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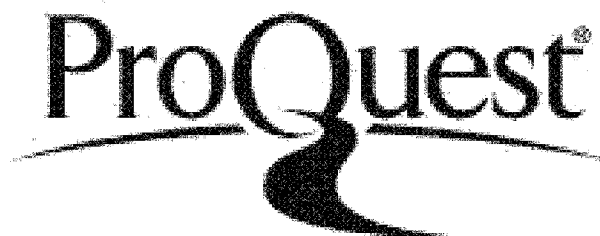


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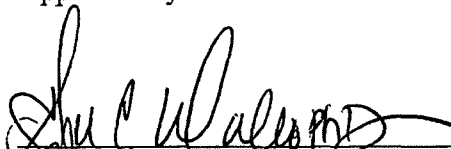
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Abstract

Access to and payment for health care services in the United States is an important issue. While efforts have been made to reform the system, leaders within health care organizations are faced with complex problems requiring complex responses. Much work has been done within the industry to identify the competencies required for these leaders to be effective. While consensus has not been reached at the professional level with regard to the most effective competencies, emotional intelligence may provide a theoretical basis from which to better understand some aspects of health care leadership competencies. The problem to be addressed in this study is the difficulty in identifying the factors of health care leadership competencies. Using a quantitative, correlational method, this study examined the relationship between a mixed model of emotional intelligence, using the ESCI[®], and health care leadership competencies, using the HAL-360, among a cross-sectional sample of leaders in a variety of health care settings across the United States. Managers within specific health care organizations, professional associations, and graduates of health administration programs were invited to participate in the study. There were 43 participants, 29 (67%) of whom were female, and 40 (94%) who had a college degree. Multiple regression analysis indicated the predictor variable, emotional intelligence, was significantly positively related to health care competencies ($r=.63, p<.001$) and explained 39% of the variance in health care competencies ($R^2=.39, F(1, 43)=26.36, p<.001$). The relationship persisted when controlling for the co-variables of gender, years of management experience, and level of education.

Further study is recommended to verify the findings using other models of emotional intelligence and health care leadership competencies. It is recommended that emotional intelligence be included in health care leadership competency models and that consideration be given to explicitly including emotional intelligence in the training, education, selection and evaluation of health care leaders in the United States to increase their competence.

Acknowledgements

Thirty-five years ago I promised my parents I would earn a college degree if they allowed me to test out of high school a year early. It took me thirteen years to get started, but now, over twenty years later, I have gratefully received the opportunity to honor my promise to my parents to the highest degree. I am so deeply thankful for my parents and for my husband, Gary. I could not have achieved this degree without their love and support. And above all, I thank God for all of the opportunities and grace He has given me to do this. I am humbled and deeply grateful.

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Chapter 1: Introduction

As an industry in the United States, health care services accounted for more than \$2.49 trillion of the gross domestic product in 2009 (Evans, 2011). Nationwide expenditures for health care services that year represented eighteen percent of the gross domestic product (Evans, 2011). Health care services represented up to twenty percent of the gross domestic product in some states in the United States in 2009 (Hy, 2011). In 1970, the Institute of Medicine (IOM) was created as a branch of the United States National Academy of Sciences. The stated purpose of the IOM was to serve “as advisor to the nation to improve health” (IOM, 2011, para 3). In 1998, representatives of the IOM created the Committee on the Quality of Health Care in America (Richardson et al., 2001) to identify a plan for improving the quality of health care in the United States. In 2003, an interdisciplinary summit was convened to study the quality problems and identify recommendations to improve the problems (Greiner & Knebel, 2003). The result was a recommendation that competencies be developed across all positions in health care settings, including leadership positions (Greiner & Knebel, 2003). In response to the IOM report, researchers identified and established competency models for leaders in health care organizations (Calhoun et al., 2008a; Garman, Tyler, & Darnall, 2004; Stefl & Bontempo, 2008).

While most of the models of health care leadership competencies included relationship management skills and abilities (Calhoun et al., 2008a; Garman et al., 2004; Stefl & Bontempo, 2008), none specifically included emotional intelligence. Researchers have found that recent graduates of health administration programs were lacking in the area of interpersonal competencies (Friedman & Frogner, 2010). The construct of

emotional intelligence is relevant because it is related to interpersonal competencies and it could be less readily apparent than other cognitive or technical competencies (Dreyfus, 2008). Several qualitative studies have suggested emotional intelligence was a key factor in business leadership competencies in some industries (Barbuto & Burbach, 2006; Dulewicz, Young, & Dulewicz, 2005; Eason, 2009; Hawkins & Dulewicz, 2007; Sanchez-Burks & Huy, 2009). Robbins and Judge (2007) suggested that more study was needed to increase confidence in the correlation between leadership in general and emotional intelligence. The remainder of the chapter includes a description of the background of the problem and the purpose of the study. An overview is provided of the theoretical framework supporting the research questions that guide the study, definitions of terms, and a description of the relevance of the study to the health care industry and to business in general.

Background

Health care in the United States has been marked by significant change since 1990 (Liang, Short & Brown, 2006; Litvak & Bisognano, 2011). Management practices, technological advances, and the impact of both proposed and implemented reforms have changed the skills and competencies required to be effective as a leader in a health care organization (Liang et al., 2006; Morrison, Burke, & Green, 2007). The issue of competence is significant within the profession of health care administration, with particular applicability to the training, education, selection and evaluation of health care leaders (Calhoun, Vincent, Calhoun & Brandsen, 2008b; Welton, 2007). The Commission on the Accreditation of Healthcare Management Education (CAHME) (2009) has required graduate programs to formally adopt a competency model as a

condition for accreditation. The Health Leadership Competency Model, the HAL-360 and the Healthcare Leadership Alliance Model are formal theories that have been proposed to identify the competencies needed by health care leaders (Bradley et al., 2008; Friedman & Frogner, 2010). Researchers have demonstrated a relationship between emotional intelligence and leadership effectiveness in some general industries (Colfax, Rivera & Perez, 2010; Goleman, 1998; Hawkins & Dulewicz, 2007; Singh & Kumar, 2009). Due to the dual technical and human relational nature of health care services (Eason, 2009; Skakon, Nielsen, Borg & Guzman, 2010), the relationship between emotional intelligence and leadership competencies in health care settings may vary from that of other industries in significance and intensity.

The measure of leadership effectiveness in an organization may be based on a variety of indicators. In the health care industry, financial solvency, patient satisfaction and safety, the quality of services provided, and the system's impact on community health are among the measures that may be used to evaluate leader effectiveness (Finney, Humphreys, Kivlahan & Harris, 2011; Greiner & Knebel, 2003). Dye (2010) noted the value of identifying specific competencies to define the knowledge, skills and abilities needed to be effective as a leader in a health care organization. Dye discussed the learning and mastery process in which leaders could be "unconsciously incompetent" (p. 22) and believe they were an effective leader when in fact he or she may not have been effective. The application of an identified effective leadership competency model may provide the framework from which leaders can improve their understanding of themselves, as well as for boards of directors and other stakeholders to evaluate the effectiveness of a specific health care leader. In addition, using a comprehensive

competency model as the basis of the education of health care administrators could improve the competencies of future leaders in the industry.

Problem Statement

The problem to be addressed in this study is the difficulty in identifying the factors of health care leadership competencies (Calhoun et al., 2008b; Cangemi, Burga, Lazarus, Miller & Fitzgerald, 2008). If emotional intelligence is positively related to health care leadership competencies, it could be explicitly included in the training, education, selection and evaluation of health care leaders in the United States to increase their competencies. The first formal training program for hospital administrators was created in 1934 at the University of Chicago (Friedman & Frogner, 2010). Since then, numerous undergraduate and graduate programs have been developed in order to prepare individuals for the challenges of managing and leading health care organizations.

Overall, recent graduates of health administration programs have not met the expectations of their superiors in health care settings in the area of interpersonal skills (Friedman & Frogner, 2010). Emotional intelligence could impact interpersonal skills in the workplace (Goleman, 1998), so better understanding the relationship between emotional intelligence and health care leadership competencies would benefit the industry. Directors of health administration education programs have been charged with the task of identifying a health leadership competency model upon which to base graduate health administration curricula (CAHME, 2009). For this reason, the current study is relevant both to the health care industry and to institutions of higher education (Bradley et al., 2008; McAlearney, 2008). The provision of health care services in the United States has impacted the economic well-being and health of individuals and

organizations in the United States (Evans, 2011), so the competencies of leaders of health care organizations is critical. The current research will study whether or not health care leadership competency models should explicitly include emotional intelligence.

Purpose

The purpose of this quantitative, correlational study was to determine whether or not emotional intelligence should be included in health care leadership competencies models. If emotional intelligence was found to be related to health care leadership competencies, graduate health care administration programs could be modified to include courses related specifically to the development of emotional intelligence. The participants in the study were health care managers from hospitals, long-term care facilities, and outpatient facilities across the United States. Managers from the Benedictine Healthcare System (BHS), members of the American College of Healthcare Executives group in Linked-In, and graduates of the health administration programs at Saint Joseph's College of Maine were invited to participate in the study. A cross-sectional survey method was used to gather representative data from which the primary variables of health care leadership competencies and emotional intelligence were correlated. The co-variables of gender, years of management experience, and level of education were also considered.

Emotional intelligence was measured using the Emotional and Social Competency Inventory (ESCI[®]), developed by Boyatzis and Goleman (2007). Leadership competencies was measured using the HAL-360 feedback instrument developed by Garman et al. (2004). A sample size of at least 42 participants was needed to achieve adequate power (Faul, Erdfelder, Buchner & Lang, 2009). The assessment

instrument for emotional intelligence required a minimum of three 360° assessments in order for the participant to be included in the study. Obtaining these assessments was challenging, but valid data for 43 participants was obtained. The data was analyzed using multiple regression.

Theoretical Framework

The study of organizational behavior provided the broad theoretical framework for this study. Within this framework, organizational leadership theories have been found to be a factor contributing to observed behaviors within organizations (Mahsud, Yukl & Prussia, 2010; Robbins & Judge, 2007). The theory of emotional intelligence has developed over the past thirty years and is purported to have applicability to all areas of human experience (Cherniss, 2000). The theory of emotional intelligence added to the understanding of organization leadership by explaining one aspect of leadership traits and behaviors that may have significant impact on a leader's effectiveness, particularly at the highest level of an organization (Robbins & Judge, 2007).

Organizational leadership as a theoretical framework has been shown to impact many aspects of organizational behavior. Leroy, Palanski and Simons (2012) found leadership to influence organizational commitment, performance and the behavior of followers. Organizational innovation has been found to correlate with transformational leadership (Gumusluoglu & Ilsey, 2009), while servant leadership was positively related with organizational citizenship behavior and service climate (Walumbwa, Hartnell, & Oke, 2010). Day and Lord (1988) found that up to nearly half (45%) of the performance of an organization could be explained by quality of the executive leadership. Leadership models have abounded, including theories of transformational leadership (Avolio, Bass,

& Jung, 1999), servant leadership (Greenleaf, 1977), situational leadership (Bolman & Deal, 1991) and competency-based leadership (Bennis, 2009). In health care organizations, competencies provided a common framework for recognizing effectiveness (Friedman & Frogner, 2010). As recommended by the IOM (Greiner & Knebel, 2003), competency models were developed for all areas of health care organizations, including leadership.

Emotional intelligence as a construct for understanding human ability was proposed by Salovey and Meyer in 1990. The concept was popularized and applied to the workplace by Goleman (1998). Theories have developed along the lines of abilities, traits and a mixture of abilities and traits (Goleman, 1998; Salovey & Mayer, 1990; Petrides, 2010). Emotional intelligence was found to be positively related to leadership competencies (Hawkins & Dulewicz, 2007; Kerr, Gavin, Heaton & Boyle, 2006) and positively related to a variety of leadership models, including transformational leadership (Hoffman & Frost, 2006). Given that emotions could be contagious (Webb, 2009), the impact of emotional intelligence among leaders on organizational effectiveness was a valuable construct. The recipients of health care services may interact with the organization on an intensely personal and stressful level (Ledlow & Coppola, 2011), increasing the importance of leaders having some degree of emotional intelligence.

Researchers did not agree as to whether or not emotional intelligence was inborn or was developed, but they did agree that the theory provided an important framework for understanding leadership (Boyatzis & Saatcioglu, 2008; Gignac, 2010; Mayer, Salovey & Caruso, 2002). The theory of emotional intelligence was relevant because it represented an underlying basis for effective leadership that may not be as readily apparent as the

technical or cognitive skills a leader may exhibit (Bennis, 2009). More study was needed to substantiate a relationship between leadership and emotional intelligence in general (Robbins & Judge, 2007) and specifically with leaders in health care organizations (Kilpatrick, 2009; Smith, 2009).

Research Questions

Within the framework of organizational behavior and leadership theory, the relationship between the variables of emotional intelligence and health care leadership competency was studied. The co-variables of gender, years of management experience and level of education were also considered in order to identify whether these factors could influence the relationship between emotional intelligence and health care leadership competencies (Zikmund, 2003). Lantz (2008) questioned whether gender influenced the effectiveness of a leader in a health care organization. Garman et al. (2004) described differences in the effectiveness of health care leaders depending on their years of management experience. Researchers have suggested that level of education was a factor in the effectiveness of health care leaders (Friedman & Frogner, 2010; Liang et al., 2006; White & Begun, 2006). Other researchers suggested that gender, education and length of time on the job could impact level of emotional intelligence (Jamali, Sidani & Abu-Zaki, 2008; Suliman & Al-Shaikh, 2007). The results of the current study could be used to further clarify and develop health care leadership models, which are useful for leader training, education, selection and performance evaluation. There were two research questions related to the study.

Q1. What relationship, if any, exists between emotional intelligence and health care leadership competencies?

Q2. Controlling for gender, years of management experience and level of education, what is the relationship between emotional intelligence and health care leadership competencies?

Hypotheses

The hypotheses tested included the following:

H1₀. There is no significant relationship between the degree of emotional intelligence and health care leadership competencies.

H1_a. There is a significant relationship between the degree of emotional intelligence and health care leadership competencies.

H2₀. Controlling for gender, years of management experience, and level of education, there is no significant relationship between emotional intelligence and health care leadership competencies.

H2_a. Controlling for gender, years of management experience, and level of education, there is a significant relationship between emotional intelligence and health care leadership competencies.

Nature of the Study

Previous qualitative studies found a relationship between emotional intelligence and leadership competencies (Barbuto & Burbach, 2006; Scott, Bell, Coates & Grebennikov, 2010). The current quantitative study used a correlational method. The quantitative study design tested the validity of previously completed qualitative studies. The sample survey method was expected to provide the ability to assess a diverse sample of health care leaders, from which results could be applied to specific populations of health care administrators. Previously tested survey instruments were made accessible

via the Internet for the study. Internet-based surveys are generally well accepted (Evans & Mather, 2005). A convenience sample of leaders in health care organizations representing hospitals, long-term facilities, and outpatient settings were invited to participate in the study. The data was analyzed using multiple regression.

Significance of the Study

Researchers have agreed that the unique features of health care organizations warranted the development of theories of leader competencies specific to the industry (Liang et al., 2006; Morrison et al., 2007) and emotional intelligence has been identified as a factor of effective leadership in general (Brown, Bryant & Reilly, 2006; Cherniss, 2000; Dries & Pepermans, 2007; Hopkins & Bilimoria, 2008). Providers of health care services interact with patients on human and emotional levels that may not be required in other industries due to the nature of illness, injury and death, suggesting individuals working within a health care system could benefit from being emotionally competent (Kilpatrick, 2009; Ledlow & Coppola, 2011). Following this logic, then, effective leaders in health care organizations may exhibit greater competencies in the presence of corresponding emotional intelligence (Brunetto, Farr-Wharton, & Shacklock, 2010; Love, Revere & Black, 2008; Skinner & Spurgeon, 2005).

As the provision of health care in the United States has continued to be the subject of discussion and calls for reform, the profession will likely continue to be pressured to adopt models of competencies that may be used to quantify and validate the quality of effective leaders (Calhoun et al., 2008a; Guo, 2009; Stefl & Bontempo, 2008; Wells & Hejna, 2009). The current study was important because the results could be used to refine health care leadership competency models and provide a framework for the

training, education, selection and evaluation of health care leaders. In turn, graduates of health care administration programs would be better prepared to effectively lead health care organizations into the future. As health care organizations in the United States continue to deal with issues related to the cost, quality of, and access to services (Greiner & Knebel, 2003), strong and competent leadership will be needed.

Definitions

Defining key terms is essential to establishing shared meaning, understanding, and relevance in research. The key terms included in the current study are defined below. Other variables are generally understood and have not been defined.

Education. Education could be formal or informal (vanderHeijden, Boon, vanderKlink, & Meijs 2009). For the purposes of the current study, formal education will be considered and is specifically defined as college-level education.

Emotional intelligence. Emotional intelligence is defined as the manner in which leaders manage themselves and other people (Goleman, Boyatzis, & McKee, 2002), including the abilities with which they understand and manage emotions, both their own and those of others (Cherniss, 2000).

ESCI[®]. The Emotional Intelligence and Social Competence Inventory is an assessment instrument intended to measure degrees of emotional intelligence factors predicting life success (Wolf, 2006). The instrument includes 68 assessment items with responses provided on a five-point Likert-type scale. The ESCI[®] includes a participant self-assessment as well as assessment of the participant by subordinates, superiors and peers.

HAL-360. A health care leadership competency assessment tool intended to identify the competencies needed specific to leadership behaviors in health care organizations (Garman et al., 2004). A participant self-assessment is included, as well as an assessment of the participant by superiors, subordinates and peers. Responses are provided on a five-point Likert-type scale.

Health care facilities. Health care facilities are defined as the spectrum of places in which individuals could receive health care services that are episodic or acute (Medline Plus, 2010).

Health care leaders. For the purposes of this study, health care leaders are defined as department-level managers in long-term care or health care facilities that supervise the work of at least one other individual.

Leadership competencies. In health care settings, leadership competencies are defined as the spectrum of skills and abilities required to be successful as a leader. These skills include both cognitive and interpersonal skills, as well as the ability to manage change (Dye & Garman, 2006).

Long-term care facilities. Long-term care facilities are defined as settings in which services are provided to individuals with disabilities or chronic illness (U.S. Department of Health and Human Services, 2010).

Stakeholders. Stakeholders in health care organizations include care providers, patients, payers, and the community at large (South, 2007).

Years of management experience. Management experience, in this context, includes positions in which the participant is responsible for the effective work of a

section of the organization, including the performance of other individuals within the section (Northouse, 2007).

Summary

Health care in the United States has continued to be a focus of attention with an emphasis on improvement (Guo, 2009; Richardson et al., 2001; McAlearney, 2010; Wells & Hejna, 2009). The study of the competencies of leaders within health care organizations has resulted in the development of a number of models intended to guide the education and development of leaders with the understanding that leaders play a key role in shaping a health care organization (Garman & Dye, 2009). Stakeholders have not agreed upon an ideal model of health care leadership competency, suggesting more study was needed. In the context of the provision of health care services, it may be expected that emotional intelligence could contribute to health care leadership competencies (Ledlow & Coppola, 2011), although there are few published studies explicitly validating this concept. The current quantitative study will evaluate the relationship, if any, between emotional intelligence and health care leadership competencies with the intent of adding to the body of knowledge guiding the education and development of health care leaders.

Chapter 2: Literature Review

The purpose of the quantitative study was to determine whether or not emotional intelligence should be included in health care leadership competencies models. If emotional intelligence was found to be related to health care leader competencies, graduate health care administration programs could be modified to include courses related specifically to the development of emotional intelligence. A competencies model which included emotional intelligence could also be used as the basis for improving the training, selection, and evaluation of existing health care leaders. The framework of organizational behavior provided the broad theoretical basis for the study. A review of the literature pertaining to health care leadership competencies will be presented. Following this will be an overview of the literature relative to emotional intelligence, and a review of research regarding the relationship between leadership and emotional intelligence in general. Finally, a review of the literature relative to the relationship between emotional intelligence and leadership specific to health care settings will be included. Each of these theoretical areas will be discussed in terms of the models that have been developed, how the concepts were measured, and questions that have heretofore been left unanswered.

The literature review was performed by searching online library databases for peer-reviewed, academic articles with the key terms of *emotional intelligence* and *health care leadership competencies*. Variations of these terms also used to search the databases were *emotional competencies*, *emotion*, *multiple intelligence*, *leader effectiveness*, *leader skills*, *health care leader*, *leader competence* and *leader competencies*. Peer-reviewed and published text books related to emotional intelligence and leadership were also

reviewed. Articles and books published in the past five years were given priority, except in cases when the work could be considered foundational or seminal to the topic. All identified articles and books were reviewed and the findings were analyzed and integrated.

A review of some relevant journals found studies linking leadership competencies with emotional intelligence in a variety of industries (Abraham, 2006; Anand & UdayaSuriyan, 2010; Barbuto & Burbach, 2006; Boyatzis & Saatcioglu, 2008; Brown et al., 2006; Hawkins & Dulewicz, 2007), but only a few studies specifically correlated leadership competencies in health care settings with emotional intelligence (Brannick et al., 2009; Eason, 2009; Taylor, Taylor, Stoller, 2008; Varkey, Peloquin, Reed, Lindnor & Harris, 2009). VonKrosigk (2007) suggested that the skills and abilities required for success varied depending on industry. As an industry, health care organizations were complex and varied (Shi & Singh, 2012). The competencies required to effectively lead a health care organization warranted further study.

Health Care Leadership Competencies

The concept of health care leadership competencies has evolved from a synthesis of clinical competencies and business theories. As the provision of health care services has become more complicated, there has been a need to become more business-like in how organizations are managed (Shi & Singh, 2012). The evolution of the provision of health care services in America has taken what was more of a trade without clear standards and evolved it to a highly regulated industry (Shi & Singh, 2012). In the 19th century, the provision of health related services did not require trained practitioners and was based more on traditions than on science (Shi & Singh, 2012). By the late 20th

century, health care services in America were driven by standards, regulations, and third-party reimbursement (Shi & Singh, 2012). The provision of health care services increasingly became a corporate venture, requiring a more business-oriented approach (Shi & Singh, 2012).

History. The members of the Committee on the Quality of Health Care in America of the Institute of Medicine, led by Richardson, found that the health care system in the United States needed improvement (2001) and detailed six goals for improving the American health care system. The recommendations included specific statements related to the role leaders played. In 2003, the participants of the Health Professions Education Summit of the Institute of Medicine recommended that competency models be developed for every level of health care worker, including managers and leaders (Greiner & Knebel, 2003). In response, researchers developed competency models for health care leaders (Calhoun et al., 2008a; Garman et al., 2004; Stefl & Bontempo, 2008). Garman and Johnson (2006) defined competencies as those traits and behaviors of employees that were consistent with effective job performance. Markus, Cooper-Thomas and Allpress (2005) proposed there was little relationship between competency models and actual job performance in general. Other researchers supported the relevance of the relationship between manager competencies and the quality of patient care, as well as with the patient perception of the health care services they received (Shipton, Armstrong, West & Dawson, 2008). Three formalized models of health care leadership competencies have been generally accepted within the health care industry.

Models. The primary models of health care leadership competencies referenced most often are the Healthcare Leadership Alliance (HLA) model, the Health Leadership Competency Model (HLCM) and the HAL-360 (Bradley et al., 2008; Calhoun et al., 2008a; Garman et al., 2004; Stefl & Bontempo, 2008). The HLA model was developed collaboratively by a wide array of associations of various leadership disciplines in health care organizations (Stefl & Bontempo, 2008). The HLCM was developed from an academic perspective and then applied to the health care industry (Calhoun et al. 2008a). The HAL-360 was developed by Dr. Garman in the context of his work in graduate health administration programs (Garman et al., 2004). Dr. Garman has also been involved with the development, validation, and dissemination of the HLCM and the HLA models.

Health Leadership Competency Model. The HLCM was published by the National Center for Healthcare Leadership (NCHL) (Calhoun et al., 2008a). This model defined competencies primarily as behaviors and characteristics. There were three domains of competencies with eighteen categories of behavior and eight technical abilities identified (Calhoun et al., 2008a). The domains were identified as transformation, execution, and people (Calhoun et al., 2008a), as noted in Figure 1.



Figure 1. NCHL Health Leadership Competency Model (HLCM). Figure taken from www.nchl.org. National Center for Healthcare Leadership (2006-2012). All rights reserved. Used with permission.

According to Welton (2007), approximately half of the competencies in the HLCM model were consistent with Goleman's model of emotional competence. This model was adopted by a number of health care organizations and educational institutions (Calhoun et al., 2008a). The HLCM was intended to be used as a practical application that assessed managers in health care organizations.

While each competency was categorized by level of performance, the stage of the individual's career was also factored. The model assumed that early careerists would be performing at lower levels of performance, while mid and advanced careerists would be performing at the higher levels of performance (Calhoun et al., 2008a). If an individual

was found to be underperforming, the intent was to provide development and training opportunities to increase the individual's competencies (Calhoun et al., 2008a).

Healthcare Leadership Alliance Model. The HLA model of health care leadership competencies was developed by a consortium that included members from the American College of Healthcare Executives, the American College of Physician Executives, the American Organization of Nurse Executives, the Healthcare Financial Management Association, the Healthcare Information and Management Systems Society, and the Medical Group Management Association (Stefl & Bontempo, 2008). The intent was to develop a set of competencies that would be applicable to the members of each of the associations overall. A task force was assembled and the members identified the competencies needed across all of the associations and found that they fit into five major domains (Figure 2).

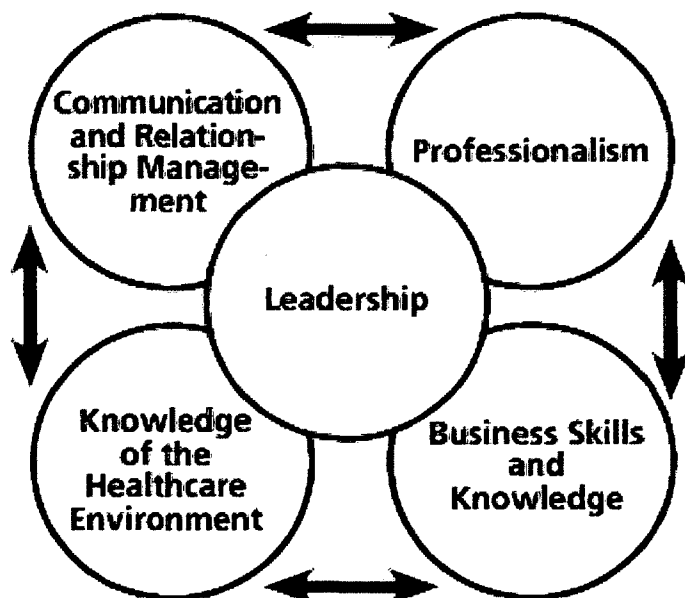


Figure 2. Healthcare Leadership Alliance Model (HLA). Figure taken from ACHE (2009).

The members of each participating association within the consortium were tasked with outlining more specifically the expectations, skills and expected behaviors within each of the competencies as it applied to their own professional area (Stefl & Bontempo, 2008). On behalf of the American College of Healthcare Executives, Garman and Johnson (2006) at the Rush University Medical Center expanded on the domains within each competency by identifying areas, sub-domains or skills applicable specifically to health care administrators. Garman and Johnson found that the HLA competency model could provide a valid mechanism for self-assessment of competencies, as well as providing a tool for communicating performance expectations for health care leaders (Garman & Johnson, 2006).

HAL-360. A third significant theory was developed by Garman et al. (2004). The theory was developed based upon review of the behaviors of effective leaders (Garman et al., 2004). This model did not attempt to identify the technical competencies, but instead focused only on the leadership aspect of competencies in the health care setting. The intended purpose of the HAL-360 model was to identify the competencies needed specific to leadership behaviors in health care organizations (Garman et al., 2004). The HAL-360 provided a greater level of detail and specificity in regard to leadership behaviors than did the other models, and was maintained as an open-source document, readily available to health care organizations, individuals, and academic institutions (Garman et al., 2004).

Each of these models included domains related to working with and through people, developing the organization, and business execution (Calhoun et al. 2008a; Garman et al., 2004; Stefl & Bontempo, 2008). The competencies described in the HLA

model were grouped into domains of communication and relationship management, leadership, professionalism, knowledge of the health care environment and business skills and knowledge (Stef & Bontempo, 2008). In the HAL-360 model competencies were divided into broad groups identified as communication, developing work relationships, charting the course, broad influence, self-management, inspiring commitment and structuring the work environment (Garman et al., 2004). The HLCM areas were simplified into the categories of people, transformation and execution (Calhoun et al., 2008a).

Leadership competencies in specialized areas of health care organizations in the U.S. were also identified. Garman and Scribner (2011) developed a competency model for leaders in the quality area of health care organizations. A study of nursing professionals in Slovenian hospitals showed that managerial competence was explained by leadership style, leaders' training, leaders' characteristics, and type of employment in 86.1 percent of cases, suggesting that basing training and education on a proven competency model could improve performance (Lorber & Savic, 2011). Lorber and Savic found that subordinate perception of the competencies of the managers differed from the managers' own perceptions. Additional literature was available that studied the relationship of manager or leader skills in clinical areas of health care (Akerjordet & Severinsson, 2008; Akerjordet & Severinsson, 2010; Beauvais, Brady, O'Shea, & Quinn Griffin, 2011; Benson, Ploeg, & Brown, 2010; Conbere & Gibson, 2007; Cox & Nelson, 2008; McCallin & Bamford, 2007; Satterfield & Hughes, 2007; Smith, 2009; Snodgrass, Douthitt, Ellis, Wade & Plemons, 2008). These were not included in this literature review as specialty areas and clinical leaders were not the focus of the current study.

Definitions. The three identified models of health care leadership competencies contained similar behaviors, knowledge, skills and abilities, although the competencies were grouped in different ways. In general, the competencies were grouped into the areas of working with people, organizational development, execution and technical skills. Analysis of the definitions of competencies in each model showed that the HLCCM had a broad scope and focus, while the HLA was more oriented to tasks and skills, and the HAL-360 was more specific and detailed in individual leadership behaviors. Table 1 was used to compare and contrast each of the models.

Table 1

Comparison of the Three Major Models of Health Care Leadership Competencies

Domain	HLCM	HLA	HAL-360
People	Human resources management	Human resource management	
	Interpersonal understanding		Individual understanding
	Professionalism	Contributions to community & profession	Balance, resilience/self-restraint, tenacity, managing limits, flexibility/adaptability
	Relationship building	Relationship management	
	Talent development		Mentoring
	Team leadership		Collaboration/team building
	Self-confidence		Self-presentation
	Self-development	Professional development & lifelong learning	
			Political skills
		Healthcare personnel	Physician/clinician relations
		Communicating vision	Persuasiveness
		Facilitation & negotiation Organizational climate & culture	Consensus building Building trust
		Leadership skills & behavior	Decision making
Organizational Development	Achievement orientation Analytical thinking Community orientation	The community & environment	Systems thinking
	Financial skills	Financial management	

	Information seeking		Listening/feedback receiving
	Innovative thinking		Innovativeness
	Strategic orientation	Strategic planning & marketing	Strategic visioning
Execution	Accountability	Personal & professional accountability	
	Change leadership	Managing change	
	Collaboration		
	Project management		
	Performance measurement		Feedback giving/performance management
	Information technology management	Information management	
	Initiative		
	Organizational awareness	Organizational dynamics & governance	
	Process management/organizational design		Work design & coordination
	Communication skills	Communication skills	Crafting messages, writing, speaking, use of meetings
	Impact & influence		Energizing
Technical		Risk management	
		Health care systems & organization	
		The patient's perspective	
		General management	
		Quality improvement	

The HLCM included 18 behavioral competencies and eight technical competencies (Calhoun et al., 2008a). The HLA model included 300 competencies in the

form of knowledge, skills and abilities (Stef & Bontempo, 2008). The HAL-360 model included a total of 25 critical behaviors (Garman et al., 2004). According to the Commission on accreditation of Healthcare Management Education (CAHME, 2009), the HLCM has been most widely adopted by accredited graduate health administration programs.

Measurement. In the HLCM model, participants assessed themselves for each competency, which are divided into five specific levels of performance, with level one generally relating to the ability to communicate the concept, ranging to level five relating to the ability to actually create or develop that concept within the organization (Calhoun et al., 2008a). The HLCM was developed in conjunction with current leaders working in the health care industry. The model was based on psychometric principles and defines expected behaviors at various stages of a health care leader's career (Calhoun et al., 2008a). The behaviors included in the model are all observable so the HLCM could be used for the evaluation of leaders in addition to being relevant as the basis for the training and education of current and future health care leaders (Calhoun et al., 2008a). The HAL-360 assessment instrument requires the participant to evaluate themselves and to have observers, in the form of peers, subordinates and superiors, also evaluate their behaviors, increasing the likelihood of obtaining a valid assessment (Garman et al., 2004). An important premise behind the HAL-360 was that theoretical knowledge could be taught but that skill or competency development really occurred within the context of work experience (Garman et al., 2004). The HAL-360 assessed competencies based on the stage of the participant's career, beginning with first time in the professional position ranging to being prepared for senior management (Garman et al., 2004).

The leaders of the American College of Healthcare Executives (ACHE) published its version of the HLA model to its constituents, who were executives and managers within health organizations, as the “ACHE Healthcare Executive Competencies Assessment Tool 2010” (ACHE, 2009, p. 1). The ACHE offered the model in the form of a self-assessment instrument that helped the member executives understand their current functioning within each competency and to develop plans for further development in areas in which they were less competent. The scale used was a five-point Likert-type scale with one being a novice, three being competent and five being expert. This was consistent with the Dreyfus and Dreyfus (1986) model of performance expectations that varied depending on the levels of management within an organization. These competencies were identified as business knowledge and skills, knowledge of the health care environment, communication and relationship management, professionalism, and leadership (Stefl & Bontempo, 2008). Each competency was then described in terms of domains, with defined behaviors and performance that could be expected at each of the stages of development. The stages were grouped by individuals that were new to the profession, individuals with some experience, individuals that had demonstrated competence, individuals that were accomplished, and individuals that were masterful (Stefl & Bontempo, 2008).

Trainability. College-level health administration programs have been developed to educate and train individuals to lead health care organizations (Griffith, 2007). The underlying assumption is that leadership skills or competencies can be developed through training and education (Micari, Gould & Lainez, 2010). The members of the Association of University Programs in Health Administration (AUPHA) have worked to ensure the

education of health care leaders included the development of competencies required for effectively managing health care organizations (AUPHA, 2011). This has driven college programs to adopt, develop and validate competency models to guide the education and training of health care leaders (Arndt, 2007). There was general consensus among researchers that health care leaders could be trained to be competent (Griffith, 2007).

Limitations. Health administrator, as an occupation, was identified in the early 1900s (Arndt, 2007). One hundred years later, the theory of hospital administration is still evolving (Arndt, 2007). The concept of professional health administration has evolved from general management theories applicable to the manufacturing industry to concentrated efforts to identify the complex combination of competencies needed to effectively lead complicated health systems (Arndt, 2007; Calhoun et al., 2008a; Garman et al, 2004; Griffith, 2007; Stefl & Bontempo, 2008). As the provision of health care services has continued to evolve, it was not clear what competencies may be most needed by health care administrators.

Health care organizations in the United States have been marked by change driven by advancement in technology, equitable access to care and financing challenges (Liang et al., 2006; Litvak & Bisognano, 2011). Researchers and leaders in health care education and practice have continued to work to identify the competencies needed to be effective as a leader in a health care organization (White, Lemak & Griffith, 2011). Competencies were used as the basis of curriculum development in health leadership programs, as well as the selection and development of leaders and potential leaders in practice (Calhoun et al., 2008b; Liang et al., 2006; Morrison et al., 2007; Welton, 2007). Researchers developed competency models that were generally accepted within the

practice of health care administration (Calhoun et al., 2008a; Garman et al., 2004; Stefl & Bontempo, 2008). While none of these models specifically noted emotional intelligence as a competence (Calhoun et al., 2008a; Garman et al., 2004; Stefl & Bontempo, 2008), this factor of leadership was of interest (Dye, 2010) and was implicitly included in the domains of people or interpersonal competence. A search of literature did not find published studies of the relationship between gender, years of management experience and level of education and health care leader competencies specifically, but research had shown some relationship between experience and leadership competencies in general (Benjamin & O'Reilly, 2011; Cook, Bay, Visser, Myburgh & Njoroge, 2011; Payette & Libertella, 2011; Royr & Chaturvedi, 2011; Shipley, Jackson & Segrest, 2010). Studies of gender, level of education and general leadership had not shown a clear relationship (Madden, 2011; Matelli & Abels, 2010; Mohr & Hans-Joachim, 2008; Peachy & Burton, 2010; Smith & Rayment, 2008).

Emotional Intelligence

The theory of emotional intelligence has developed over the past thirty years (Chopra & Kanji, 2010). Chopra and Kanji traced the development of emotional intelligence back to Socrates, Plato, Aristotle and Darwin. Emotional intelligence is purported to have applicability to all areas of human experience (Goleman, 1995). Emotional intelligence has been defined in a number of ways by different researchers (Bar-On, 1997; Goleman, 1995; Mayer et al., 1999). All identified definitions included the concept of individuals using emotions as a way to better understand themselves and others, and to use that knowledge competently. The theory of emotional intelligence has added to the body of knowledge regarding organizational leadership by explaining one

potential aspect of leadership traits and behaviors that could have had significant impact on a leader's effectiveness (Hawkins & Dulewicz, 2007; Jin, 2010; Leary, Reilly & Brown, 2008; Li & Wang, 2010; Scott, 2010). Several models of emotional intelligence have been proposed. Researchers have provided a relevant framework for understanding the theory of emotional intelligence (Chopra & Kanji, 2010; Gignac, 2010; Goleman, 1995; Petrides, 2010; Salovey & Mayer, 1990; Service & Fecula, 2008).

History. Wechsler's (1958) model of general intelligence and Thorndike and Stein's (1937) proposed theory of social intelligence provided a proximal foundation for the development of emotional intelligence theory. According to Chopra and Kanji (2010), in 1985 Payne first identified the term emotional intelligence for use in academia in his doctoral dissertation and he provided a philosophical and theoretical framework for understanding emotional intelligence and how it was developed. Salovey and Mayer (1990) proposed an ability-based view of emotional intelligence that could be tested psychometrically, which stimulated interest in the theory among researchers. Goleman (1995) brought emotional intelligence to the attention of the general public when he contrasted emotional intelligence with the more widely accepted concept of cognitive intelligence. In 1998, Goleman applied the theory to the workplace, making this a seminal work for the study of leadership and emotional intelligence. Goleman also popularized the term emotional intelligence in his work and made it applicable and understandable to the general public.

The theory of emotional intelligence has changed in several ways since Payne proposed it in 1985 (Chopra & Kanji, 2010). A wide range of empirical measures have been developed with corresponding differences in approach ranging from self-

assessment, informant-report, and forced-choice, to testing performance. As a theory grounded in psychology, sociology and the study of organizational behavior, emotional intelligence was a relatively new construct and as such had been the focus of a significant degree of attention from both researchers and practitioners in the past ten years (Austin, 2010).

Models. Models of emotional intelligence have evolved along three primary paths. The first path was an ability-based model (Salovey & Mayer, 1990). This model viewed emotional intelligence as a form of social intelligence (Salovey & Mayer, 1990). The second path defined emotional intelligence as a trait (Petrides, 2009). The other primary evolutionary path based emotional intelligence on mixed models that included traits, abilities, and other factors as the basis of emotional intelligence (Joseph & Newman, 2010). While each of the proposed models was empirically validated by their author(s), studies attempting to correlate the findings between models have been unsuccessful (Emmerling & Goleman, 2003). A review of the major models could help explain this lack of correlation.

Ability-based models. Salovey and Mayer (1990) conceived of emotional intelligence as an “adaptive cognitive” ability (Davies, Lane, Devonport & Scott, 2010, p. 198). Mayer and Salovey (1993) argued that emotional intelligence was an intelligence that could be isolated within general intelligence and that as an intelligence it was psychometrically measurable and quantifiable based on participant performance. Wong, Law and Wong (2004) developed a model of ability-based emotional intelligence that was based on participant self-evaluation. The ability-based model of emotional intelligence was specifically noted to be distinct from personality (Law, Wong & Song,

2004). Brackett, Rivers, Shiffman, Lerner, and Salovey (2006) noted that underlying the theory of emotional intelligence was the concept that emotions could add value to intelligent thinking, reinforcing the concept of emotional intelligence as an ability. Davies et al. (2010) and Robinson and Clore (2002) argued that an ability-based construct should not be used for emotional intelligence because emotion was a subjective experience.

Trait-based models. Proponents of trait-based models of emotional intelligence conceptualized emotional intelligence as an aspect of personality concerned with “emotion-related dispositions and self-perceptions” (Petrides, Furnham & Mavroveli, 2007, p. 151) which were best measured by self-report. The trait model of emotional intelligence was distinct from the ability model in that the trait model was based more in personality than in cognitive ability (Petrides, 2010). The subjective nature of the way emotions were experienced grounded this model in self-assessment. Petrides et al. proposed the Trait Emotional Intelligence Questionnaire as a means of measuring trait emotional intelligence. The Trait Emotional Intelligence model identified and measured 15 facets of emotional intelligence, including adaptability, assertiveness, emotional perception, expression and management and relationship skills (Petrides et al. 2007). The Trait Emotional Intelligence model relied on self-evaluation.

The EQ Matrix model of emotional intelligence identified traits that cannot be controlled and those that can be controlled (Service & Fecula, 2008). Commanding presence, emotional awareness and control, sensing others’ emotions, and entrepreneurial innovativeness were suggested to be strengths with which individuals were born that could not be controlled or developed (Service & Fecula, 2008). Inborn weaknesses were

noted to be disruptive irrationality, untrustworthiness, un-adaptable to change, and emotional laziness (Service & Fecula, 2008). The strengths that could be nurtured or developed were noted to be emotional maturity, management of emotions through reframing, emotionally valuating success, and cultural astuteness (Service & Fecula, 2008). Weaknesses that could be strengthened were purported to be conflict/change avoidance, cultural unawareness, emotionally avoiding persuasion, and blinded emotional attachment (Service & Fecula, 2008). Trait emotional intelligence was viewed as an entirely different construct than that of the ability-based models (Petrides et al., 2007). Further study of trait emotional intelligence across a variety of industries was recommended (Mikolajczak, Luminet, Leroy, & Roy, 2007). Mayer and Salovey (1997) argued that a trait was a behavioral choice so it should not be considered to be an intelligence.

Mixed models. Mixed models of emotional intelligence have taken into consideration the abilities required to use and process emotions based on individual traits and characteristics, including aspects of personality (Goldenberg, Matheson & Mantler, 2006), motivation, and affect (Joseph & Newman, 2010). There were many forms of mixed model emotional intelligence described (Bar-On, 1997; Chopra & Kanji, 2010; Goleman, 1998). Kunnanatt (2008) conceptualized emotional intelligence as a group of competencies that could be developed through training. Bar-On's model of emotional intelligence conceived of emotional intelligence as a combination of capabilities, competencies and skills that were specifically not cognitive. Bar-On's model included social intelligence with emotional intelligence and focused on the ability to respond with intelligent behavior to the surrounding environment. The Bar-On theory conceptualized

emotional intelligence as both social and emotional skills and competencies (Bar-On, 2002). The psychometric measure was developed as the EQ-i and was a self-report assessment (Bar-On, 2002). Later a 360 assessment component was added and identified as the EQ-360 (Bar-On & Handley, 2003). Bar-On made the distinction between potential emotional competence and actual behavior. Chopra and Kanji (2010) argued that Bar-On's (1997) model of emotional intelligence did not intend to measure personality or cognition as much as it was intended to measure the mental ability to function and cope. Grubb and McDaniel (2007) suggested the results of Bar-On's model of emotional intelligence testing could be faked. Goleman described his model in terms of a mix of cognitive and emotional skills that created competency, but Goldenberg et al. argued that Goleman's model was heavily trait-based and corresponded highly with personality.

The theory of emotional intelligence suggested by Seal, Sass, Bailey and Liao-Troth (2009) included emotional ability and emotional competence. In this framework, emotional intelligence was conceptualized as a combination of abilities and behaviors. The work of Seal et al. was intended to identify similarities between the constructs of emotional ability and emotional competence in an effort to unify them under the theory of emotional intelligence. The results did not support the hypotheses, however, and Seal et al. concluded that the concept of emotional intelligence could be viewed either as a single, complex construct or as multiple distinct constructs and that further study was needed.

Chopra and Kanji (2010) proposed a model of emotional intelligence (KCEI) intended to capture the multiple constructs of emotional intelligence into a holistic and

systemic approach. The model included five primary constructs to create the emotional intelligence index. The constructs included were the psychosocial system, self-emotional skills, intrapersonal development, management excellence, and socio-economic factors. This model viewed emotional intelligence in “the wider construct of self-emotional skills, intrapersonal development capabilities, management excellence and society” (Chopra & Kanji, p. 1001). Gignac (2010) used a seven-factor higher order model of emotional intelligence as the basis for the Genos Emotional Intelligence Inventory (Genos EI). The seven factors included emotional self-awareness, expression, awareness of others, reasoning, self-management, management of others and self-control (Gignac, 2010) and Gignac proposed that this model included all relevant factors of emotional intelligence, which Gignac argued other models did not.

Joseph and Newman (2010) developed a cascading model of emotional intelligence based on meta-analysis. In this model, three factors of ability-based emotional intelligence, excluding the branch of emotional facilitation (Salovey & Mayer, 1990), were included with cognitive ability and two facets of personality to create a cascading model that impacted job performance. The facets of personality that were included in the model were conscientiousness and emotional stability. Joseph and Newman argued that conscientiousness impacted emotional perception and that emotional stability impacted emotional regulation so these facets of personality were included in the model. Joseph and Newman noted the disconnect between the ability-based measure of emotional intelligence, with its strong theoretical basis, and the mixed models of emotional intelligence with significant practical applicability but deficient theoretical basis. More research was suggested.

Seal and Andrews-Brown (2010) proposed a new theory of emotional intelligence that was intended to merge the three primary views of emotional intelligence into one. Using Bar-On's (1997) theory of emotional quotient, Salovey and Mayer's (1990) model of emotional ability and Goleman's (1995) construct of emotional competence, Seal and Andrews-Brown argued that each of the theories had to be considered in concert in order for the concept of emotional intelligence to be a valid construct for the study of organizational behavior. Seal and Andrews-Brown found that while the construct of emotional intelligence had great potential, it was not as useful as it could be because of the disparities between the multiple models and measurement instruments. Cartwright and Pappas (2008) reached a similar conclusion.

Because the study of emotional intelligence was relatively young, serious empirical research of the mixed, trait-based and ability-based models was needed to further develop and refine the theory (Crowne, 2009; Ugwu, 2011). As Emmerling and Goleman (2003) suggested, this type of discourse and debate were likely to be a necessary component of the research and discovery process. Table 2 summarizes some of the proposed models. In order to empirically study emotional intelligence and further refine the theory, the difficulties with defining and measuring emotional intelligence would also need to be resolved (Conte, 2005; Dulewicz, Higgs & Slaski, 2003). Analysis of the various definitions of emotional intelligence could explain some of the unanswered questions.

Table 2

An Overview of Some Models of Emotional Intelligence

Name	Type of Model	Definition
Mayer et al., 1999	Cognitive Ability	Mental ability to accurately perceive, appraise and express emotion
Goleman, 1995	Traits & Abilities	Ability to understand and manage the feelings of others and self, in relationship
Bar-On, 1997	Traits & Abilities	Interrelationship among emotional & social competencies, skills, abilities
Service & Fecula, 2008	Traits	Emotional strengths and weaknesses that may be controllable or uncontrollable
Petrides, 2009	Traits	An aspect of personality that can be measured psychometrically
Chopra & Kangi, 2010	Skills & abilities in social context	A complex, multifaceted, changeable, developable and measurable phenomenon
Joseph & Newman, 2010	Cascading model; attempts to combine some skills and some abilities	A sequential relationship between ability, traits and performance
Seal & Andrews-Brown, 2010	Intended to merge trait, ability and mixed models of emotional intelligence.	Holistic view includes capacities moderated by personal preferences and learned behaviors
Gignac, 2010	Performance-based	Seven factors: being centered, present, empathetic, authentic, expansive, resilient, and empowering

Definitions. A review of recent literature suggested that the most frequently referenced earlier models of emotional intelligence were the Bar-On (1997) model, the Goleman (1995) model, and the Mayer, Salovey and Caruso (1999) model. To better understand the differences between these models, it is helpful to consider the stated definitions of each. The Bar-On model defined emotional intelligence as interrelationship among emotional competencies, social competencies, skills, and abilities that provided the framework for understanding a person's own emotions and that of others, as well as providing a foundation from which to cope with daily demands and challenges. Chopra and Kanji (2010) explained the Bar-On model in terms of

understanding self, relating to people, and adapting to the environment, as a framework for success.

Goleman's model (1995) defined emotional intelligence as the ability to understand and manage the feelings of others and oneself, particularly within relationships. The Goleman model conceptualized emotional intelligence based on self-awareness, self-management, social awareness and relationship management (Goleman, 1998). Goleman's model and work popularized the concept of emotional intelligence as a relevant workplace construct. While Goleman stated that his model was based on abilities, Goldenberg et al. (2006) characterized Goleman's identified domains more as traits than abilities, suggesting that attributes in the model were more reflective of social skills, personality, motivations or psychological traits.

In contrast, Mayer et al. (1999) defined emotional intelligence as mental abilities that could best be tested through performance (Emmerling & Goleman, 2003). The four-branch model of emotional intelligence (Mayer et al. 1999) was a revision of the original model proposed by Salovey and Mayer (1990). The revised model defined emotional intelligence as "the ability to perceive accurately, appraise, and express emotion" (Salovey & Mayer, 1990, p. 9) and included the ability to use emotions to enhance knowledge. In practical application, Mayer et al. (2002) suggested the concept of emotional intelligence explained differences in individuals' ability to solve problems and engage in social relationships. More recently a number of new models of emotional intelligence have been introduced (Chopra & Kanji, 2010; Petrides, 2009; Seal, Sass, Bailey, & Liao-Troth, 2009).

The model developed by Petrides (2009) defined trait emotional intelligence as being separate and distinct from both the ability model of emotional intelligence and the mixed model of emotional intelligence. In Petrides' description, trait emotional intelligence, as a construct, was consistent with other theories of differential psychology and the trait model of emotional intelligence could be readily extended into other areas of intelligence, including social intelligence. Petrides noted trait emotional intelligence was an aspect of personality that could be measured with psychometrically valid instruments, notably the TEIQue (Petrides, 2009).

Seal et al. (2009) attempted to integrate the constructs of emotional intelligence by defining it as both an ability and as a competence. Seal et al. noted the fragmentation of the concept between viewing emotional intelligence from an academic viewpoint or a practical application viewpoint. Seal et al. concluded after reviewing the published literature that emotional intelligence as an ability and emotional competence were distinct constructs with some potential for overlap. The perceiving emotions branch of the ability model of emotional intelligence (Salovey & Mayor, 1990) and the social awareness cluster of the emotional competence model (Goleman, 1998) were found by Seal et al. to be related. Correlation between the other facets of the models was not found.

The Kanji-Chopra Emotional Intelligence model (KCEI) was proposed as an alternative theory (Chopra & Kanji, 2010). This model assessed emotional intelligence with a holistic and system-modeling approach. Chopra and Kanji defined emotional intelligence as "a complex, multifaceted, changeable, developable and measurable phenomenon" (p. 980) that predicted individual development and performance. Because this model was relatively recently proposed, data testing the model was not readily

available. The definition of emotional intelligence shaped the measurement of the construct.

Measurement. An unaddressed area within the theory of emotional intelligence has been how best to empirically measure it. This was partially determined by the model on which measurement would be based, but at a core level there was still disparity. The ability-based models of measurement relied on participant performance to demonstrate his or her ability. Wong and Law (2002) developed a self-assessment measure of ability-based emotional intelligence, but attempts to compare the results with the results of performance-based ability tests found little correlation (Joseph & Newman, 2010).

The initial mixed models relied on measurement by self-report, but the validity of self-reporting measurements was vulnerable to response bias given the likelihood that people that were not emotionally intelligent might be unable to recognize this lack within themselves (Carmeli & Josman, 2006). In reference to Bar-On's (1997) model, researchers argued that an individual assessed by this measurement could also fake his or her responses, invalidating the results (Day & Carroll, 2004; Grubb & McDaniel, 2007). More recent measurement tools have included 360° review by other raters of the participants to mitigate this problem. Use of a 360° evaluation moderated the potential of "unconscious incompetence" (Evans, 2007, p. 2009). The trait-based model was intentionally designed as a self-assessment because of the "inherent subjectivity of emotional experience" (Petrides, 2010, p. 137).

A meta-analysis of emotional intelligence in relation to leadership found distinctly different results when the participant reported their own emotional intelligence and when others assessed their emotional intelligence (Harms & Crede, 2010), substantiating the

value of using 360° assessments or multisource ratings. Further, Harms and Crede suggested that the popularity of the construct of emotional intelligence as it related to leadership was unwarranted and that the relationship was overrated. The fact that there was so much difficulty reaching consensus among researchers about how to define the construct seemed to validate this viewpoint (Harms & Crede, 2010). A review of some measurement instruments demonstrated the difficulty. While the methods for measuring emotional intelligence varied, a rough comparison of the sub-factors of three models showed similarity (Table 3).

Table 3

Overview and Alignment of Three Models of Emotional Intelligence

Boyatzis & Goleman, 2007	Bar-On, 2002	Petride, 2009
Emotional self-awareness	Self-Actualization	Emotion perception (self and others)
Achievement Orientation	Independence	Self-motivation
Adaptability	Flexibility	Adaptability
Emotional Self-Control	Emotional Self-Awareness	Emotion regulation Impulsiveness (low) Emotion expression
Positive Outlook	Optimism Happiness	Trait happiness Trait optimism
Empathy	Empathy	Trait empathy
Organizational Awareness	Social Responsibility	Social awareness
Conflict Management	Problem-Solving	Emotion management (others)
Coach & Mentor	Interpersonal Relationship	Relationships
Influence		
Inspirational Leadership		
Teamwork		
	Assertiveness	Assertiveness
	Stress Tolerance	Stress management
	Self-Regard	Self-esteem
	Reality-Testing	

Palmer and Stough (2002) published the Swinburne University Emotional Intelligence Test (SUIET). This measure of emotional intelligence was proposed to have practical applications in workplaces, as compared to previously developed measures that were found to be too unwieldy for practical use. More recently the SUIET was modified and published as the Genos Emotional Intelligence Inventory specifically for use by

human resources professionals to develop and teach employees within workplaces (Gignac, 2010). The Genos Emotional Intelligence Inventory was based on a seven-factor model of emotional intelligence. The seven factors were being centered, present, empathetic, authentic, expansive, resilient, and empowering (Gignac, 2010). The inventory was less complicated than were other measures of emotional intelligence and could reportedly be completed in ten to fifteen minutes. This assessment was less an actual measure of emotional intelligence, but more a measure of performance and how emotional intelligence impacted behaviors within organizations (Gignac, 2010). In this respect, the Genos Emotional Intelligence Inventory, while having practical application in the workplace, would be less relevant to the empiric or academic study of emotional intelligence within organizations.

Chopra and Kanji (2010) measured emotional intelligence through the evaluation of emotional skills, human capabilities, social abilities and management abilities, considering the individual's psychosocial system as the foundation of his or her emotional intelligence. Emotional intelligence was measured through the use of a questionnaire in which the participant noted the degree to which he or she had acquired various indicators or criteria related to emotional intelligence (Chopra & Kanji, 2010). This model was proposed very recently so additional empirical testing was suggested.

According to Conte (2005), the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) and the Emotional and Social Competency Inventory (ESCI[®]) were the most commonly used measures of emotional intelligence. The MSCEIT measures ability-based emotional intelligence and the ESCI[®] measures a mixed model of emotional intelligence. A study by Seal et al. (2009) correlating the results of the MSCEIT and the

ESCI[®] suggested the constructs do not measure the same thing. A comparison between results of ability-based and trait-based emotional intelligence of medical students found that these two models of emotional intelligence did not measure the same construct and that the ability measure was not related to personality, while the trait and mixed measures were related to personality (Brannick et al., 2009). In recognition of the changes in the type of work occurring in organizations over the past twenty years, Suma (2012) suggested the needed ingredient to keeping pace was emotional intelligence. Suma provided a conceptual framework for teaching emotional intelligence skills in the workplace, but did not validate its efficacy.

Trainability. Researchers do not agree about the degree to which emotional intelligence may be increased through training. Clarke (2006) found that emotional intelligence could be developed through training in the workplace. Lindebaum (2009) argued that the development of emotional intelligence was an individual matter that could not be developed through training at an organizational level. A study of graduate business schools by Boyatzis, Stubbs, and Taylor (2002) demonstrated that emotional intelligence competencies could be increased through explicit inclusion of emotional intelligence development material in academic curricula. After an analysis of the available literature, Myers and Tucker (2005) recommended that emotional intelligence development be included in business school curricula in order to enhance the relational skills of future leaders. Study found that emotional intelligence abilities could be improved through training and that the increased emotional intelligence of project managers increased the success of the project team's work (Turner & Lloyd-Walker, 2008).

to lead to additional questions, creating the need to analyze several controversies related to emotional intelligence. The disparities in theories and models of emotional

Researchers studied the trainability of emotional intelligence in various contexts ranging from graduate students to senior leaders of large businesses. A study of graduate business students found that leadership skills, specifically emotional intelligence, could be increased by the inclusion of emotional intelligence development activities into the curriculum (Joyner & Mann, 2011). Holt and Marques (2012) argued for a deliberate approach to developing empathy among business program students. McDermott, Kidney and Flood (2011) analyzed the experiences of senior leaders in business and suggested leader development was influenced by contextual experience, including improved ability to manage emotion. Most recently, Allen, Shankman, and Miguel (2012) proposed a new construct of emotionally intelligent leadership, specifically targeted for use in the curricula of degree programs. Lindenbaum (2009) questioned whether emotional intelligence could be developed through training at the organizational level. Researchers did not agree on the degree to which emotional intelligence was inborn or could be developed (Gignac, 2010; Goleman et al., 2002; Mayer et al., 2002), nor whether emotional intelligence was an ability, a trait, or a mixture of both (Goleman et al., 2002; Petrides, 2009; Salovey & Mayer, 1990).

Limitations. As the theory of emotional intelligence has evolved, several areas of unanswered questions have remained and there has still been considerable controversy among researchers in terms of the basis of the theory, the definitions of emotional intelligence, the measurement of the construct and the relevance to leadership effectiveness (Walter, Cole & Humphrey, 2011). Each unanswered question has seemed

intelligence could be traced back to their theoretical basis and practical application and attempts to correlate the various theories were unsuccessful (Seal & Andrews-Brown, 2010).

While researchers were not in agreement with regard to the specific attributes of the theory of emotional intelligence or the best way to measure emotional intelligence (Chopra & Kanji, 2010; Gignac, 2010; Goleman et al., 2002; Mayer et al., 2002; Petrides, 2010), the definitions and models proposed have tended to be complimentary rather than contradictory in most cases. For example, Mayer et al. (1999) conceptualized emotional intelligence based on abilities or cognitive aptitudes. Kerr et al. (2006) conceptualized emotional intelligence as mixed models that combined abilities with traits and behaviors. However, Conte (2005) found that the various measures of emotional intelligence did not meet on a common theoretical basis, suggesting there may be little correlation between the various models and measures. Joseph and Newman (2010) found that mixed models of emotional intelligence were stronger empirically but weaker theoretically in terms of being a predictor of job performance. These unanswered questions could be answered through further study. Beyond these unanswered questions, there was also not uniform agreement among researchers with regard to the applicability of the theory of emotional intelligence to organizational leadership.

Emotional Intelligence and Leadership

According to Emmerling and Goleman (2003), the purpose of the theory of emotional intelligence was to try to understand how individual people understand, process, and use emotions to work effectively. As Webb (2009) described, emotional intelligence by itself could not predict success in the workplace, but it was a factor among

other factors that included social, cognitive and technical competencies. Goleman (1998) posited emotional intelligence as one of multiple intelligences and correlated it to effectiveness in the world of work. Other researchers supported the theory of emotional intelligence and specifically applied it to leadership (Abraham, 2006; Barbuto & Burbach, 2006; Boyatzis & Saatchioglou, 2008; Brown et al. 2006; Cangemi et al., 2008; Colfax et al., 2010; Dries & Pepermans, 2007; Hawkins & Dulewicz, 2007; Hopkins & Bilimoria, 2008; Kerr et al., 2006; Porterfield & Kleiner, 2005; Rosete & Ciarrochi, 2005; Singh & Kumar, 2009), finding some relationship. Leaders of an organization have direct or indirect influence over the decisions made in an organization (Robbins & Judge, 2007). Leaders also have influence over the people working within an organization (Robbins & Judge, 2007). Webb (2009) described that emotions may be contagious, so the emotional intelligence of the leader could impact the emotions of the individuals working with that leader. Barbuto and Burbach, and Brown et al., found that emotional intelligence appeared to be related to some specific types of leadership styles.

Some researchers developed new constructs of emotional intelligence and leadership (Riggio & Reichard, 2008; Service & Fekula, 2008). Service and Fekula proposed the Emotional Quotient Matrix as a means of studying leadership abilities. This model specifically viewed emotional intelligence from the viewpoint of strengths and weaknesses. The purpose behind the model was to assist leaders in identifying areas in which they could maximize their emotional intelligence traits, as well as to target specific areas of emotional intelligence for improvement. Scott et al. (2010) suggested leadership skills, including emotional intelligence, could be used to identify potential leaders and provide training so these individuals could further develop their skills. Riggio and

Reichard (2008) developed a framework from which effective leadership was correlated with emotional intelligence and social skills. Through literature review, Riggio and Reichard suggested that emotional intelligence alone was not as effective as a combination of emotional intelligence and social intelligence.

Evidence for emotional intelligence in leadership. A preponderance of the literature correlating emotional intelligence with general business leadership utilized transformational leadership as the dependent variable. Transformational leadership described a form of leadership that was based on influencing and mentoring others, compared to the more structured and exchange-based transactional model of leadership (Bass, 2008). Barbuto and Burbach (2006) suggested a positive correlation between emotional intelligence and transformational leadership, while Brown et al. (2006) found a positive correlation between transformational leadership and organizational outcomes, but could not find a significant correlation between transformational leadership and emotional intelligence. Researchers found a correlation between emotional intelligence and leader performance and effectiveness (Corona, 2010; Hawkins & Dulewicz, 2007; Kerr et al., 2006; Polychroniou, 2009; Tang, Yin & Nelson, 2010), as well as between emotional intelligence and organizational performance (Rosete & Ciarrochi, 2005; Svetlana & Jones, 2005). The studies were completed in a variety of contexts and demonstrated mostly similar findings.

Contexts of study. The relationships between emotional intelligence, organizational leadership, and organization behavior have been studied in multiple contexts. These constructs have been studied in various industries, types of organizations and countries (Engle & Nehrt, 2011). There was a relationship found between emotional

intelligence and managers of effective research and design groups (Dreyfus, 2008), as well as emotional intelligence and successful leadership, defined by financial performance (Stein, Papadogiannis, Yip, and Sitarenios, 2009). The relationship has been demonstrated in for-profit organizations (Stein et al., 2009) as well as in non-profit organizations (Morehouse, 2007), and among elected officials (Barbuto & Burbach, 2006) and public administrators (Vigoda-Gadot & Meisler, 2010). Morehouse (2007) found individuals with high levels of emotional intelligence were more frequently found working in non-profit organizations and suggested the cultures of non-profit organizations could be more appealing to individuals with higher levels of emotional intelligence.

A relationship between emotional intelligence and leader competencies was found in a variety of countries, including India (Mohapatra & Gupta, 2011), Greece (Polychroniou, 2009), Israel (Vigoda-Gadot & Meisler, 2010), Africa (Vrba, 2007), Nigeria (Jimoh, Olayide & Saheed, 2012) and Iran (Farahani, Taghadosi & Behboudi, 2011). Tang et al. (2010) compared the relationship between leadership and emotional intelligence in the United States, contrasted with Taiwan. Tang et al. found that there was a positive correlation between the constructs in both countries, but among the U.S. leadership studied, a relationship was not found between the sub-factors of challenging the process and inspiring a shared vision, but in Taiwan, there was a correlation between emotional intelligence and these two sub-factors of leadership. Corona (2010) studied the relationship between emotional intelligence and leadership among Hispanic American leaders and found a positive relationship. Jamali et al. (2008) studied the theories in a Lebanese context and found a relationship between the constructs, with some gender

differences. The male participants had higher scores in the areas of regulating and motivating self, while the female participants demonstrated higher scores in the areas of awareness, compassion, and skills related to positive relationships. In a study in Europe, Ryan, Emmerling & Spencer (2009) found that the expression of emotional intelligence and competencies varied depending on role demands. Organizational culture appeared to have had more influence on the relationship between emotional intelligence and leadership competencies than did national culture (Ryan et al., 2009). Engle and Nehrt (2011) studied emotional intelligence in correlation with conceptual ability and relationship management in the business context. This study was multinational, including respondents from the United States, Germany and France. Engle and Nehrt found that participants from the United States had greater levels of emotional intelligence than did participants in France and Germany. This difference was attributed to the participants in the United States having a greater predisposition toward a human orientation, which was used as a factor of culture.

A study of the impact of emotional intelligence and leader style on job performance of government employees in Nigeria found that emotional intelligence was one influencing factor on job performance, when combined with gender, age, marital status, education, and years of experience in that setting (Jimoh et al., 2012). The resultant recommendation was to incorporate emotional intelligence training into government workplaces (Jimoh et al., 2012). Farahani et al. (2011) studied the relationship between transformational leadership and organizational commitment in Iran, using emotional intelligence as a moderating factor. Farahani et al. found that emotional intelligence positively moderated the relationship between organizational commitment

and transformational leadership in Iran. A study in Italy of emotional, social and cognitive intelligence competencies found that these competencies predicted leader effectiveness (Boyatzis & Ratti, 2009).

Co-variables of leadership and emotional intelligence. There was some evidence presented suggesting gender, experience and level of education could be moderating factors of emotional intelligence (Singh & Kumar, 2009) and also an influencing factor between the relationship between emotional intelligence and leadership (Boyatzis & Saatcioglu, 2008; Hopkins & Bilimoria, 2008; Mikolajczak et al., 2007; Porterfield & Kleiner, 2005). Royr and Chaturvedi (2011) found that age and job experience had a significant positive correlation with emotional intelligence. Clarke (2006) found that on-the-job learning could improve level of emotional intelligence in a health care setting. Shipley et al. (2010) found that work experience was positively related to emotional intelligence, but that age was not. Age and gender were not found to be related to emotional intelligence when studied by Nasir and Masrur (2010). Cook et al. (2011) found that work experience increased level of emotional intelligence, making the case to incorporate opportunities to obtain work experience into accounting degree curricula.

Using a 360° assessment tool, gender was not found to be a factor of the demonstration of emotional and social intelligence competencies when top-level executives were studied (Hopkins & Bilimoria, 2008), but gender did influence the demonstration of leadership competencies, however (Hopkins & Bilimoria, 2008). Male leaders were viewed as being more successful when they displayed higher level of competencies, while women that displayed the same level of competencies were viewed

as less successful (Hopkins & Bilimoria, 2008). Lopez-Zafra, Garcia-Retamero, and Martos (2012) studied the relationship between transformational leadership, emotional intelligence and gender among undergraduate students in Spain, finding that emotional intelligence and gender roles influenced level of transformational leadership.

The results were not consistent, however. Carr (2009) found, when studying the emotional intelligence of medical students, that males scored higher in emotional intelligence than did females. Carr also found that Asian medical students scored higher in emotional intelligence than did White students. Furnham and Mansi (2011) found that when rating themselves females were more emotionally intelligent than were the males in the study. Furnham and Mansi noted the possibility of self-view influencing behavior and that the study could have different results if other-raters were included. Mikolajczak et al. (2007) found that females scored higher on trait emotional intelligence assessments than did males. Mikolajczak et al. suggested there could be a cultural overlay in that in America there has been a tendency to view the expression of emotions as unacceptable for males. While it was found that emotional intelligence and gender roles could predict transformational leadership, it was not found that gender itself impacted the relationship between emotional intelligence and leadership.

A study of the emotional intelligence of students in a college business program found an increase in emotional intelligence when comparing the student's freshman year to their senior year, suggesting that level of education would have a positive impact on the development of emotional intelligence (Ramos-Villarreal & Holland, 2011). Kiel, Bezboruah and Oyun (2009) described their method for incorporating emotional intelligence into a doctoral-level course, but did not describe whether the level of

emotional intelligence increased in students going through the course. Seal, Naumann, Scott and Royce-Davis (2011) developed an integrated model of emotional and social intelligence for specific application to students in college, but did not describe the results of implementing the model.

Relevance. Service and Fekula (2008) presented the idea that some emotional intelligence traits were uncontrollable and recommended that leaders develop the means to compensate for these weak areas. Morehouse (2007) suggested the importance of leaders understanding their own levels of emotional intelligence and carefully evaluating organizational culture in choosing a leadership position. Angelids and Ibrahim (2011) found that emotional intelligence was positively related with the ethical behaviors of managers. Angelides and Ibrahim recommended that emotional intelligence training be incorporated into business education programs as a means for increasing ethical behavior.

Limitations. The theory of emotional intelligence, as it relates to leadership, has been studied using a variety of means over the past two decades. While the theory itself was largely substantiated, there has not been consensus as to the specific details of emotional intelligence as it related to leadership effectiveness. A variety of research methods have been used to study the relationship between emotional intelligence and organizational leadership. An identified strength of the studies reviewed was that there were many recently published studies of emotional intelligence and leadership effectiveness using a variety of valid methodologies and statistical techniques in varied contexts. The participants of the studies represented a variety of industries.

Each of the studies reviewed added to the overall understanding of the relationship between emotional intelligence and leadership effectiveness, even though

individually there were some unanswered questions. A weakness of most of the studies reviewed was the limited scope of their sampling frame so the results could not be reliably generalized to the population of leaders. The other limitation was that most studies used self-assessment of participants without including 360° assessments by others. Some researchers (Barbuto & Burbach, 2006; Hawkins & Dulewicz, 2007; Kerr et al., 2006) supported the theory of emotional intelligence as a factor of effective leadership in general, but did not apply the constructs to the health care industry. Caruso, Mayer and Salovey (2003) suggested that the impact of emotional intelligence on leadership competencies varied depending on context and industry, suggesting more study was needed in order to apply the concept specifically to leadership in the health care industry.

Emotional Intelligence and Health Care Leadership

While researchers have demonstrated some correlation between emotional intelligence and leadership effectiveness or competencies in a variety of leader roles and industries, there were no readily identifiable quantitative studies identified that related emotional intelligence with the effectiveness of leaders in the health care industry. Health care organizations, by virtue of the nature of the services provided, are both technical and human relational or emotional in nature (Eason, 2009; Kilpatrick, 2009; Skakon et al. 2010). It might be expected that given this highly relational environment, effective leaders in health care settings would need to have high levels of emotional intelligence to be effective. Kilpatrick (2009) explained the role of humanism as it related to health leaders stating that it is essential to create a supportive and empowering environment for patients and employees. Kilpatrick noted the importance of health care

leaders embracing a service approach to their work more than a business or financial approach. Kilpatrick advocated for the adoption of a humanistic model of leadership in health care. Clarke (2006) studied emotional intelligence in the health care industry using a case study methodology and found some positive correlation. Alternatively, Skinner and Spurgeon (2005) studied the relationship between empathy and leadership behaviors in health care organizations and found that overall leadership ability did not seem to be specifically related to individual traits like empathy.

An exploratory study by Taylor et al. (2008) of leadership competencies in academic health care institutions found that emotional intelligence was characteristic of effective leaders. Eason (2009) studied emotional intelligence and its relationship specific to nursing managers and leaders and found a positive correlation. More recently, a mixed method study of faculty physicians and administrative leaders in health care organizations was done by Varkey et al. (2009). Varkey et al. found emotional intelligence to be an important quality for leaders. Larin et al. (2011) and Benson, Martin, Ploeg, and Wessel (2012) found emotional intelligence to be positively related with leadership and caring in undergraduate nursing programs.

Limitations. Further study could further clarify the degree to which emotional intelligence is a factor of health care leadership competencies. The findings of the aforementioned theoretical and qualitative works supported the need for further study, particularly in the form of quantitative study using 360° evaluations, to better understand the relationship between leadership competencies and emotional intelligence in health care settings. Another important limitation was the lack of agreement between the various models of emotional intelligence. While much of the literature supports the

concept of emotional intelligence as a factor in effective leadership, without a cohesive definition and model of emotional intelligence from which to study the relationship, it will be difficult to reach valid conclusions. If the theory of emotional intelligence could be clarified to the degree that there is a single definition of the construct, future study could better determine the degree to which emotional intelligence should be included in health care leadership competencies models.

Summary

Review of the literature in general suggests that emotional intelligence was a factor in leadership effectiveness. Porterfield and Kleiner (2005) reported that superior intelligence and education without emotional intelligence could not make an effective leader. The development of meaningful and effective leadership competency models is an important area for additional study because of the impact leaders have on organizations and the people working within them (Li & Wang, 2010; Muller & Turner, 2010; Robbins & Judge, 2007) and on patients (Greiner & Knebel, 2003; Kilpatrick, 2009). The identification of the specific competencies needed to be an effective leader in a health care organization would support the training, education, selection, and evaluation of leaders that could benefit health care organizations.

Qualitative studies of the impact of emotional intelligence on leadership effectiveness in health care organizations were reviewed (Clarke, 2006; Eason, 2009; Varkey et al., 2009). There were few quantitative studies of the relationship between emotional intelligence and leadership effectiveness in health care organizations found in the literature review overall. While emotional intelligence and leadership in general have been studied extensively, the relationship between health care leadership competencies

and emotional intelligence had been less thoroughly studied. Quantitatively studying leadership in health care organizations, as it relates to emotional intelligence, could determine whether and to what degree the theory would be as relevant in the health care industry as it was found to be in other industries. This might be important because, as Goleman (1998) suggested, each industry requires unique leadership competencies. Health care is an important industry in America so better understanding the competencies of health care leaders could guide the future of leadership development in this area. As competencies evolve to define the requisite competencies of effective leaders in health care organizations, the inclusion or exclusion of emotional intelligence as a valuable construct would support the training, education, selection, and evaluation of leaders in health care organizations.

Chapter 3: Research Method

The problem to be addressed by the current study is the difficulty in identifying the factors of health care leadership competencies (Calhoun et al., 2008b; Cangemi et al., 2008). The purpose of the current study was to examine whether emotional intelligence relates to leadership competencies among health care leaders. If emotional intelligence is positively related to health care leadership competencies, it could be explicitly included in the training, education, selection and evaluation of health care leaders in the United States to increase their competencies. Graduate health care administration programs could also be modified to include courses related specifically to the development of emotional intelligence. This research question was chosen because leadership competencies are important to the future of American health care systems (Calhoun et al., 2008a; Greiner & Knebel, 2003; Guo 2009; Stefl & Bontempo, 2008) and a better understanding of the factors influencing leadership competencies, as they apply to health care settings, could influence the future of the training, education, selection and evaluation of health care leaders. This chapter will review the research questions and hypotheses, as well as the research method and design, participants, measurement instruments, variables, and analysis. It will also include a discussion of the methodological assumptions, limitations and delimitations, and ethical considerations. There were two research questions and related hypotheses for the study.

Q1. What relationship, if any, exists between emotional intelligence and health care leadership competencies?

H1₀. There is no significant relationship between the degree of emotional intelligence and health care leadership competencies.

H1_a. There is a significant relationship between the degree of emotional intelligence and health care leadership competencies.

Q2. Controlling for gender, years of management experience and level of education, what is the relationship between emotional intelligence and health care leadership competencies?

H2₀. Controlling for gender, years of management experience, and level of education, there is no significant relationship between emotional intelligence and health care leadership competencies.

H2_a. Controlling for gender, years of management experience, and level of education, there is a significant relationship between emotional intelligence and health care leadership competencies.

Research Methods and Design

A quantitative, correlational research method was chosen for this study because it provides applicability to the industry geographically and in terms of specific types of health care systems. This design provides information about the relationship between health care leadership competencies and emotional intelligence (Creswell, 2009). The literature previously reviewed demonstrated that some exploratory research has been established to demonstrate a relationship between emotional intelligence and leadership in health care settings (e.g., Taylor et al., 2008; Varkey, et al., 2009). The intent of the current study was to further the knowledge and understanding of the relationship between emotional intelligence and health care leadership competencies through quantitative study. The convenience sample survey method was chosen because it provided a sample of data from which a correlation could be studied about the relationship between

emotional intelligence and health care leadership competencies (Creswell, 2009; Zikmund, 2003).

A qualitative method was not recommended because, while studying this problem qualitatively could add to the general body of knowledge or even validate earlier findings, it would not further the understanding of the degree or direction of relationship between emotional intelligence and leadership competencies (Cozby, 2009). If known, this knowledge could be generalized to the population of health care leaders and used to inform their development, education, selection and evaluation (Jackson, 2006; Cozby, 2009). A sequential mixed method would provide additional understanding of the role of emotional intelligence in health care leadership competencies, but it would be unnecessarily complex and time-consuming, given that other researchers have previously qualitatively established an apparent relationship between the two variables (Jackson, 2006).

The HAL-360 assessment instrument (Garman et al., 2004) was chosen to measure the variable of health care leadership competency. To study the variable of emotional intelligence, the ESCI[®] instrument (Boyatzis & Goleman, 2007) was chosen. Upon receiving permission from Dr. Garman, author of the HAL-360 instrument, and Elizabeth Nolan from the Hay Group, the current copyright holders of the ESCI[®] instrument (Appendix A and B), the assessment instruments were transcribed into SurveyMonkey[®], an Internet-based survey software. A sample of the population of health care managers and leaders in the United States was identified and included managers within the Benedictine Health System, members of the American College of

Healthcare Executives, and graduates of the health administration programs at Saint Joseph's College of Maine.

Upon approval by the Institutional Review Boards (IRBs) at Northcentral University and Saint Joseph's College of Maine, invitations to participate in the study were sent electronically to individuals within the identified sample population. The invitation included a link to the electronic surveys and information the participant forwarded to his or her other observers to complete the 360° aspect of the assessments. The design of the study provided numeric data upon which the relationship between the variables of emotional intelligence and health care leadership competency was analyzed. Upon receipt of the data, results were analyzed to determine whether or not there was a relationship between the total scores for emotional intelligence and health care leadership competencies.

Participants

The population of health care managers and administrators in the United States in 2008 included 614,600 individuals working in the spectrum of health care settings, including outpatient and ambulatory care centers, physician offices, home health care, dental offices, medical and diagnostic laboratories, hospitals, and nursing care facilities (US Bureau of Labor Statistics, 2010). Of the variety of health care settings in the United States, hospitals employed 34.6%, ambulatory health care services employed 42.6%, and nursing and residential care facilities employed 22.8% of the health care labor force (US Bureau of Labor Statistics, 2010). The study sought to include samples from each of these three general areas. Participants represented both genders, as well as a variety of years of management experience, and levels of education. A convenience sampling

method was used. This method was chosen because it was not feasible to include the entire population of health care administrators in the study due to the cost that would be required, as well as the resources that would have to be expended (Trochim & Donnelly, 2008).

Participants were solicited via three primary means. The American College of Healthcare Executives is a professional association of managers working in health care settings (ACHE, 2009). The association hosts a member-only group on the LinkedIn[®] web site. There were 1,162 managers participating in this online group. These individuals were invited to participate in the study via an announcement in the group discussion area. Because this group primarily represents hospital organizations, the invitation was also sent to managers working for the Benedictine Health System, which is a large long-term care organization that operates 40 facilities in the United States (Benedictine Health System, n.d.). A vice president-level leader agreed to disseminate the invitation to the 462 managers throughout the system (Appendix C). Finally, graduates of the health administration programs at Saint Joseph's College of Maine were invited to participate (Appendix D). Of these 6,000 graduates, current email addresses were available for 1,955 of them. These individuals worked within diverse types of health care settings in a variety of supervisory or manager positions. In total the invitation to participate was extended to 2,417 managers in health care settings, recognizing that the number of members of the ACHE group in LinkedIn[®] that actually read the general invitation posted there could not be accurately estimated.

In order to determine how many participants were needed to achieve a power of .80, an a priori power analysis was conducted using G*Power 3.1[®] (Faul et al., 2009).

An F-test of linear multiple regression, fixed model, single regression coefficient was used. An effect size of .2 was chosen because it represents a high-medium effect using this test and an acceptable level of alpha was set at .05. The required power was input at .80. A two-tailed test was used with four predictor variables. According to the results of the G*Power 3.1[©] calculation, the minimum sample size needed for the study was 42 participants.

Participants were provided the consent information (Appendix E), asked to complete the surveys (Appendix F), and were also requested to ask one superior, two peers and two subordinates to complete the surveys in reference to the participants' observed or experienced behaviors (Appendix G). Each participant was instructed to assign him or herself a unique personal identification number, which the 360° reviewers were asked to include in their survey responses so the results could be linked to the specific participant. While it was possible that more than one respondent would inadvertently choose the same personal identification number, the probability was small given the fact that the participants could choose any combination of numbers and letters. In the event that more than one participant had chosen the same personal identification number, their responses would have been excluded from the study. Valid responses included those participants for whom at least three individuals completed the 360° surveys reflecting the participants' performance. The participants for whom at least three 360° reviews were not received were excluded from the study, as suggested by Wolf (2006).

Instruments

The ESCI[©] instrument includes 68 assessment items with responses offered on a five-point Likert-type scale with responses coded as 1-Never, 2-Rarely, 3-Sometimes, 4-

Often, 5-Consistently, with the additional opportunities offered to choose *do not know* and *does not apply*, which were both coded as zero. The results of each participant's self-assessment and the 360° assessments of them were averaged together, resulting in an aggregate score representing that individual's degree of emotional intelligence.

The HAL-360 instrument includes 25 competency areas in which the individual was rated using a five-point Likert-type scale with responses coded as 1-Needs development, 2-Less than average performance, 3-Average performance, 4-Above average performance, and 5-Exceptional performance, with an option included of *not applicable/cannot judge* that was coded as zero. The results of the 360° evaluations for each participant were averaged with the results of that participant's self-assessment, resulting in a single score of health care leader competencies for each participant.

The validity and reliability of the current study was enhanced by the fact that both the ESCI[®] and the HAL-360 assessment instruments have been established based on research and documented substantiation by the developers of the surveys. Both reliability and validity had been previously established for the identified measurement instruments by Boyatzis and Goleman (2007) and Garman et al. (2004). Both of these measurement tools have also been used previously with documented results (Boyatzis & Goleman, 2007; Garman et al., 2004). In addition, the results of the current study were compared to previous results obtained by other researchers (Boyatzis & Goleman, 2007; Garman et al., 2004) using these measurement tools to further demonstrate their validity.

The ESCI[®] (Appendix F) was shown to demonstrate internal consistency, reliability, and test re-test reliability (Wolf, 2006). The reliability of the ESCI[®] instrument was calculated at an average of .78 on the Cronbach's alpha test for the 360°

reviewer instrument and .63 for the self-review instrument (Wolf, 2006). The lower reliability level of the self-review instrument substantiated the need to also use 360° reviewers to determine level of emotional intelligence. The validity of the instrument was established by correlating the results with other measures of self-awareness and the results were found to be consistent (Byrne, 2003). The validity of the ESCI[®] survey instruments was demonstrated by multiple studies (Byrne, 2003), including studies of leaders in colleges, graduate and undergraduate students and team performance (Byrne, 2003). Construct validity was demonstrated in a study by Byrne (2003).

The HAL-360 (Appendix F) was developed using “critical incident methodology” (Garman et al., 2004, p. 307) which was used as the basis of the competencies model. Pilot studies were undertaken to assess both the reliability and validity when compared to other leadership assessments. Two studies confirmed the reliability of the survey instrument. Internal consistency was measured using Cronbach’s alpha and was found to exceed .80 (Garman et al., 2004). Inter-rater agreement, as measured by rWG(j) (Cohen, Dovah, & Eick, 2001), ranged from .84 to .97 (Garman et al., 2004). Validity was verified through review by content experts and was tested through two research studies, one of health care students and one of leaders (Garman et al., 2004). Convergent validity was verified by comparing the results with other measures of leadership (Garman et al., 2004). The results of the HAL self-assessment were also correlated with the results of the 360° assessments and found to be significantly correlated.

Operational Definition of Variables

Emotional Intelligence. The emotional intelligence variable included the twelve competencies described by Boyatzis and Goleman (2007). These competencies were

emotional self-awareness, achievement orientation, adaptability, emotional self-control, positive outlook, empathy, organizational awareness, conflict management, coach and mentor, influence, inspirational leadership and teamwork. The ESCI[®], developed by Boyatzis and Goleman in 2007, was used to measure emotional intelligence. The ESCI[®] was based on a Likert-type scale describing how much the subject fit the specific emotional intelligence factor from least to most, resulting in a single interval score of emotional intelligence for each participant that ranged from zero to five (Wolff, 2006).

Health Care Leadership Competencies. The health care leadership competencies variable was assessed using the HAL-360 feedback instrument developed by Garman et al. (2004). This assessment instrument was developed as a result of a study intended to design a feedback survey for use in health administration organizations that included multisource feedback (Garman et al., 2004). This instrument measures 26 individual health care leadership competencies, grouped into seven categories. The assessment results in a single interval score ranging from one to five for each participant's degree of health care leadership competencies (Garman et al., 2004).

Gender. Gender was operationally defined as nominal data of either male or female. The nominal data obtained was coded as one for male and two for female (Zikmund, 2003). The data for this variable was collected from demographic questions included in the survey.

Years of Experience. Years of experience was operationally defined as ordinal data representing ranges of years. The ranges included 0 to five years, six to 10 years, 11 to 15 years, 16 to 20 years, and 21 years or more (Zikmund, 2003). The data for this variable was collected from demographic questions included in the survey.

Level of Education. The level of education variable was operationally defined as high school, some college, undergraduate degree and graduate degree and resulted in nominal data. The nominal data obtained was converted to ordinal data with a range of one to four to correspond with each level of education grouping (Zikmund, 2003). The source of the data was the demographic questions included in the survey.

Data Collection, Processing, and Analysis

A convenience sample of 2,417 potential respondents, identified as managers in health care organizations, were invited via e-mail and website posting from the researcher to participate in the online survey assessments. This large sampling frame was chosen because of the complexity of a study requiring 360° assessments of participants. Each respondent was asked to complete the Internet-based survey and to request that five others, including one superior, two subordinates, and two peers, complete the 360° survey of the respondent. The respondents were asked to choose a personal identification number and supply it to their other reviewers so the results could be matched. Responses in which the participant did not self-report to being a manager in a health care setting were excluded from study. In addition, respondents for whom at least three other-observers did not assess the observed behaviors were excluded from the study. The results were checked against the gender, level of education and type of health care employer representing the industry stratification of health care managers by these characteristics, as reported by the U.S. Bureau of Labor Statistics (2010). The target sample size was 42 health care managers and administrators, based on the power analysis previously mentioned.

The survey responses were collected via Internet-based SurveyMonkey[®] software. Respondent self-evaluation responses were matched with the corresponding 360° review responses by matching the personal identification numbers. The data gathering stage of the study was extended to six months from the original plan of one month due to the difficulty of obtaining a minimum of three 360° evaluations for each participant. A total of 43 valid participants were identified.

Emotional intelligence and health care leader competencies were assessed on a five-point Likert-type scale, resulting in a total score for each variable for each participant. These were considered interval data (Trochim & Donnelly, 2008). Total emotional intelligence and total health leader competencies scores were calculated by averaging the participant self-assessment score with at least three 360° or observer assessment scores.

The results were scored according to the specifications supplied with the survey instruments, resulting in a single score for emotional intelligence and a single score for health care leadership competencies. These scores were entered into SPSS[®] software (Carver & Nash, 2009) for each respondent. The nominal data for gender and ordinal data for years of management experience and level of education were also entered into SPSS[®] for each respondent.

The research questions to be answered were as follows:

Q1. What relationship, if any, exists between emotional intelligence and health care leadership competencies?

H1₀. There is no significant relationship between the degree of emotional intelligence and health care leadership competencies.

H1_a. There is a significant relationship between the degree of emotional intelligence and health care leadership competencies.

Q2. Controlling for gender, years of management experience and level of education, what is the relationship between emotional intelligence and health care leadership competencies?

H2₀. Controlling for gender, years of management experience, and level of education, there is no significant relationship between emotional intelligence and health care leadership competencies.

H2_a. Controlling for gender, years of management experience, and level of education, there is a significant relationship between emotional intelligence and health care leadership competencies.

The first regression analysis was used to determine if there was a relationship between emotional intelligence and health care leadership competencies. A second regression analysis was used to determine if there was a relationship between emotional intelligence and health care leadership competencies, controlling for gender, years of management experience and level of education (Zikmund, 2003). If the regression coefficient for emotional intelligence and health care leader competencies had not been significant, the null hypothesis would not have been rejected. If the coefficient was anything other than zero, and was significant, the null hypothesis would have been rejected in favor of the alternative hypothesis. The analytic strategy was valid because the goal for the primary research question was to identify whether or not there was a relationship between emotional intelligence and health care leadership competencies, without attempting to identify causation (Cozby, 2009). Multiple regression analysis was

the appropriate strategy for controlling for the co-variables (Cohen, Cohen, West, & Aiken, 2003).

Methodological Assumptions, Limitations, and Delimitations

Assumptions, limitations and delimitations were unavoidable in planning the current study. All efforts were made to mitigate potential weaknesses in how the data was interpreted and validated. Potential threats to internal and external validity based on the design of the study were specifically addressed. Delimitations were set intentionally to focus the study. The limitations of the study were also considered.

Assumptions. One assumption made was that the respondents would respond honestly and truthfully to the survey questions. A potential weakness of the study was that the participants could respond to the self-assessment or other-assessment items based on what they viewed to be socially desirable responses rather than his or her actual assessment or observation. With the assurance that the participant would not be receiving individual results, it was assumed the 360° reviewers would be comfortable giving honest answers. Another assumption made was that when asked whether or not the participant was currently working as a manager within a health care setting that the respondents would answer honestly. If a respondent indicated he or she was working as a manager in a health care setting but were not actually doing so, this would weaken the validity of the data. If any of the participants indicated they were not currently working as a manager in a health care organization, their data was excluded from the study.

Limitations. Recognizing it was not logistically feasible to assess the emotional intelligence and the leadership competencies of all health care managers in the United States, a convenience sampling method was used to obtain data and the results were

generalized to the long-term and acute health care settings. In addition, using an assessment instrument that required other observers to assess the participant complicated efforts to obtain a large sample of participants to represent the population. However, in order to obtain an accurate assessment of emotional intelligence and leadership competencies, it was necessary to include the supervisor, subordinates and observers' assessments. To offset this limitation, known entities and professional associations were used as an avenue for inviting participation in the study, resulting in a sample that was not representative of the larger population of health care administrators.

Potential threats, either internal or external, to the validity of the study were considered. Threats to internal validity were mitigated by avoiding the temptation to infer that the relationship between emotional intelligence and health care leader competencies was causal. In the current study, no attempt was made to establish causality (Trochim & Donnelly, 2008), but instead to establish that a relationship does or does not exist. An identified external threat to validity was the generalizability of the data obtained to the population of health care leaders. The use of a convenience sampling method resulted in a sample that did not entirely represent the population studied. In addition, the definition of health care managers and leaders could be construed differently in some settings and areas of the country, resulting in the inclusion or exclusion of some participants. In an effort to mitigate this threat, the manager in a health care setting was defined in the invitation to participate as an individual who has supervisory responsibility for at least one other individual.

The participants in the study were self-selected after being invited to participate. This could have limited the results of the study because the unwillingness to volunteer to

participate in the study could have eliminated individuals from the study that would have provided a more accurate representation of the population of health care administrators. It is possible that the willingness to volunteer was itself a bias of emotional intelligence or health care leadership competency. Another limitation was the fact that participants for whom at least three 360° assessments were not received were excluded from the study. The inability to obtain 360° assessments could have been a factor of a lack of emotional intelligence or health care leadership competencies itself, further limiting the representation of the population by the sample of participants.

A further limitation of the study was the small percentage of individuals who were invited to participate that actually chose to do so. While this could be explained at least partially by the pressures occurring in the health care industry with health care reform (Litvak & Bisognano, 2011), there may have been other unknown factors that precluded those invited from participating. This small rate of participation limits the generalizability of the results to the population studied. While 81 individuals did complete the self-assessment, adequate 360° assessments were only received for 43 of the participants.

Finally, the demographic information requested from the participants did not include other variables that may have limited the results or not adequately represented the population. The demographic information requested represented the co-variables of gender, years of management experience, and level of education. Participants were also asked in what level of their organization they currently worked. Nearly half (42%) of the participants reported working in senior executive positions within their organizations. A potential limitation of the current study would be whether or not the results of the study

would apply to all supervisor levels within an organization. It is also possible that the ethnicity, age of the participants, or other factors not identified may have influenced the findings and limited the generalizability of the results to the population.

Delimitations. An intentional choice was made to limit the scope of the study to managers in hospitals, long-term care facilities, and outpatient facilities in the United States. While it was assumed similar competencies and expectations would surround managers and leaders in health care settings in other countries, the current study was delimited to the United States. In addition, recognizing that there were many various types of health care organization within the United States, the decision was made to limit the study to participants working in either hospitals, long-term care settings or outpatient settings because these were the most commonly identified settings identified by the United States Department of Labor (2010).

Ethical Assurances

Informed consent was obtained from each participant and other observer on the first page of the assessment survey (Appendix C). When the participant clicked on the *next* button it signified they had agreed to participate based on the terms described. There was no risk of harm to the participants or their observers because they were only providing information in the form of an assessment. Once the individual participant responses were reviewed and matched with the other observer (360°) responses, the name, telephone number and email address were deleted from the data. The personal identification number, created by the participant, was used from that point forward to differentiate between participants in the study. In this manner confidentiality was maintained for the participants and supervisor, peer and subordinate observers. The

approval of the Institutional Review Board of Northcentral University and Saint Joseph's College of Maine were obtained before any data was collected for the study.

The current study was structured such that individual participants did not receive feedback about his or her scores on the assessments, depriving them of the potential to identify opportunities for development or enhancement of their competencies. During data analysis consideration was given to the potential dilemma of identifying a leadership competency deficiency but not reporting the information or even sharing it with the leader in question conflicts with the common core values of the health care profession (Littleton et al., 2010) in terms of truthfulness and honesty, as well as accountability, justice and beneficence. Even though the participants were notified in advance that their individual assessment results would not be shared with them, the potential dilemma also related to each general principle of the American College of Healthcare Executives (2007) and the American College of Health Care Administrators (ACHCA) (2010) leadership codes of ethics.

The health care leadership competencies the current study intended to measure were grouped into seven broad categories. These were charting the course, developing work relationships, broad influence, structuring the work environment, inspiring commitment, communication and self-management (Garman et al., 2004). Each of these categories had the potential to influence the individual participant's impact on his or her own profession, organization, employees or colleagues, and the individuals served, as well as society as a whole. If the researcher had identified a significant gap in a leader's competency this could have created a dilemma for this researcher in a number of ways, primarily related to the ethical responsibility to report identified problems. This problem,

however, did not occur as all participants in the study were found to have at least average health care leader competencies, based on overall score.

Health care leadership competencies are a cornerstone of professional ethics. As noted by the ACHCA (2010) code of ethics, “individuals shall maintain high standards of professional competence” (p. 1). In the context of the current study, there was a potential for identifying participants that were breaching professional ethics by virtue of not possessing the requisite competencies overall or in specific categories. Perhaps the most disturbing lack of competencies would be related to a lack of self-management. In the event that a participant in the study had been found to be seriously lacking in the self-management competence, the potential for damage to the profession, as well as to the individual, his or her organization and organizational stakeholders, could have been high. None of the participants were found to be seriously lacking in self-management, so this was not a concern.

The current study was based on quantitative research methods using a survey instrument accessed via the Internet. This degree of distance and anonymity of participants provided little information from which this researcher could report or act on an identified lack of competencies on the part of any one or more participants in the study, had any been identified. In addition, because participants were notified in advance that they would not have access to their individual assessment results, there was not an expectation that their participation in this study would provide them individual opportunities for personal assessment or ongoing leadership development. Participation did not provide a participant with leader-specific feedback that would assist them in

implementing a program of self-assessment and continuing development, as expected by the ACHE code of ethics (2007).

The ACHCA (2010) code of ethics specified that it was the responsibility of individual leaders to actively pursue additional knowledge and expertise in the field of long-term care administration. The study could not be viewed as an activity in which participants would obtain individual self-feedback, although the overall findings of the study could prove to be beneficial even to individual participants in a more broad sense. The resolution was to offer to send all individuals invited to participate in the study a copy of the conclusions of the study, if requested. In this manner, each individual, even if they chose not to participate in the study, would have the opportunity to assess his or her own competencies in relationship to the findings of the study. This could prompt an individual leader to seek out opportunities to assess and strengthen his or her own competencies, utilizing educational courses, leadership coaching or continuing education seminars.

Summary

The purpose of the current study was to determine whether or not emotional intelligence as a construct should be included in health care leadership competencies models. If emotional intelligence was found to be related to health care competency, graduate health care administration programs could be modified to include courses related specifically to the development of emotional intelligence. A competency model which included emotional intelligence could also be used as the basis for improving the training, education, selection, and evaluation of existing health care leaders.

Participants in the study included supervisors and managers from ambulatory care settings, hospital settings and long-term care settings for health care services. There were 43 participants in the study, of whom 14 (33%) were male and 29 (67%) female, roughly approximating the population studied. More than half (53%) of the participants reported having more than 15 years of experience working as a manager in a health care setting, while 19% had worked as a manager in a health care setting for five years or less. Only three participants did not have a college degree. Of the remaining 40 participants, half had earned an undergraduate degree and half had earned a graduate degree. The participants were mostly working in either a hospital or long-term care system, with only three participants reporting to be working in an ambulatory care facility. Nearly half of the participants were currently in senior management positions in their organizations.

Emotional intelligence was measured using the ESCI[®] instrument and health care leadership competency was measured using the HAL-360 instrument. The additional predictor variables of gender, years of management experience and level of education were assessed in a demographic section of the survey instrument. Multiple regression analysis was used to determine the relationship between emotional intelligence and health care leadership competencies, while controlling for gender, years of management experience and level of education. This quantitative study was intended to refine and further define the results of existing qualitative studies suggesting a relationship between emotional intelligence and leadership competencies, and broaden the scope of earlier quantitative studies showing a relationship between leadership competencies and emotional intelligence, extending it to the health care industry.

Chapter 4: Findings

The purpose of this quantitative, correlational study was to determine whether or not emotional intelligence should be included in health care leadership competency models. If emotional intelligence was found to be related to health care leadership competencies, graduate health care administration programs could be modified to include courses related specifically to the development of emotional intelligence. This chapter will discuss the results of the study and provide an analysis and interpretation of the results.

Results

In all, 81 participants completed the self-assessment survey and 142 completed 360° assessments were received, resulting in valid data for 43 participants, representing a two percent rate of return. This was not unexpected given the current stressors impacting health care managers with implementing health care reform and the confounding complexity of obtaining 360° evaluations from participant co-workers.

The level of education of the participants varied from one participant with only a high school education, two participants that had some college, 20 reporting having an undergraduate degree and 20 participants reporting having a graduate degree. This finding was consistent with the population being studied as reported by the U.S. Department of Labor (2010) that the level of education generally required for entry into this type of position was a bachelor's degree. Gender, years of experience and level of education were included as co-variates in the study that could impact the relationship between emotional intelligence and health care leader competencies.

Descriptive statistics were used to compare types of health care organization represented by the participants to the total population of health care leaders based on data from the US Bureau of Labor Statistics (2010), as well as participant frequency distribution for gender, years of experience, and level of education. Study participants were asked three demographic questions, relating to gender, years of experience, and level of education. The participant genders were 14 (33%) males and 29 (67%) females. This was roughly similar to the gender ratio of U.S. health care leaders (US Department of Labor, 2010). The number of years of management experience in the health care industry of the sample participants ranged from less than one year to more than 21 years. The years of management experience for the participants were somewhat unevenly distributed between each of the specified ranges of years of experience, with a higher concentration of participants in the higher ranges of years. The years of experience data was not identified for the target population studied. It was noted that the ratio distribution of the employer type of the participant sample was considerably different than that of the population studied, as noted in Table 4. This was not unexpected based on the manner in which the sample was recruited.

Table 4

Participant Sample Characteristics Compared to Target Population of U.S. Health Care Leaders

Characteristic	<i>n</i>	Sample (percent)	Target population (percent)
Gender			
male	14	33	29
female	29	67	71
Job title			
team/shift leader	0	0	-
supervisor	6	14	
manager	9	21	
mid-level manager	10	23	
senior executive	18	42	
Employer type			
ambulatory care facility	3	7	43
hospital or hospital system	16	37	35
long-term care facility/system	24	56	23
Years of experience			
<1-5	8	19	-
6-10	8	19	
11-15	4	9	
16-20	10	23	
20+	13	30	
Level of education			-
high school	1	1	
some college	2	5	
undergraduate degree	20	47	
graduate degree	20	47	
Total participants in sample	43	-	-

Descriptive analyses found the data for emotional intelligence and health care leader competencies to be normally distributed. The emotional intelligence variable had a skewness of -.17 and kurtosis of -.46 and the health care leadership competencies

variable had a skewness of -.02 and kurtosis of -.19. Shapiro-Wilk tests of normality were .30 for emotional intelligence and .70 for health care leadership competencies. These levels of skewness, kurtosis and normality were within acceptable range (Carver & Nash, 2009). The descriptive statistics for the emotional intelligence and health care leader competencies variables are noted in Table 5.

Table 5

Descriptive Statistics of Emotional Intelligence and Health Care Leader Competencies

	Minimum	Maximum	Mean	Std. Deviation
Total EI	3.4	4.8	4.2	.33
Total HLC	3.0	4.7	3.9	.38

Research Question 1. The first research question sought to determine whether there was a relationship between emotional intelligence and health care leadership competencies. The relationship between emotional intelligence and health care leadership competencies was found to be positive and significant, with a regression coefficient of .63 ($p < .001$), suggesting that as emotional intelligence increased, health leadership competencies also increased ($R^2 = .39$, $F(1, 43) = 26.36$, $p < .01$).

Research Question 2. The second research question related to whether or not emotional intelligence predicted health care leadership competencies, controlling for the combined effect of all of the co-variates. Results are reported in Table 6. Emotional intelligence was still found to be a significant predictor of health care leader competencies, as was years of management experience, but gender and level of education were not found to be significant predictors of health care leadership competencies.

Table 6

Regression Analysis of Emotional Intelligence with Health Care Leader Competencies, Controlling for Gender, Years of Management Experience, and Level of Education.

Predictor	Slope (<i>b</i>)	Standard error (<i>se</i>)	Standardized Regression (β)	<i>p</i> value	r^2
EI	.65	.15	.55	<.001	.42
Level of Ed	.02	.08	.27	.827	.02
Years of Exp	.07	.03	.27	.042	.09
Gender	.09	.07	.17	.202	.02

Evaluation of Findings

An analysis of the findings of the study is presented in this section. Multiple regression analyses were used to evaluate the relationship between emotional intelligence and health care leadership competencies, also controlling for the co-variates of gender, years of management experience and level of education. The two research questions with related hypotheses were answered with the findings. Regression analysis demonstrated that a one point increase in emotional intelligence related to a .63 increase in health care leadership competencies. The null hypothesis was rejected in favor of the alternative hypothesis. This finding was consistent with results previously reported (Allen et al., 2012; Barbuto & Burbach, 2006; Corona, 2010, Hawkins & Dulewicz, 2007; Kerr et al., 2006; Polychroniou, 2009; Riggio & Reichard, 2008; Tang et al., 2010). This finding was not consistent with the findings by other researchers (Brown et al., 2006; Dries & Pepermans, 2007; Lindebaum & Cartwright, 2010) that leadership abilities were not related to emotional intelligence. The current study does provide a response to Antonakis, Ashkanasy and Dasobrough's (2009) conclusion that more study was needed. The fact that 360° observed behaviors were used to determine level of emotional intelligence and health care leadership competencies provided evidence to offset the

concerns noted with self-evaluation (Furnham & Mansi, 2011). The results of the current study were consistent with Webb's (2009) assertion that while level of emotional intelligence could not predict leader competency, emotional intelligence was a factor among other factors that did impact leader competencies. It is important, however, to note that the generalizability of the study is limited due to having only 43 valid participants.

In terms of the second research question, emotional intelligence continued to significantly predict health care leader competencies, even when controlling for gender, years of experience and level of education. The null hypothesis was rejected in favor of the alternative hypothesis. In addition, the variable of years of experience was found to be a significant predictor, but gender and level of education were not. This finding was consistent with the results of previous studies showing that gender did not influence overall leadership competencies (Madden, 2011; Mohr & Hans-Joachim, 2008; Peachy & Burton, 2010). Previously Carr (2009) had found that gender did influence the relationship between emotional intelligence and leadership competencies in medical students, but this may have been because of the specific population studied. While the primary finding related to the relationship of emotional intelligence with health care leader competencies, of note was that, statistically, gender was not found to be significantly related to health care leader competencies. Years of management experience was significantly related to health care leader competency. This finding was consistent with that of researchers that had found a relationship between years of experience and leader competencies (Cook et al., 2011; Royr & Chaturvedi, 2011; Shipley et al., 2010).

Level of education did not significantly influence health care leader competency. This finding bears further study as there was a general assumption that increasing education will increase health care leader competencies based on past research (Arndt, 2007; Griffith, 2007; Micari et al., 2010). In the current study the variables of education and years of experience were both controlled for simultaneously, so there remains a question of whether level of education would have been significant if studied without the concurrent co-variable of years of management experience. Further study would be beneficial.

While the findings were significant for the 43 participants in the study, the sample studied was not representative of the target population in terms of type of health care organization in which the participants were employed. The ratio of participants studied that were working in hospitals was 33% which roughly approximated the population of 35% (US Department of Labor, 2010). The population of managers working in ambulatory care settings was 43% (US Department of Labor, 2010), while the sample only included two percent of participants working in ambulatory care settings, significantly under-representing that population. The ratio of managers working in nursing and residential care areas in the population was 23%, while participants in the sample studied represented 49%. This was primarily because these individuals were more likely to respond to the invitation to participate in the study because they had received the personal invitation from a vice-president in a large long-term care organization.

These findings extended the study of the relationship between emotional intelligence and leadership competencies to the health care industry. Previous qualitative

and mixed method studies (Clarke, 2006; Eason, 2009; Taylor et al. 2008; Varkey et al. 2009) had found a relationship between emotional intelligence and health care leadership competencies. The current study added to the body of knowledge by studying the relationship quantitatively. The conceptual frameworks of organizational leadership, health care leadership competencies, and emotional intelligence were furthered by the study and ground work was provided for additional study in these areas. The current study may be used to influence the future education, training and development of current and future health care leaders.

Summary

The purpose of this quantitative, correlational study was to determine whether or not emotional intelligence, as a construct, should be included in health care leadership competencies models. Regression analyses were used to answer the two research questions and related hypotheses. The first research question was whether or not there was a relationship between emotional intelligence and health care leader competencies. The results demonstrated that there was a significant and positive relationship between these two constructs. The second research question related to whether the relationship between emotional intelligence and health care leadership competencies remained when controlling for the combined effect of the co-variables of gender, years of management experience and level of education. The results demonstrated that the relationship between emotional intelligence and health care leadership competencies held true even when the co-variables were controlled. The results also suggested that years of management experience had a significant relationship with health care leader

competencies, but gender and level of education did not. It is recommended that further study be done, however, because of the low response rate to the current study.

The results of the current study were generally consistent in relation to the literature reviewed in that emotional intelligence and leadership were positively related. The current study extended the literature to examine this relationship in the health care industry. The findings related to the co-variables were also relatively consistent with the literature reviewed that indicated there was not a significant relationship between gender and leadership competencies, and that years of management experience were positively related to leadership competencies (Cook et al., 2011; Royr & Chaturvedi, 2011; Shipley et al., 2010). The current finding that level of education was not related to leadership competencies was inconsistent with the literature reviewed (Arndt, 2007; Griffith, 2007; Micari et al., 2010), but this may be a result of using a combined regression analysis that also included years of management experience. Further study is suggested.

Chapter 5: Implications, Recommendations, and Conclusions

The problem to be addressed in this study is the difficulty in identifying the factors of health care leadership competencies (Calhoun et al., 2008b; Cangemi et al, 2008). The purpose of this quantitative, correlational study was to determine whether or not emotional intelligence should be included in health care leadership competencies models. The research questions were chosen because leadership competencies are important to the future of American health care systems (Calhoun et al., 2008a; Greiner & Knebel, 2003; Guo 2009; Stefl & Bontempo, 2008) and a better understanding of the factors influencing leadership competencies, as they apply to health care settings, could influence the future of the training, education, selection and evaluation of health care leaders.

A quantitative, correlational method was used to approach the research questions. The population studied was limited to managers working in long-term, acute, and outpatient health care settings. The ESCI[®] (Boyatzis & Goleman, 2007) and HAL-360 (Garman et al, 2004) assessments were used to measure the variables of emotional intelligence and health care leadership competencies. Both assessment instruments required the inclusion of 360° assessment to reach relevant values for the two variables. Invitations to participate were sent to 2,417 health care managers in the United States. Self-assessments were received from 81 of the potential participants, with 142 completed 360° assessments received, resulting in 43 valid participants in the study. The sample size was limited due to the complexity of obtaining at least three 360° evaluations for each participant. Demographic data collected from the participants found the sample was relatively representative of the population being studied in terms of gender and level of

education, but the population of managers in ambulatory care settings was under-represented in the sample, while the population of managers working in nursing and residential care organizations was over-represented. In this way, the sample was not a strong representation of the population being studied. Regression analyses were used to examine the relationship between emotional intelligence and health care leadership competencies, and the co-variables of gender, years of management education and level of education.

Limitations of the current study included the fact that the sample size did not entirely represent the population studied. This was partially due to the complexity of obtaining a minimum of three 360° reviews for each participant, resulting in a small sample studied. The other factor influencing the lack of consistency of employer type for the sample and the population related to the difficulty in obtaining the participation of individuals working in the outpatient setting, due to the size and variety of outpatient health settings in the U.S. Individuals that did participate in the study did not represent the target population studied in terms of employer type in that more than half of the participants reported working in a long-term care setting (56%), while in the population less than a quarter (23%) work in the long-term care setting. Correspondingly, nearly half (43%) of the population worked in ambulatory care facilities, but only three (7%) of the participants worked in ambulatory care centers. The ratio of participants working in hospital systems (37%) was roughly similar to that of the population (35%). A limitation of the current study is that the ambulatory care employer type was significantly under-represented, while the employer type of long-term care facility was significantly over-represented. The low response rate and the willingness to volunteer limits the

generalizability of the results of the study by excluding those individuals that were invited but were unwilling or unable to participate. Finally, another limitation was that individuals who chose to participate but could not obtain enough 360° evaluations were excluded from the findings, which may have impacted the results.

The primary ethical dimension of the study that could have occurred was if any of the participants had been found to have extremely low health leader competencies based on the data received. If this had occurred, the researcher may have perceived an ethical responsibility to follow up with the participant (ACHE, 2009). The results of the assessments, however, found that the participant scores for health care leader competencies ranged from 3.0 to 4.7, corresponding with at least average performance for each participant. None of the participants were found to have less than an average performance, removing the potential ethical concern for the author.

The study addressed the problem of better understanding the relevant factors of health care leader competencies and the purpose of determining whether emotional intelligence should be included in the training, education, selection and evaluation of health care leaders. The findings were consistent with the literature reviewed that reported a relationship between emotional intelligence and leadership in general, and extended the literature to specifically include the health care industry. This chapter will discuss the implications and conclusions of the study, and will offer recommendations, as well as suggestions, for future study.

Implications

There were two research questions and related hypotheses identified for the study. Each question will be discussed separately, with logical conclusions described. Potential

limitations will be discussed, with a description of how the limitations may have impacted the interpretation of the results. The association with the purpose, significance and existing literature will be described. The two questions to be answered by the current study were whether there was a relationship between emotional intelligence and health care leader competencies, and whether the relationship remained when gender, years of management experience, and level of education were controlled.

Relationship between health care leadership competencies and emotional intelligence. The results of the study in response to this question demonstrated a positive relationship between emotional intelligence and health care leadership competencies. Regression analysis demonstrated that a one point increase in emotional intelligence related to a .63 increase in health care leadership competencies. The null hypothesis was rejected in favor of the alternative hypothesis that emotional intelligence and health care leadership competencies are significantly related. The finding of a positive relationship between emotional intelligence and health care leadership competencies was significant and consistent with much of the recently published literature discussed in chapter two (e.g., Clarke, 2006; Eason, 2009; Varkey et al., 2009). While the current study could not establish causality, because emotional intelligence was found to be positively related to health care leader competencies, emotional intelligence should be considered for inclusion in health care leader competency models. It is recommended that health care organizations incorporate training in emotional intelligence into leadership development curricula and that graduate programs in health care administration incorporate the construct of emotional intelligence into curricula, with the specific intent of increasing the emotional intelligence of the graduates. Additionally, health care organizations

should consider using level of emotional intelligence as one of the various considerations when hiring new leaders and evaluating current leaders.

A limitation of this study was the difficulty in defining and measuring emotional intelligence. While the current study was based on a mixed-model of emotional intelligence, given the wide disparity between ability-based models, trait-based models and mixed models of emotional intelligence (Goleman, 1998; Petrides, 2010; Salovey & Mayer, 1990), assumptions should not be made that the same results would be obtained if a different model of emotional intelligence had been used. The model used for health care leadership competencies was based more on leadership behavior than the technical abilities of health care administrators, which also may have influenced the findings. Finally, the participant sample was not strongly matched to the population, specifically in terms of employer type, making it difficult to safely extrapolate the findings to the larger population of health care administrators in the United States.

Relationship between emotional intelligence and health care leader competencies, when gender, years of management experience, and level of education were controlled. When regression analysis was performed including all of the co-variates, emotional intelligence predicted health care leader competencies. This is important because it strengthens the finding of the relationship between emotional intelligence and health care leadership competencies, even when co-variates were considered. Of note, there was no statistically significant correlation between level of education and health care leadership competencies. As noted by the U.S. Department of Labor (2010), the entry level of education required for a health care services manager position was a bachelor's degree. All but three of the participants in the current study

had attained at least a bachelor's degree level of education. Of those forty participants with at least a bachelor's degree, half had also obtained a graduate degree.

With the finding of the current study that level of education was not a significant predictor of health care leadership competencies, the assumption could be made that graduate education did not increase competencies in health care administrators. However, because the co-variate of years of management experience was also included, this might have obscured the relationship between education and health care leader competencies. Also of note is that the health care leadership competencies model chosen for the current study was focused more on individual leadership behaviors in relation to working with people. There were few competencies in the HAL-360 model related to organizational development and execution, and none related to the technical categories required to effectively lead a health care organization. Many health administration degree programs are less oriented to leadership behavior domains and more strongly focused on the technical areas of health care administration (Griffith, 2007). It is possible that if the Healthcare Leadership Alliance Model (HLA) or the Health Leadership Competency Model (HLCM) of health care leadership competencies had been used in the current study there could have been found a stronger relationship between level of education and health leadership competencies.

An alternative assumption could be that if graduate health administration programs were more focused on the development of leadership behaviors, a significant relationship between level of education and leadership competencies might have been found. Some researchers specifically included emotional intelligence in business administration curriculum (Kiel et al., 2009; Ramos-Villarreal & Holland, 2011; Seal et

al., 2011) and found that level of emotional intelligence could be increased, but the researchers did not specifically correlate that finding with leadership competencies. An additional limitation of this study was that nearly two-thirds (65%) of the participants self-identified as a senior or mid-level leaders. The remaining one-third (35%) of the participants self-identified as being a supervisor or manager level of leader. To more clearly understand the influence of level of education, it may be important to isolate the level of leader position in the design of studies in the future.

The results of the current study added to the body of literature related to leadership and emotional intelligence and specifically applied the relationship to leaders in the health care industry. The finding that there was a positive relationship between emotional intelligence and health care leadership competency was consistent with the findings of researchers when relating emotional intelligence to leadership in other industries (Abraham, 2006; Barbuto & Burbach, 2006; Boyatzis & Saatchioglu, 2008; Brown et al. 2006; Cangemi et al., 2008; Colfax et al., 2010; Dries & Pepermans, 2007; Hawkins & Dulewicz, 2007; Hopkins & Bilimoria, 2008; Kerr et al., 2006; Porterfield & Kleiner, 2005; Rosete & Ciarrochi, 2005; Singh & Kumar, 2009).

Recommendations

Based on the results of the current study, recommendations could be made for the inclusion of mixed-models of emotional intelligence in the hiring, training, selection and evaluation of health care leaders. A recommendation could also be made for including mixed-models of emotional intelligence in the curricula in the higher education of future health care leaders. In terms of future research, the recommendation could be made to isolate the leadership level of participant to more adequately understand any differences

that may be found in senior and mid-level executives as compared to managers and supervisors. This could be an important distinction, if a difference was found. The largest barrier to overcome in future research would be the operationalization of emotional intelligence as being ability-based, trait-based or mixed-method and how it should be measured. Additionally, using a different model of health care leadership competencies could also yield different results. One strength of the current study was the inclusion of 360° evaluations to mitigate the tendency of individuals to have inaccurate self-perception of their emotional intelligence and their leader competencies (Evans, 2007), although this factor also made obtaining enough participants in the study a challenge.

The current study found a statistically significant relationship between emotional intelligence and health care leadership competencies in a positive direction. Years of management experience also demonstrated a positive relationship with health care leadership competencies. Based on these findings, it is recommended that further study be undertaken to determine if other models of emotional intelligence and health care leadership competencies would demonstrate similar results. In addition, it is recommended that a larger sample of health care leaders be included in future study that would more accurately represent the population of health care leaders. The inclusion of emotional intelligence in the curricula of undergraduate and graduate degree programs may also be considered.

Conclusions

The purpose of the study was to determine whether or not emotional intelligence should be included in health care leadership competency models. A quantitative,

correlational study was undertaken to determine whether there was a relationship between emotional intelligence and health care leadership competencies. It was found that, for the sample studied, emotional intelligence was positively related to health care leadership competencies, even when controlling for gender, education, and years of experience. Based on these results, it is suggested that further study is needed using other models of emotional intelligence and health care leadership competencies to validate the results of the current study. In addition, consideration should be given to including the theory of emotional intelligence more explicitly in health care leadership competency models.

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Appendix

Appendix A: Permission to Use HAL-360

From: Andy_N_Garman@rush.edu [mailto:Andy_N_Garman@rush.edu]
Sent: Saturday, May 22, 2010 9:02 AM
To: Twila Weiszbrod
Subject: RE: research re. leadership competency

Hi Twila, see notes below (==>)

1. Use the survey in the two courses (one graduate and one undergraduate) in which your book (Exceptional Leadership) will be a required text. We intend to use the survey responses to provide individual feedback to students. We will also require students to complete the assessment survey again in the context of their capstone course for the MHA. The aggregate data at the beginning of their program and again at the end will provide a framework for comparison.

==> You have my formal permission to use the model for this purpose, regardless of whether you use the text you mention. It's intended to be a non-commercial ('open source') competency model. I want to note the HAL and the Exceptional Leadership competency models differ due to their different goals and development methods and goals; I suggest crosswalking them (or asking the student to) during the course to avoid the possibility of confusing the students. If you prefer to do this yourself before the class starts, let me know - I could make an attempt independently and we could compare notes if you like.

2. We intend to use the aggregate data to report how well our MHA program is (or is not) shaping students in terms of health care leadership competencies based on your model. This will become a quality improvement tool for us.

==> This is a very good way to use the data stemming from the use of a competency model (and you have my permission to do so).

3. I will use the survey as one of two assessment tools to gather data for my dissertation. The topic is "examining the relationship between healthcare competencies and emotional intelligence." Please let me know if I have your permission to do this.

==> Permission granted.

Appendix B: Permission to Use ESCI®

From: Elizabeth Nolan [mailto:Elizabeth.Nolan@haygroup.com]
Sent: Monday, April 05, 2010 12:19 PM
To: Twila Weiszbrod
Subject: RE: Research Proposal for permission to use ESCI

Hi Twila,

We received your signed agreements by mail and I've looked through your proposal. Your research looks very interesting and well-designed. I have one question about your number of raters. Typically, we require 4 or more raters when providing the instrument for research purposes. This helps ensure that enough data is collected, since we've observed many cases in which some of the selected raters have not completed the surveys. Would it be possible to add another rater or two to your design (perhaps another peer or subordinate)?

Aside from that, your proposal looks great and I plan to approve your request.

Best,
Elizabeth

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Appendix C: Permission to Invite BHS Participants

From: Steven Chies
Sent: Tuesday, August 31, 2010 11:21 PM
To: Twila Weiszbrod
Subject: RE: Research Question

Twila

I don't see a problem in offering it to our facility CEO's.
Steven Chies
Instructor HA 214

From: Twila Weiszbrod
Sent: Monday, August 30, 2010 10:12 AM
To: Steven Chies; Jon Abeles
Subject: Research Question

As I progress toward the research stage of my dissertation, it is my understanding that you have agreed to offer the managers in your organization the opportunity to participate as subjects in this study. Would it be possible to obtain this from you in writing at this time? I need to include it in my concept/proposal document.

By way of reminder, I am studying the relationship between emotional intelligence and healthcare leadership competencies. The research entails having each participant complete an online self-assessment survey using the Emotional and Social Competency Inventory (ESCI) created by Dr. Daniel Goleman and the HAL-360 developed by Dr. Andrew Garman. The participants will then ask at least one superior, one peer and one subordinate to evaluate them using the same assessment tools. Both of these assessment tools require 360 evaluation to be valid. Individual results of the evaluations will not be shared with participants, but the aggregated final results of the study will be available upon completion of my dissertation.

I need to extend the invitation to participate in the study to at least 1500 health care managers and I need at least 134 actual participants (defined as those that complete the survey and obtain 360 results from 3 relevant others) to validate the study.

I will attach here the latest version of my concept paper if you would like to see more detail. Please let me know if you need any additional information or if you have any questions.

Thank you so much!

Twila

Twila Weiszbrod, MPA
Director, Health Administration Programs
Saint Joseph's College of Maine

Appendix D: Permission to Invite Alumni of SJC Health Administration Programs

Twila Weiszbrod

From: Heather Plati
Sent: Tuesday, February 15, 2011 8:38 AM
To: Twila Weiszbrod
Subject: Permission to contact alumni

Dear Twila –

I am approving your request to contact the alumni of the Master's of Health Administration program at Saint Joseph's College for the purpose of research towards your dissertation. Please let me know if you need further assistance.

Thank you

Heather

Heather Plati
Director of Annual Giving
Saint Joseph's College
278 Whites Bridge Road
Standish, ME 04084
Phone: 207-893-7898
Fax: 207-893-7897
hplati@sjcme.edu
www.sjcme.edu

Appendix E: Informed Consent

1. Consent to Participate

AUTHORIZATION TO USE AND DISCLOSE INFORMATION

Informed Consent

Description

This survey should take you approximately 30 minutes to complete.

I have freely chosen to participate in this voluntary, anonymous research survey designed to provide information about healthcare leadership competencies.

This survey is done over the Internet using a check box format. I agree to permit the researcher, Twila Weiszbrod, to obtain, use and disclose the anonymous information provided as described below.

Conditions and Stipulations

1. I understand that all information is confidential. I will not be personally identified in any reports. I agree to complete the online survey for research purposes and that the data derived from this anonymous survey may be made available for the general public in the form of public presentations, journals or newspaper articles, and/or in books.
2. I understand the online survey involves questions about emotional intelligence and leadership competencies. Beyond demographics, all questions will address issues concerning my perception of my skills in terms of emotional intelligence and leadership competencies.
3. I understand that my participation in this research survey is totally voluntary, and that declining to participate will involve no penalty or loss of benefits. Choosing not to participate will not affect my employment or professional standing in any way. If I choose, I may withdraw my participation at any time. I also understand that if I choose to participate, that I may decline to answer any question that I am not comfortable answering.
4. I understand that I can contact the researcher, Twila Weiszbrod, at 207-809-9844 if I have any questions about the research survey and my rights as a participant. I am aware that my consent will not directly benefit me, but will provide data for the research and analysis purposes.
5. By clicking below I freely provide consent and acknowledge my rights as a voluntary research participant as outlined above and provide consent to the researcher, Twila Weiszbrod, to use my information in evaluating healthcare leadership competencies.

5. Inspiring Commitment

For each leadership competency noted below, rate your current performance

Building Trust	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Listening/Feedback	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Receiving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tenacity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-Presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Communication

For each leadership competency noted below, rate your current performance

Energizing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crafting Messages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speaking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Self-Management

For each leadership competency noted below, rate your current performance

Managing Limits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Balance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resilience/Self-Restraint	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Respondent Information

The following information will be used for analysis purposes only.

*1. Demographic Information

Name:

State:

Email Address:

Phone Number:

2. Gender

- Male
 Female

3. Years of management/leadership experience

- 0 to 5 years
 5 to 10 years
 11 to 15 years
 15 to 20 years
 21 years or more

4. Current Job Title/Organizational Level

- Line staff
 Team or Shift Leader
 Supervisor
 Manager
 Mid-Level Executive
 Senior Executive

5. Current Employer Type

- Ambulatory Care Facility
- Consulting Firm
- Healthcare Association
- Hospital or Hospital System
- Long-Term Care Facility
- Other Rehabilitation or residential Facility
- Home Health Agency
- Hospice
- Managed Care Organization
- Medical Group Practice
- Mental Health Organization
- Public Health Department
- University or Research Institution
- Other Healthcare Services
- Not working in Healthcare

6. Indicate the highest level of education you have attained.

- High school
- Some College
- Undergraduate Degree
- Graduate Degree

7. Enter a ten digit personal identification number (PIN) here. You may use random letters and numbers. Please note your PIN and refer to it when you ask your other-observers to complete their assessment of you.

Appendix G: Other Observer Rating Instrument

Leadership Assessment - 360 view

2. Part 1 - Healthcare Leadership Competencies

The following assessment was developed by Dr. Andrew Garman and is intended to assess the healthcare leadership competencies of your identified co-worker. Respond to each description as honestly as you can, as it relates to your co-worker's current performance.

1. Charting the Course

For each leadership competency noted below, rate your perception of your co-worker's current performance

	Needs Development	Less than Average Performance	Average Performance	Above Average Performance	Exceptional Performance	Not Applicable/Cannot Judge
Strategic Vision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Innovativeness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Systems Thinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flexibility/Adaptability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Developing Work Relationships

For each leadership competency noted below, rate your perception of your co-worker's current performance

	Needs Development	Less than Average Performance	Average Performance	Above Average Performance	Exceptional Performance	Not Applicable/Cannot Judge
Individual Understanding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mentoring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physician/Clinician Relations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Broad Influence

For each leadership competency noted below, rate your perception of your co-worker's current performance

	Needs Development	Less than Average Performance	Average Performance	Above Average Performance	Exceptional Performance	Not Applicable/Cannot Judge
Consensus Building	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Persuasiveness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Political Skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collaboration/Team Building	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Leadership Assessment - 360 view

4. Structuring the Work Environment

For each leadership competency noted below, rate your perception of your co-worker's current performance

	Needs Development	Less than Average Performance	Average Performance	Above Average Performance	Exceptional Performance	Not Applicable/Cannot Judge
Work Design and Coordination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feedback Giving/Performance Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of Meetings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decision Making	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Inspiring Commitment

For each leadership competency noted below, rate your perception of your co-worker's current performance

Building Trust	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Listening/Feedback Receiving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tenacity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-Presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Communication

For each leadership competency noted below, rate your perception of your co-worker's current performance

Energizing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crafting Messages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speaking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Self-Management

For each leadership competency noted below, rate your perception of your co-worker's current performance

Managing Limits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Balance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resilience/Self-Restraint	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Leadership Assessment - 360 view

3. Part 2 - ESCI

The following questions reflect the Emotional Social Competency Inventory (ESCI), created by Boyatzis & Goleman, 2007. Distributed worldwide by Hay Group. Used with permission.

Instructions:

The following statements reflect behaviors that you may or may not have observed in the individual you are rating. You will be asked to report on your experiences with this person. Please respond to all items by filling in the circle that is closest to your observation and experience with this person.

It should take you less than 20 minutes to complete this questionnaire. Each item in the questionnaire describes a work-related behavior. Think about your experiences with this individual over the previous 12 months. Then, use the scale below to indicate how frequently you have observed each behavior.

Please try to respond to all of the items. If for some reason an item does not apply to this individual or you have not had an opportunity to observe any particular behavior then choose, "Don't know."

Thank you for your participation.

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1. Please carefully respond to each survey item below. The person you are rating:

	Never	Rarely	Sometimes	Often	Consistently	Don't know	Not Applicable/Cannot Judge
1. Anticipates how others will respond when trying to convince them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Works well in teams by encouraging cooperation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Convinces others by developing behind the scenes support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Initiates actions to improve own performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Does not cooperate with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Coaches and mentors others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Loses composure when under stress	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Sees possibilities more than problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Shows awareness of own feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Remains calm in stressful situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Understands the informal processes by which work gets done in the team or organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Understands the team's or organization's unspoken rules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Convinces others by getting support from key people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Adapts to shifting priorities and rapid change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Does not try to improve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Convinces others through discussion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Able to describe how own feelings affect own actions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Seeks to improve own self by setting measurable and challenging goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Seeks ways to do things better	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Understands the values and culture of the team or organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Sees the positive in people, situations, and	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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events more than the negative							
22. Convinces others by appealing to their self-interest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Views the future with hope	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Adapts by applying standard procedures flexibly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Understands others' perspectives when they are different from own perspective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. Remains composed, even in trying moments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. Understands social networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. Understands others by listening attentively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. Acknowledges own strengths and weaknesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. Does not spend time developing others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. Does not inspire followers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. Sees opportunities more than threats	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33. Works well in teams by being supportive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. Provides on-going mentoring or coaching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. Sees the positive side of a difficult situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. Tries to resolve conflict instead of allowing it to fester	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37. Personally invests time and effort in developing others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38. Cares about others and their development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39. Works well in teams by soliciting others' input	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40. Controls impulses appropriately in situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
41. Acts appropriately even in emotionally charged situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
42. Is aware of the connection between what is happening and own feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
43. Does not strive to improve own performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. Has difficulty adapting to uncertain and changing conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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45. Believes the future will be better than the past	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
46. Resolves conflict by bringing it into the open	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
47. Leads by inspiring people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
48. Adapts by smoothly juggling multiple demands	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
49. Does not understand the subtle feelings of others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
50. Understands another person's motivation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
51. Allows conflict to fester	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
52. Understands the informal structure in the team or organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
53. Adapts overall strategy, goals, or projects to fit the situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
54. Resolves conflict by de-escalating the emotions in a situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
55. Describes underlying reasons for own feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
56. Works well in teams by encouraging participation of everyone present	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
57. Leads by articulating a compelling vision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
58. Does not describe own feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
59. Tries to resolve conflict by openly talking about disagreements with those involved	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
60. Understands others by putting self into others' shoes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
61. Works well in teams by being respectful of others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
62. Provides feedback others find helpful for their development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
63. Leads by building pride in the group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
64. Gets impatient or shows frustration inappropriately	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
65. Adapts overall strategy, goals, or projects to cope with unexpected events	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
66. Strives to improve own performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
67. Leads by bringing out the best in people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
68. Convinces others by using multiple strategies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Leadership Assessment - 360 view**4. Respondent Information**

The following information will be used for analysis purposes only.

- * **1. My co-worker's person identification number (PIN) is:**

- 2. Relationship with research participant**

Subordinate

Peer

Superior

- * **3. Please note the following information for yourself as an other observer of a participant in this study.**

Name:

State:

Email Address:

Phone Number:

- 4. Gender**

Male

Female

- 5. Age**

18 to 25 years

26 to 35 years

36 to 45 years

46 to 55 years

56 to 65 years

66+ years

- 6. Current Job Title/Organizational Level**

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- Ambulatory Care Facility
- Consulting Firm
- Healthcare Association
- Hospital or Hospital System
- Long-Term Care Facility
- Other Rehabilitation or residential Facility
- Home Health Agency
- Hospice
- Managed Care Organization
- Medical Group Practice
- Mental Health Organization
- Public Health Department
- University or Research Institution
- Other Healthcare Services
- Not working in Healthcare

7. Indicate the highest level of education you have attained.

- High school
- Some College
- Undergraduate Degree
- Graduate Degree