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# An Assessment of the Relationship Between the Hospital Chief Executive Officer's Leadership Behaviors and Hospital Success

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AN ASSESSMENT OF THE RELATIONSHIP BETWEEN THE HOSPITAL CHIEF  
EXECUTIVE OFFICER'S LEADERSHIP BEHAVIORS  
AND HOSPITAL SUCCESS

by

NEWTON J COURTNEY

A DISSERTATION

Presented to the Faculty of the University of the Incarnate Word  
in partial fulfillment of the requirements  
for the degree of

DOCTOR OF PHILOSOPHY

UNIVERSITY OF THE INCARNATE WORD

May 2015

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Newton J Courtney

## DEDICATION

This work is dedicated to my mother, Dorothy R. Courtney, who made many sacrifices throughout her life. The completion of this journey fulfills a promise I made to her many years ago, and I regret the fact that she is not here to enjoy it with me. Her endless love and support made me who I am.

AN ASSESSMENT OF THE RELATIONSHIP BETWEEN THE HOSPITAL CHIEF  
EXECUTIVE OFFICER'S LEADERSHIP BEHAVIORS  
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Newton J Courtney, PhD

University of the Incarnate Word, 2015

The health care delivery system in the United States has received increased attention over the last 2 decades. Concerns of access, choice, cost, and quality have been in the forefront. This study was conducted to assess the leadership behaviors of hospitals' chief executive officers and how they impact the performance of hospitals. Two instruments were used to collect the data for the study: the Multifactor Leadership Questionnaire (MLQ-5X; Avolio & Bass, 2004) and a demographics questionnaire.

A correlational research design was used to measure the degree of association between variables related to hospital CEOs, the hospitals they represented and hospital success as measured by operating margin and center of excellence designation. Hospitals with an operating margin of 8% or greater were considered successful as were hospitals with 2 or more centers of excellence. In assessing CEO leadership, the research focused on 9 MLQ-5X behaviors: 5 transformational, 2 transactional, and 2 laissez-faire. In this study, 2 transformational leadership behaviors, Idealized influence (IIB) and Inspirational motivation (IM) were found to be positively associated with operating margin. Further, for-profit hospitals had higher margins than non-profit hospitals and larger hospitals had a greater chance of having 2 or more modalities

of excellence. Finally, hospitals with female CEOs had larger operating margins than those with male CEOs.



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## Chapter 1: Managed Health Care

The Social Security amendments of 1965 added new sections to the Social Security Act: Title XVIII, *Health Insurance for the Aged*, and Title XIX, *Grants to the States for Medical Assistance Payments*; these became known as “Medicare” and “Medicaid,” respectively (Wilson & Neuhauser, 1976). Since 1965, increased regulations and complexity have occurred in how health care is financed and delivered in the United States.

For the last four decades health care providers, especially hospitals, have struggled to survive with the consistent reduction in payment for services from the government and private sectors. In prior years, when government sectors reduced the amounts paid for services to that patient population, hospitals shifted the loss to the private insurance and self-insured sectors (Zimmerman, 1993). With the advancement of managed care in the private sector, this shift was restricted to the self-pay segment of the general population (Healthcare Financial Management Association, n.d.; Zimmerman, 1993].

This led to the development of health maintenance organizations (HMOs), which are protected by the government, and to preferred provider organizations (PPOs). Both of these organizations created blocks of members and networks of providers, for example, hospitals, clinics, physician groups, and diagnostic centers. The providers must be credentialed and have a contract in order to see and treat insured patients, as well as be paid for the services that they provide to the insured (Griffith & White, 2006). The major difference between the two is that federal law protects HMOs: If they fail financially the contracted hospital must accept the loss, not look to the insured member (Wilson & Neuhauser, 1976).

The HMOs and the PPOs establish contracts with hospitals that determine what the hospital can and cannot do by determining the type, or level, of service they will cover for their

insured member. These organizations specify steps that the care givers must complete, such as obtaining authorizations to provide identified services in advance of actually providing the care. The contracts also identify exactly how much providers will be compensated for the care provided to the insured member and, at the same time, prohibit the provider from billing the remainder (difference between the hospital's established charges and the contract payment amount) to the member. The HMOs and PPOs also impose multiple labor-intensive administrative requirements on hospitals through mandates forcing hospitals to obtain authorizations or certifications to perform tests or services prior to the actual work being done. Failure to obtain prior approval results in a loss of reimbursement from the HMO/PPO. The hospitals are then also denied the ability to bill the patient for the service unless they inform the patient prior to the service being provided and the patient agrees to pay for the service in writing. Many hospitals see this as price control or price fixing. Whichever it is called, reimbursement schemes not accurately addressing the hospitals complete cost of providing care has attacked their operating margin and often their ability to survive (Herkimer, 1993).

Consequently, each year a number of hospitals either closed or are taken over, leaving communities without a hospital or a choice. Using 1991 data from the Texas Hospital Association and 1992 data from the American Hospital Association, McKay and Coventry (1995) wrote that "during the period of 1985 to 1988, 45 rural hospitals closed in Texas . . . resulting in a decrease of 19 percent in the stock of rural hospitals over a six-year period" (p. 231).

A shift from the closure of rural hospitals to urban hospitals took shape in 2000. During the period of 1997 to 2002, inner city hospitals experienced the greatest number of closures (Sloan, Ostermann, & Conover, 2003). Reported by a regional executive for the Texas Hospital

Association (S. Jones, personal communication, October 20, 2012), 142 urban hospitals closed from April 2000 to August 2012 as indicated in Table 1.

Table 1

*Texas Hospital Closures—2000 to 2012*

Year	Number of Closures
2000	17
2001	10
2002	7
2003	6
2004	4
2005	8
2006	11
2007	22
2008	29
2009	12
2010	7
2011	5
2012	4
Total: 142	

According to Sloan et al. (2003), the primary reason for the closures was identified as having low profit margins and high levels of debt. A primary cause was due to changes in the payment mix which led to lower reimbursement. This led to a decline of 17% in the number of hospitals.

The inner city hospitals' patients are primarily the elderly (on Medicare) and the medically indigent. The reimbursement that hospitals receive from the Medicare and Medicaid programs do not match the actual full cost related to care provided to these patients by the inner city hospitals. When the patient volume overloads the hospital with nonpaying patients and/or patients that have only Medicare/Medicaid in addition to the high debt, these hospitals are the ones most likely to close (Jervis, Goldberg, & Cutting, 2012).

Still, a number of hospitals have not only survived in this cost-constrained environment but thrived. Successful organizations have leaders who do the right things versus having managers who do things right. Leaders who create successful organizations have specific attributes such as a strong, defined sense of purpose and the capacity to clearly articulate a vision. They live “the vision day in and day out” (Bennis, 1997, p. 155), and the vision has real meaning. They generate trust and are willing to take risks.

Studies of leadership have pointed out continuous, evolving growth in the field. Evidence that many researchers support this observation is suggested by the number of books published on the subject annually. Dye and Garman (2006) advanced the study of leadership by taking the position that leadership needs are not the same for all industries. They stated that health care leaders must have special competencies and identified four cornerstones, “a well-cultivated self-awareness, a compelling vision, masterful execution, and a real way with people” (Dye & Garman, 2006, p. xxii).

A lack of competition may have influenced the quality of services that are available. Langabeer (1998) noted that the marketplace is characterized by declining revenues and heavy price competition. Profit-oriented behavior, including emphases on market strategies and competitive advantage, is now a necessity if hospitals are going to successfully respond to continuing changes in covered services and reimbursement requirements and restrictions. The study also found that as the number of competitors increases, it also serves to provide incentives for hospitals to improve operations and financial conditions. Gowen, McFadden, and Tallon (2006) elaborated on how competition is also impacted by leadership and quality, as well as how effective quality management systems and practices result in sustainable competitive advantages for health care organizations.

The success of a health care organization is directly impacted by the commitment and leadership of the chief executive officer (CEO). The hospital CEO leads the change effort that impacts professional care by devising creative strategies and cost-control programs. The CEO must also demonstrate the ability to research and analyze systems critically and chart growth in response to rapid health care changes (Duggirala, Rajendran, & Anantharaman, 2008).

### **Statement of the Problem**

Recent developments have occurred on how to measure hospitals' performance related to quality and patient outcomes. Innovative health care executives introduced new strategic implementation tools known as the balanced scorecard (Inamdar, Kaplan, & Bower, 2002). Health care leaders used these scorecards to improve their competitive market positioning, financial results, and customer satisfaction. Scorecards used with other key performance indicators (KPIs) allowed organizations to integrate financial measures with operational measurements offering leaders a snapshot of how they compare to other organizations. Managing and measuring performance have become exceedingly complex. Curtright, Stolp-Smith, and Edell (2000) observed that effective leaders had to develop methodologies that align organizational strategies with performance measurement and indicators giving them a fast, but comprehensive, glimpse of their organization's performance in meeting its quality, operational, and financial goals.

The Centers for Medicare and Medicaid Services (CMS, n.d.) increased its focus on quality and patient outcomes by posting hospital outcomes on the Internet where users actively engage in comparing hospitals and services. Patient outcomes and quality factors reported by CMS include patient satisfaction, readmission rates, complications, and death rates, as determined by a certification process that is completed by the Joint Commission (2015).

The actual determination if a hospital qualifies as a center of excellence is made by the Joint Commission's (2011) Specific Care Certification Program, which is separate from and not connected to a health care organization's accreditation status. The Disease-Specific Care Certification is awarded after an on-site review assessing a commitment to excellence in providing disease-specific services in a comprehensive manner. The assessment measures compliance with 28 consensus-based national standards, effective integration of established evidence-based clinical practice guidelines to manage and optimize care, an organized approach to collecting performance measurement data, and active use of the approach to improve care processes for the chronic disease(s) or condition(s) that are certified (Joint Commission, 2012).

A sample list of the disease states, conditions, and procedures for which hospitals may qualify for distinction as a center of excellence (Joint Commission, 2011, pp. 28–29) is shown in Table 2.

Table 2

*Sample of Disease States, Conditions, or Procedures as Possible Centers of Excellence*

Centers of excellence	Type
Abdominal aortic aneurysm	Condition
Acute coronary syndrome	Condition
Acute myocardial infarction	Condition
Advanced chronic kidney disease	Condition
Congestive heart failure	Condition
Hip fracture	Procedure
Joint replacement knee	Procedure
Pneumonia	Condition
Normal delivery	Procedure
Sleeping disorder	Disease state



Currently there are 69 different diseases, conditions, or procedures for which a health care organization may be awarded the distinction of being a center of excellence (Joint Commission, 2011).

In addition to the quality outcomes reported by CMS, hospitals benchmark themselves against other similar hospitals on selected financial metrics (Zimmerman, 1993). The Healthcare Financial Management Association (n.d.) led the way with this concept by identifying KPIs and comparing them from one hospital to another. The professional association made these comparative data available to their membership through their Revenue Cycle Forum, which gives the participating members the data to make the comparisons. Examples of commonly used KPIs are as follows:

- cash collections as a percentage of net revenue;
- accounts receivable days that are outstanding;
- number of days from date of service to bill date;
- number of days from bill date to paid date;
- types of denials for payments;
- percentage of denials that are overturned; and
- volume (dollars) written off to bad debts.

Benchmarking allowed organizations to measure themselves against the best industry practices systematically. It allowed hospitals to identify strengths and weaknesses compared to similar “best-in-class” organizations. More importantly, it allowed hospitals to develop and implement changes necessary to close gaps in their own performance compared to best-in-class facilities. The tools gave hospitals the ability to measure performance, apply evidence-based strategies for improvement, and perform at levels that would give recognition for their successes

(Duggirala et al., 2008). The KPIs of successful hospitals become the benchmarks for others to try to match.

The operating margin is used by many analysts as the primary measurement to determine the profitability of hospitals. It describes the results of operations while excluding none of the known sources of operating income (McCracken, McIlwain, & Fottler, 2001). A hospital margin is the ratio of hospital profits to hospital revenue. The literature often reports on two different margins used to measure the overall profitability in health care: (1) total margin and (2) operating margin (Pink, Freeman, Randolph, & Holmes, 2013). The formulas for these margins are as follows:

$$\text{total margin} = (\text{total revenue} - \text{total cost}) / \text{total revenue},$$

$$\text{operating margin} = (\text{operating revenue} - \text{operating cost}) / \text{operating revenue}.$$

Both of these margins present similar outcomes; however, “they are not interchangeable” (North Carolina Rural Health Research and Policy Analysis Center, 2003, p. 3). Although the two margins measured different data, they tended to move in the same direction. The operating margin can be a negative value which shows a loss, a zero value which shows a break-even value, or a positive value which shows a profit. Operating margins are used in this research, not total margins, as defined below.

Medicare cost report data are used to report the operating margin in the *Almanac of Hospital Financial and Operating Indicators 2014* (OptumInsight, 2013); the most current data are from the 2012 cost reports. The reported data are separated into four quartiles. The lowest quartile consists of data less than -2.0296. Low middle data are less than 2.2415 but greater than -2.0296. Upper middle data are less than 7.2620 and greater than 2.2415. Upper data are greater than 7.2620.

The data are also presented on the reported audited financial statement by percentile values. The median values by percentile are as follows:

- 10th = -9.38;
- 25th = -3.16;
- 75th = 5.36; and
- 90th = 10.75.

Advocates of using best practice benchmarking to recognize successful hospitals have often failed to take into consideration the importance and influence of CEO leadership behaviors. Further, unlike those who argue for a balanced scorecard approach, the benchmarking literature has concentrated on payer mix, volume of admissions, length of stay, days in accounts receivable, cash on hand, staffing ratios (number of full-time equivalent employees per occupied bed), and the payment cycle (Ransom, Joshi, Nash, & Ransom, 2008; Zimmerman, 1993). However, achieving benchmarks believed to be related to organizational success does not necessarily equate to the ability to achieve strong financial margins (Inamdar et al., 2002). As such, hospitals might be cited as benchmark organizations yet fail to remain financially solvent.

Additionally, many studies have been conducted on leadership styles, including autocratic, participative, laissez-faire, authentic, charismatic, transactional, and transformational (Gibson, 2007; Nahavandi, 2006; Robbins, 2007). However, few have examined the relationship between leadership style and hospital performance relating to the ability to maintain financial viability.

### **Purpose of Study**

This study examined the relationship between the leadership behavior of hospital CEOs and hospital success. Successful hospitals were defined as those recognized as centers of excellence by CMS for two or more modalities and having an operating margin greater than 8%.

## **Evidence**

Since the 1960s many studies have been done on leadership and interactions with the labor force. As a result of these studies, theorists developed many models in order to explain characteristics of the leaders and how they impact workers. Seminal studies resulted in well-known leadership models, for example, McGregor's (1960) Theory X and Theory Y, Fiedler's (1967, 1972) contingency theories, and House's (1971) path-goal theory. These studies included organizations from all sectors of the economy such as manufacturing, trades, communications, services, education, finance, and health care. They included both for-profit organizations as well as non-profit and regional, national, and global ones (Boone & Bowen, 1987). The studies also compared male versus female leaders (Robinson & Lipman-Blumen, 2003).

What is missing from all this work is matching the leadership behavior with the overall success of the organization, that is, the leader's impact on operating margin and service quality. This study focused on the leadership behaviors of hospital CEOs using Bass and Avolio's (1994) model of leadership emphasizing the importance of what they term transformational leadership. Transformational leaders provide vision and a sense of mission. They instill pride and gain respect and trust. They communicate high expectations, use symbols to focus efforts, and express important purposes in simple ways. They also promote intelligence, rationality, and careful problem solving. These leaders give personal attention, treat each employee individually, and coach and advise the members of the organization (Bass, 1990). Hospitals in the current economic and regulatory environment described above require transformational leadership in order to be successful.

## **Audience**

This research added to the literature by focusing on the relationship between leadership behavior and organizational performance in hospitals. Hospital organizations, private and public, are expected to benefit from the findings of this research by identifying the leadership behaviors associated with successful hospital performance. In this time of constant change, this is important in delivering health care and serving communities. Successful hospitals provide a greater array of services than ones that are not successful. Knowledge of successful leadership behaviors is expected to benefit city/county-owned hospitals, private non-profit/for-profit hospitals, and national chain hospital companies in placing leaders better fit for long-term hospital success.

## **Theoretical Framework**

This study examined the relationship between the leadership behavior of hospital CEOs and hospital success. In the resource-constrained environment described above, it is especially important to identify leaders who can make hospitals successful and sustain their growth in the changing environment.

Many leadership scholars and practitioners such as Bass (1985, 1990), Bennis and Nanus (1985), and Conger and Kanungo (1998) have suggested that today's health care organizations need leadership that inspires followers and enables them to create revolutionary change. Nahavandi (2006) further emphasized the importance of transformational leadership, noting it is a complex process that provides understanding, insight, and solutions to leaders themselves. This study used the full range of leadership model (FRLM) developed by Bass and Avolio (1994) and later refined by Avolio and Bass (2004).

When Bass and Avolio (1994) developed optimal and suboptimal visualizations of the full range of leadership model, there were only four transformational factors: idealized influence (II), inspirational motivation (IM), intellectual stimulation (IS), and individualized consideration (IC). There were three transactional factors: contingent reward (CR), management by exception (active) abbreviated as MBE-A, and management by exception (passive) abbreviated as MBE-P. There was only one nontransactional element of laissez faire (LF). Figure 1 shows the optimal leadership profile visualization of the 1994 model.

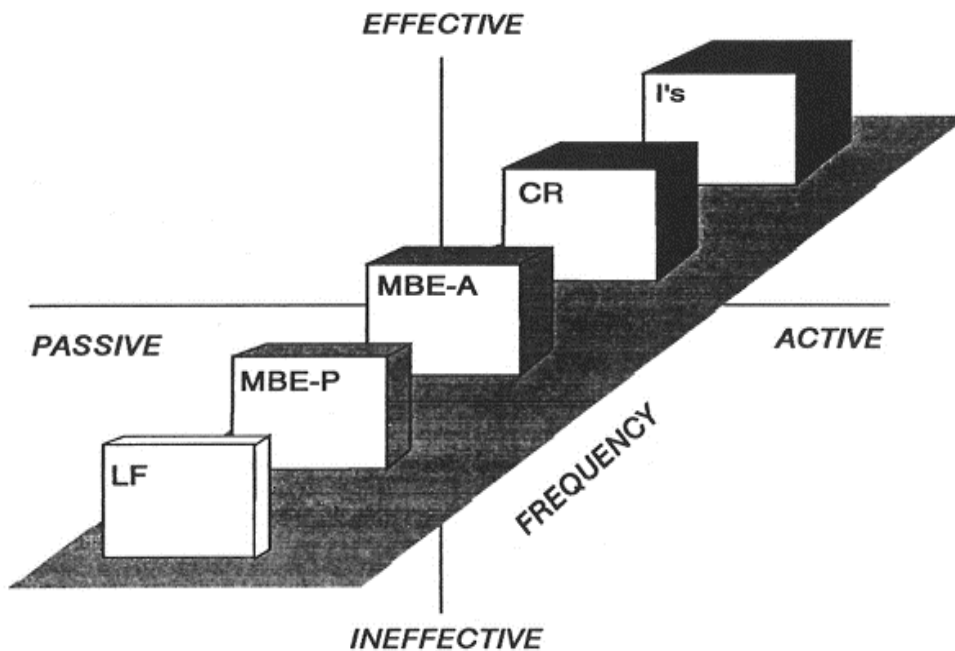


Figure 1: Optimal profile. From the *Improving Organizational Effectiveness Through Organizational Effectiveness* (p. 5), by B. M. Bass and B. J. Avolio, Editors, 1994, Thousand Oaks, California: SAGE Publications. Copyright 1994 by Sage Publications, Inc. Reprinted with permission.

Bass and Avolio (1994) write “transactional leadership depends on contingent reinforcement, either positive *contingent reward* (CR) or the more negative active or passive forms of *management-by-exception* (MBE-A or MBE-P) (p. 4).

Figure 2 shows the suboptimal leadership profile of that same model.

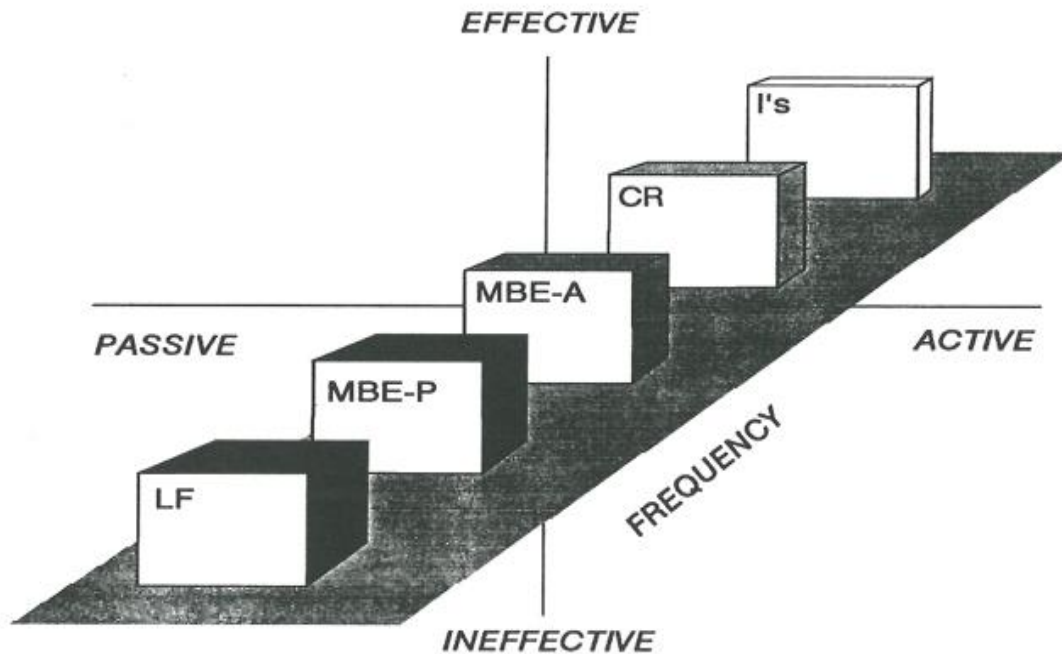


Figure 2: Suboptimal profile. From the *Improving Organizational Effectiveness Through Organizational Effectiveness* (p. 6), by B. M. Bass and B. J. Avolio, Editors, 1994, Thousand Oaks, California: SAGE Publications. Copyright 1994 by Sage Publications, Inc. Reprinted with permission.

The model later evolved by differentiating idealized influence into two sub-factors, idealized influence (attributed) abbreviated as IIA and idealized influence (behavior) abbreviated as IIB, and increasing the total to five transformational factors. The model also evolved in how the factors were grouped. The model was structured with the five transformational factors, three transactional factors, and one nontransactional factor and referred to as a 5-3-1 model.

Another evolution of the model resulted in another restructuring of how the factors were grouped. This latest model retains the five transformational factors; however, the transactional factors are only represented by two factors, CR and MBE-A. The nontransactional factors are increased to two factors, MBE-P and LF. Avolio and Bass (2004) assessed leadership behaviors

using the current Multifactor Leadership Questionnaire (n.d.) and the constructed visualization of the current model shown in Figure 3.

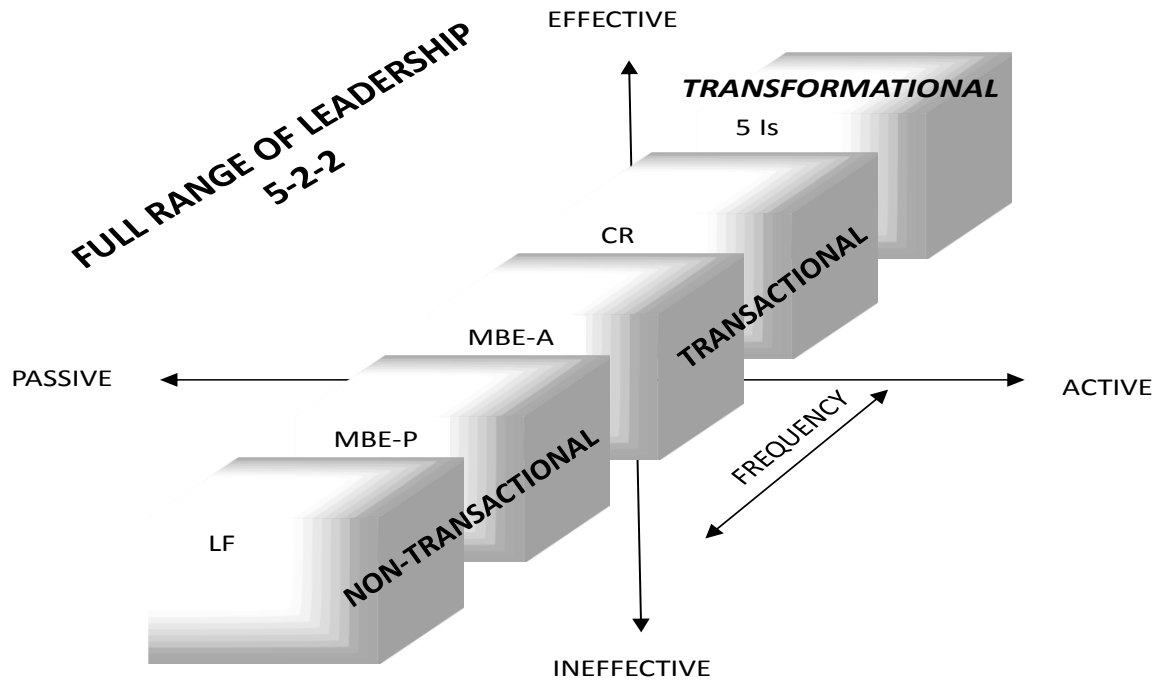


Figure 3. Full range of leadership theoretical model based on Bass and Avolio (1994).

Mind Garden (n.d.) initially used four factors of transformational leadership in describing transformational leadership, but was updated by Avolio and Bass (2004) to five transformational factors. Northouse (2010) uses four factors as well in describing the full range of leadership model. Michael Murray and Associates (2015) visualized five factors of transformational leadership along with the three established factors of transactional leadership, CR, MBE-A, and MBE-P, and one non-transactional factor, LF; however this visualization does not use these same terms.

The full range of leadership model is dynamic, not static. The strength of each factor varied in relation to the other factors and depended on the leader. Is the leader more active than passive? Is the leader effective or ineffective? What is the frequency of the factors? The leader



may demonstrate more transactional factors of leadership in comparison to transformational and non-transactional factors. Figure 4 shows one example of this variance where more transformational leadership is being demonstrated as compared to transactional and non-transactional leadership.

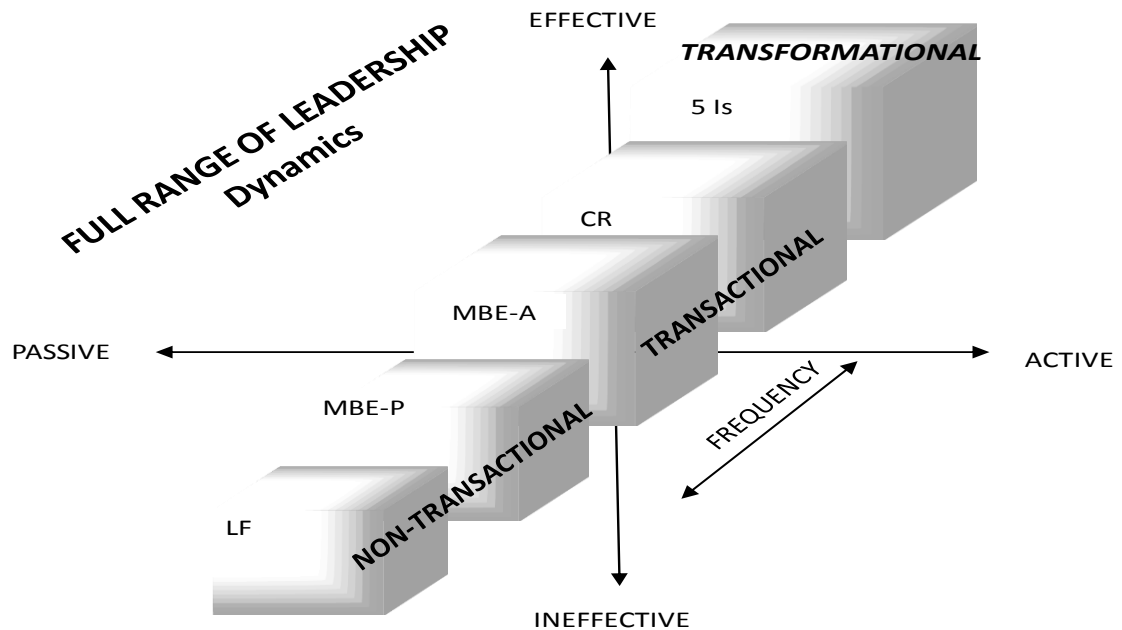


Figure 4. Full range of leadership dynamics.

This research concentrated on the results collected via the MLQ and the nine leadership behavior factors of the full range of leadership model. Accurately visualizing the theoretical framework is important to both the process and the product. Since an adequate visualization does not exist specifically for this research, Figures 3 and 4 were constructed to frame the research.

This study will also use the work of Kaplan and Norton (1996), as it employs a balanced-score approach to organizational effectiveness.

## Definition of Terms

**Hospital size.** Hospital size is determined by the number of beds that a hospital is licensed to operate. This includes all of the beds found in a hospital where patients are placed for treatment. It does not include nursery bassinets or beds maintained under a separate license such as skilled nursing home beds.

**Hospital type.** Hospital type is also referred to as ownership type and falls into three major types that provide general acute care for a wide variety of diseases. These three major types are as follows.

1. Government hospitals are owned by federal, state, or local governments and tend to care for special groups (e.g., military, veterans, mentally ill), or they can be hospitals attached to state universities.
2. Non-profit hospitals are owned by private corporations or groups for the common good rather than individual gain. They are generally granted broad federal, state, and local tax exemptions. They may be operated by religious-based or secular (nonreligious) organizations.
3. For-profit hospitals are owned by private corporations (also called investor owned) that are allowed to declare dividends or distribute profits to individuals. They pay taxes like other private corporations (Griffith & White, 2006).

This study focused only on the non-profit and for-profit hospitals.

**Senior leadership.** The senior level executives are identified as the chief executive officer, chief financial officer, chief operating officer, and chief nursing officer. Hospitals may use different names for these senior level executives, and other individuals may also be part of

this senior leadership and management team. This study focused only on the leadership behavior of the CEO.

**Successful hospitals.** For the purpose of this study, a successful hospital is one with an operating margin that is 8% or greater and is recognized as a center of excellence for two or more modalities by CMS.

**Operating margin.** Operating margin is defined by Pink et al. (2013, p. 2) as follows:  
operating margin = (operating revenue – operating cost) / operating revenue.

**Center of excellence.** To obtain recognition as being a center of excellence, hospitals must go through an extensive approval process including on-site inspections. The certification stresses safety, proficiency, and volume. Hospitals must perform a minimum number of procedures during a fixed period of time and must continue to perform an annual minimum number. The hospital must be staffed by a multidisciplinary team including physicians/surgeons, nurses, and others. They must report their long-term outcomes and must be re-evaluated with an on-site inspection every three years (Joint Commission, 2012).

**Leadership behavior factors grouped by style.** Avolio and Bass (2004, pp. 101–103) grouped the following leadership styles and defined the assessed leadership behaviors in part by providing the bulleted examples.

***Transformational leadership.***

- Idealized influence Attributes (IIA):
  - Instill pride in others for being associated with me.
  - Go beyond self-interest for the good of the group.
  - Act in ways that build others' respect for me.
  - Display a sense of power and confidence.

- Idealized influence Behaviors (IIB):
  - Talk about my most important values and beliefs.
  - Specify the importance of having a strong sense of purpose.
  - Consider the moral and ethical consequences of decisions.
  - Emphasize the importance of having a collective sense of mission.
- Inspirational motivation (IM):
  - Talk optimistically about the future.
  - Talk enthusiastically about what needs to be accomplished.
  - Articulate a compelling vision of the future.
  - Express confidence that goals will be achieved.
- Intellectual stimulation (IS):
  - Re-examine critical assumptions to question whether they are appropriate.
  - Seek differing perspectives when solving problems.
  - Get others to look at problems from many different angles.
  - Suggest new ways of looking at how to complete assignments.
- Individualized consideration (IC):
  - Spend time teaching and coaching.
  - Treat others as individuals rather than just as a member of the group.
  - Consider each individual as having different needs, abilities, and aspirations than others.
  - Help others to develop their strengths.

***Transactional leadership.***

- Contingent reward (CR):

- Provide others with assistance in exchange for their efforts.
- Discuss in specific terms who is responsible for achieving performance targets.
- Make clear what one can expect to receive when performance goals are achieved.
- Express satisfaction when others meet expectations.
- Management by exception Active (MBE-A):
  - Focus attention on irregularities, mistakes, exceptions, and deviations from standards.
  - Concentrate full attention on dealing with mistakes, complaints, and failures.
  - Keep track of all mistakes.
  - Direct attention toward failures to meet standards.
- Management by exception Passive (MBE-P):
  - Fail to interfere until problems become serious.
  - Wait for things to go wrong before taking action.
  - Show a firm belief in “if it ain’t broke, don’t fix it.”
  - Demonstrate that problems must become chronic taking action.

***Nontransactional (passive/avoidant behavior).***

- Laissez-faire (LF):
  - Avoid getting involved when important issues arise.
  - Be absent when needed.
  - Avoid making decisions.

- Delay response to urgent questions.

### **Significance of the Study**

Identifying types of leadership behaviors associated with successful hospital performance is expected to influence the availability of health care to the general population. Additionally, a greater quality of life is expected by creating more stability in health care management and health care services. So, how do leadership behaviors engender success in hospital organizations?

### **Limitations**

The study was limited by the following factors: the research design did not claim causality, generalizability of the findings to other hospitals is only appropriate if the sample is representative of the population of interest, self-reported data was not validated, and instrument validity/reliability may be limited. A major limitation of this study was that the leadership measurement is based on the leaders' self-reported leadership behaviors.

### **Delimitations**

The focus of this study was delimited to operating margins, centers of excellence, leadership behaviors, geographic region, and governing boards:

- hospital organizations with operating margins that are 8% or greater;
- hospitals recognized by CMS as having centers of excellence in two or more modalities;
- leadership behaviors of the CEOs, not the senior leadership, identified by the nine factors of the model (this delimitation resulted in only 36 of the available 45 questions in the MLQ-5X-Short being used in the research);
- hospital organizations in the state of Texas;

- non-profit and for-profit hospitals; and
- hospital organizations having governing boards as noted below.

The population sample included the leaders of hospitals, large and small, for-profit and not for-profit, in the private and public sector. It was also intended that governing boards would be able to use the findings and results of this research to promote and facilitate transformational leadership. Government hospitals, specifically for veterans and the military, do not have governing boards per se, and the leadership selection of those occupying the executive suite varies by how boards of trustees make their informed decisions about who is hired and who is not. This is not to say that leadership differs significantly between military and civilian hospitals—only that those influencing who serves as the principal leaders differ. The population is delimited to those hospitals having boards of trustees or similar governing boards.

## **Chapter 2: Review of Literature**

### **Introduction**

The purpose of this study is to identify the type of leadership that creates success in the establishment of available and affordable health care to the general population. Creating stability in providing health care and making it more accessible can lead to greater quality of life for more people.

The literature review is presented in four sections. The first section provides a brief history on the development of leadership theory to include trait, behavior, and contingency theories of leadership. The second section is a discussion on the differences between management and leadership, the third section focuses on situational leadership theory, and the fourth section focuses on transformational and transactional leadership theory.

### **Development of Leadership Theory**

Over the years, many theories and models of leadership have been developed by researchers who have examined both social psychology and organizational behavior in the development of their theories. The theorists have focused primarily on trying to identify the factors that result in greater leader effectiveness. Theorists have investigated which behaviors, characteristics, and situations enhance leader effectiveness. These can be classified into three approaches, a) trait theory, b) behavioral theory, and c) situational theory.

Strong leaders such as “Buddha, Napoleon, Churchill, Thatcher, and Reagan have been described in the terms of their traits” (Robbins, 2007, pp. 402–403). The trait theories of leadership differentiate leaders from nonleaders by focusing on their personal qualities and characteristics. Trait theorists assumed that leaders possessed characteristics not found in



followers. This was often described as the Big Five personality dimensions (Barrick & Mount, 1991; Digman, 1990). These five dimensions are summarized in Table 3.

Table 3

*Big Five Personality Dimensions Summary*

Dimension	Description
Conscientiousness	Degree to which a person is dependable, responsible, and organized, and plans ahead
Extraversion/introversion	Degree to which a person is sociable, talkative, assertive, active, and ambitious
Openness to experience	Degree to which a person is imaginative, broad-minded, and curious, and seeks new experiences
Emotional stability	Degree to which a person is anxious, depressed, angry, and insecure
Agreeableness	Degree to which a person is courteous, likable, good-natured, and flexible

The weakness of these arguments led researchers to focus on leader behavior. Behavioral theories viewed the most important aspect of leadership to be what leaders do (Judge, Higgins, Thoresen, & Barrick, 1999). The study of relationships or situational theory did not receive much attention until Fiedler (1964) developed his contingency model of leadership, which was further detailed by Edwards, Rode, and Ayman (1989).

It appears that there has been a renewed interest in the trait approach as the findings of Lord, DeVader, and Alliger (1986) suggested that personality traits are strongly associated with individuals' perceptions of leadership.

In early trait research the focus was directed toward inherited physical and mental traits and failed to take situations into account because it is difficult to isolate specific characteristics of leaders (Stogdill, 1948). The research eventually expanded into the areas of intellectual, personal, emotional, social, and other traits (Michael, 2003). The studies also focused on political

and religious leaders in addition to managers (Bass, 1981; Stogdill, 1974). Stogdill (1948) criticized the trait approach for failing to take situations into account and claimed that there was a major need to factor situational effects into the equation.

Stogdill's (1948) concerns that the trait approach to leadership did not address situations that leaders faced led to the development of a situational approach to leadership. This approach recognized that, in order to be effective, leaders need to adapt their style to the situation at the time. The model developed by Hersey and Blanchard (1969) became known as the situational leadership model. This model focuses on leadership in different situations, that is, differences based on the needs of followers, and leaders' ability to match their style with the leadership needs of their subordinates.

Additionally organizational researchers have become interested in the study of emotions. The idea of emotional labor and emotional work has migrated to the study of organizational behavior. Emotions and leadership are now firmly tied together. It is argued that leadership is intrinsically an emotional process through which leaders recognize employees' emotional states, attempt to evoke emotions in employees, and then seek to manage employees' emotional states accordingly (Ashkanasy & Dasborough, 2003; Goleman, 1995).

Questionnaires have been developed that are used by organizations for measuring individuals' traits/characteristics that identify the individual's attributes toward leadership. Two of the most commonly used questionnaires are the Minnesota Multiphasic Personality Inventory and the Myers-Briggs Type Indicator. The outcomes of these instruments allow individuals to understand their own traits and the traits of others, which enables them to be better leaders (Michael, 2003).

This gave rise to what researchers called the contingency theory of leadership with Fiedler's theory being widely recognized. Contingency theory "tries to match leaders to appropriate situations" and is called "contingency because it suggests that leader's effectiveness depends on how well the leader's style fits the context" (Northouse, 2010, p. 111).

Fiedler (1967) created and developed a scale to measure leader styles called the Least Preferred Coworker (LPC) scale. The scale measured three factors: leader-member relations, task structure, and position power. Fiedler explained in a personal communication with Boone and Bowen on June 8, 1986, that a person with a high LPC score is oriented toward relationships with others and a low LPC person is primarily concerned with task accomplishment. In other words, the leaders' power is only half as important as the leader-member relationships in determining the degree of favorableness of the situation for the leader's influence (Boone & Bowen, 1987).

These early studies which sought out the characteristics and traits of leaders gave way to wanting to know how leaders motivated subordinates to accomplish designated goals (Northouse, 2004). This desire led to the development of path-goal theory (Evans, 1970; House, 1971; House & Mitchell, 1974). Path-goal theory is designed to explain how leaders can help subordinates determine the right path to obtain the goal that they have been assigned. The techniques that leaders may use are directive, supportive, participative, and achievement-oriented leadership behaviors (House & Mitchell, 1974).

The path-goal theory of leadership defines leadership behavior and its effect on employees' behavior and attitudes. This theory specifies the motivational behaviors of the supervisor necessary to facilitate work goal accomplishment. These behaviors, or instrumentalities, include clarifying the paths to reaching desired goals, removing roadblocks to

successful work performance, and improving opportunities for work satisfaction. All of this takes place when showing consideration and support for the employees (Downey, Sheridan, & Slocum, 1975).

The path-goal style of leadership (leaders' behavior) is motivating or satisfying to the degree that the behavior increases the employees' goal attainment and clarifies the paths to these goals. In some aspects of satisfaction and productivity, individual outcomes are more important than the process that leads to the outcomes. Rucker and King (1985) pointed out that attainment of even nominal rewards can play an important part in determining job satisfaction and productivity of group members.

Research by Evans (1970) added the elements of motivation that Maslow and McGregor developed to the path-goal theory. This becomes an important issue when management wishes to bring about changes to improve worker motivation, performance, and satisfaction, and wishes to do this through the changing of leadership behavior. For this to occur, two conditions must be met. First, a strong relationship must exist between supervisory behavior and the path-goal instrumentalities. Second, a strong relationship must exist between path-goal instrumentalities and behavior and satisfaction. When both of these conditions are met, a simple strategy will suffice. Any change in leadership behavior should have direct consequences for path-goal instrumentalities and hence on worker performance and satisfaction.

The individual worker will be affected by both the relationship between supervisory behavior and path-goal instrumentalities and by the path instrumentality/performance relationship. When the individual is engaged in highly interdependent tasks, the relationship between path-goal instrumentality and performance will be lower than it would be if the individual were engaged in an independent task. The upward influence of the supervisor will

affect the relationship between supervisor behavior and path-goal instrumentalities. Evans (1970) found that employees were only satisfied if the supervisor was considerate and had high influence. He also observed that if the supervisor was considerate but had low upward influence, the employees were quite dissatisfied.

Employees with a high need for achievement generally aspire to accomplish difficult tasks and to maintain high standards of performance. These employees prefer tasks of moderate difficulty where success depends primarily on their efforts. They also demand greater task-related feedback than do employees with low levels of need for achievement. Individuals with high levels of need for achievement prefer supervisor actions that clarify paths to achievement, that is, leaders who clarify what needs to be done, rules, regulations, operating procedures, and so forth (Mathieu, 1990).

In a study completed by Mathieu (1990), he stated that employees with high needs for achievement were found to moderate the relationship between leader behaviors and employee satisfaction. It appears that recognition of employees' personality needs may indeed be important for the exercise of effective leadership. Leaders should be trained not only how to identify importance aspects of the situation, but also how to consider the needs and desires of their employees in order to choose the most effective style of leadership for their particular situation.

The locus of control is an important antecedent to the quality of relationship that employees develop with their manager. Those with an internal locus of control are more likely to use upward-influencing tactics on their manager and use more task-oriented coping strategies. Employees with an internal locus of control may perceive that they are more in control over their interactions with their manager and tend to be more adaptive in dealing with task-related

problems; they develop better-quality leader-member exchange (LMX) relations than those with an external locus of control (Martin, Thomas, Charles, Epitropaki, & McNamara, 2005).

The LMX theory states that leaders establish a special relationship with a small group of their followers. These individuals are identified as the in-group. Other followers receive less of the leader's time and fewer of the rewards that the leader controls, and they are identified as the out-group (Graen & Uhl-Bien, 1991). LMX theory works primarily in two ways as it describes leadership and it prescribes leadership. In both cases the central context is the dyadic relationship that a leader forms with the group members (Dansereau, Graen, & Haga, 1975). This theory states that leaders have different kinds of relationships with employees within work groups based on their status of being a member of the in-group or the out-group (Hofmann & Morgeson, 1999) and therefore exhibit different leadership styles. The members of work groups are categorized according to the quality of their social "exchanges" with their leaders. Members in high-quality exchange relationships with their leaders are given more freedom, better job assignments, and increased opportunities to work with their leaders. Members with low-quality exchange relationships are directed toward unpopular jobs with few opportunities to interact with their leaders (Ashkanasy & O'Connor, 1997).

The congruency theory of LMX has found that satisfactory exchanges are characterized by value similarity between the leader and the employee. A greater positive correlation is found "when the member's values are perceived to be consistent with the leader's values" (Ashkanasy & O'Connor, 1997, p. 648). The more that the leader knows about the employee's work-related attitudes, the more positively the leader evaluates the employee.

## Leadership Versus Management

Often when leaders are being studied, managers are included. It is important that we are able to distinguish between the two. This often is difficult as the two terms are often used interchangeably in the workplace (Kotterman, 2006). Compared to leadership, the study of management is relatively new, and Frederick W. Taylor (1911) is considered the “Father of Scientific Management.” Taylor wrote *The Principles of Scientific Management* shortly after the turn of the 20th century. The focus of his important work was on the development of four ideas that revolutionized management practice: (1) the development of laws and scientific principles for work tasks, (2) the scientific selection and development of workers, (3) the bringing together of science and the trained worker by offering better treatment and an opportunity for expression of employee needs, and (4) the division of labor and management (Boone & Bowen, 1987).

Henri Fayol (1916), a French industrialist, felt that all managers perform five management functions, which were to plan, organize, command, coordinate, and control. Fayol felt that planning was the most important function and was needed for immediate needs, short-term goals, and long-term goals. He pointed out that the planning function encompasses defining an organization’s goals, establishing an overall strategy for achieving those goals, and developing a comprehensive set of plans to integrate and coordinate activities.

Management is a new phenomenon that has emerged out of large and complex organizations. It came about to meet the need of systems to regulate work and to deal with authority and control issues. This need forced the development of the manager, who was expected to reduce the internal chaos of more complicated organizations. Managers created order and consistency in the multitude of workplace processes (Kotter, 1990, 1995). Studying leadership has been one of the oldest preoccupations of academics and researchers and a driver

of innovation for thousands of years (Bass, 1990). Organizations need both managers and leaders; however, according to Kotterman (2006), “they need just a few leaders, but they need many managers” (p. 13).

Jaskyte (2004) indicates that it is critical that managers understand the culture of organizations and seek to develop values and practices that are supportive of innovation. Organizational culture is influenced by the beliefs and experiences of its leaders and followers. However, leaders who attempt to force employees to accept organizational values that they may not agree with often encourage the development of reactive subcultures and countercultures.

An organization’s culture is reflected by what is valued, the dominant leadership styles, the language and symbols, the procedures and routines, and the definitions of success that make the organization unique. Four different types of cultures have been defined by Cameron and Quinn (1999). These are categorized as adhocracy, clan, hierarchy, and market. When an organization is dominated by the hierarchy culture, the leadership style is that of organizing, controlling, monitoring, administering, coordinating, and maintaining efficiency. When an organization is dominated by the market culture, the managers are good at directing, producing results, negotiating, and motivating others. When it is dominated by the clan culture, the most effective leaders are parent figures, team builders, facilitators, nurturers, mentors, and supporters. In an adhocracy culture, the leaders tend to be entrepreneurial, visionary, innovative, creative, risk oriented, and focused on the future. In other words, adhocracy leaders are rule breakers; hierarchy leaders are rule reinforcers. Clan leaders are warm and supportive, whereas market leaders are tough and demanding (Cameron & Quinn, 1999; Masood, Dani, Burns, & Backhouse, 2006). As such, it is important that the leader’s values align with those of the organization in order to be effective.



Management training has become increasingly prevalent in a wide variety of organizations. However, it appears that there may be a lack of understanding of the total process of leadership training in terms of exactly what happens, why, and to whom. Fiedler (1972) and others (Rosen, Georgiades, & McDonald, 1980) even questioned whether there is any potential value in leadership training for managers—at least as such training is typically administered.

Kanji and Moura (2001) have developed a working definition of leadership. They believe that leadership is the ability to inspire confidence and support among people who are needed to achieve organizational goals. It is the process whereby one individual influences a group of other individuals to achieve a common goal. These researchers emphasize that viewing leadership as a process has the advantage of focusing attention on the transactional and interactive event that occurs between the leaders and their followers. It is important to know the difference between management and leadership. The primary difference is that management controls, arranges, and does things right, whereas leadership unleashes energy, sets the vision, and does the right thing.

### **Situational Leadership**

In the original Vroom-Yetton model (Vroom & Yetton, 1973), the emphasis was on the leaders' actions rather than personality. This then led to the question: What is meant by the term “situation?” Vroom and Yetton's opinion is that the situation is a problem or decision faced by the leader.

Vroom and Jago (2007) stated that leadership is a process of motivating people to work together collaboratively to accomplish great things. They added to this by stating the following:

1. Leadership is a process, not a property of a person.
2. The process involves a particular form of influencing called *motivating*.
3. The nature of incentives, extrinsic or intrinsic, is not part of the definition.
4. The consequence of the influence is collaboration in pursuit of a common goal.
5. The ‘great things’ are in the minds of both leaders and followers and are not necessarily viewed as desirable by all other parties. (Vroom & Jago, 2007, p. 18)

Vroom and Jago (1988) developed the normative decision model. This model identifies four decision methods that are available to leaders. The first method is autocratic (A), where the leader makes a decision with little or no involvement from followers. The second decision method is consultation (C), where the leader consults with followers but retains the final decision-making authority. The third decision method is group (G), where the leader relies on consensus building to solve a problem. The fourth and final method is delegation (D), where the leader delegates the decision making to one employee. These four methods were further enhanced by associating them with a series of rules. The combination then becomes the pathway of developing a decision tree (Vroom & Yetton, 1973). The seven rules that Vroom and Yetton established are as follows:

1. *The information rule.* This rule applies if the quality of the decision is important and if leaders do not possess enough information or expertise to solve the problem by themselves.
2. *The trust rule.* This rule applies if the quality of the decision is important and if the subordinates cannot be trusted to base their efforts to solve the problem on organizational goals.
3. *The unstructured problem rule.* When the quality of the decision is important, if leaders lack the necessary information or expertise to solve the problem by themselves, and if the problem is unstructured—that is, they do not know exactly what information is needed and where it is located—the method used must allow for them not only to collect the information but also to do so in an efficient manner.

4. *The acceptance rule.* This rule applies if the acceptance of the decision by subordinates is critical to effective implementation, and if it is not certain that an autocratic decision made by the leader would receive that acceptance.
5. *The conflict rule.* This rule applies if the acceptance of the decision is critical, an autocratic decision is not certain to be accepted, and subordinates are likely to be in conflict or disagreement over the appropriate solution.
6. *The fairness rule.* This rule applies if the quality of the decision is unimportant, and if acceptance is critical and not certain to result from an autocratic decision.
7. *The acceptance priority rule.* This rule applies if acceptance is critical, if acceptance is not assured by an autocratic decision, and if subordinates can be trusted.

Vroom and Yetton (1973) claimed that the decision processes created for normative purposes should distinguish among methods that are likely to have different outcomes, but should not be so elaborate that leaders are unable to determine which method they are using in a given instance. Problems will fall into one of two groups: group problems or individual problems.

### **Transformational and Transactional Leadership**

Historically, those leaders who are charismatic and transformational have demonstrated exceptional leadership (Bedell, Hunter, Angie, & Vert, 2006). Weber (1947) applied the term charisma “to a certain quality of an individual personality by virtue of which he is set apart from ordinary men and treated as endowed with supernatural, superhuman, or at least specifically exceptional powers as qualities” (p. 358). Weber articulates five principles of charismatic authority and how it relates to communal organizations. The first principle “is recognition on the part of those subject to authority which is decisive for the validity of charisma” (p. 359). The

second principle states: “If proof of his charismatic qualifications fails him for long, the leader endowed with charisma tends to think his god or his magical or heroic powers have deserted him” (p. 360). The third principle addresses a communal relationship, specifically: “The corporate group which is subject to charismatic authority is based on an emotional form of communal relationship” (p. 360). The fourth principle addresses economic considerations: “Pure charisma is specifically foreign to economic considerations” (p. 362). The fifth and last principle relates how “in traditionally stereotyped periods, charisma is the greatest revolutionary force” (p. 363).

Two additional pathways to outstanding leadership have also been identified. They are referred to as ideological and pragmatic paths. Strange and Mumford (2002) observed, “Both ideological and charismatic leadership are based on the creation and articulation of a vision—one that is consistent with, but extends and integrates, followers’ world views” (p. 343). They make the following distinction:

On the one hand, in vision formation, leaders might emphasize personal values, standards to be maintained, and the derivation of meaning through adherence to these standards. Leaders who place greater weight on these considerations in vision formation might be referred to as ideological leaders. In contrast, leaders who emphasize perceived social needs, events to change, and interpersonal meaning derived from the effects of these changes, might be referred to as charismatic leaders. (p. 346)

Mumford and Van Doorn (2001) use the example of Benjamin Franklin to demonstrate how pragmatic leaders use their influence in not only identifying but also communicating solutions, and showing how these solutions are feasible and needed. It is argued that pragmatic leaders, such as Franklin, exercise influence by identifying and communicating solutions to significant social problems, working with elites in solution generation, creating structures to support solution implementation, and demonstrating the feasibility of these solutions. The conditions under which this pragmatic approach can effectively be applied are discussed and

contrasted with current views of the conditions calling for charismatic, transformational, and transactional leadership.

A better understanding of transformational leadership can be achieved by contrasting it with transactional leadership. Some researchers argue that transactional leadership consists of an exchange between leader and follower. This can be demonstrated by how followers receive certain valued outcomes, for example, prestige and wages, when they act according to their leader's wishes.

Transactional leaders motivate subordinates to perform as expected, and the transformational leader typically inspires followers to do more than originally expected. Some transformational leadership theorists believe that followers develop an emotional attachment to the leader and are motivated as a consequence of the leader's behavior (Den Hartog, Van Muijen, & Koopman, 1997).

Transformational leaders are future-oriented, open-minded, dynamic, and concerned about planning (Harris, 1985). Transformational leaders expect employees to think beyond themselves and to become high-performing leaders as well (Bass, 1985). Further, they will redefine the organizational mission and vision. Finally, they will often use charisma, individualized consideration, inspiration, and intellectual stimulation to get employees to become innovative (Jaskyte, 2004). Kouzes and Posner's (1987) study espouses five observable and learnable practices in their theory of transformational leadership. These are as follows:

1. Challenge familiar organizational processes.
2. Inspire a shared vision among employees.
3. Enable employees to act in accordance with their vision.
4. Model the way for employees to perform.

5. Encourage employees through recognition and celebration of success.

Transformational leadership is essentially a type of leadership that motivates followers to transcend their self-interests for a collective purpose, vision, and mission (Feinberg, Ostroff, & Burke, 2005). The transformational approach describes how leaders can initiate, develop, and carry out significant changes in organizations. Transformational leaders are able to inspire followers to accomplish great things and often are described as focusing on having a closer relationship based more on trust and commitment than on contractual agreements (Kanji & Moura, 2001). As the competitive global environment puts increasing pressure on organizations to change in order to survive, interest in transformational leadership also increases (Feinberg et al., 2005).

There appears to be a debate among researchers. Some argue that innovative organizations are those that have strong cultures, and others argue that strong cultures inhibit innovation (Jaskyte, 2004; Nemeth & Staw, 1989; Sorensen, 2002). It is further argued that in organizations with strong cultures, the directiveness and strength of the leader can stifle the expression of diverse views (Janis, 1982).

Studies have shown that the highest levels of innovation found in organizations are where the leaders have only moderate control over the work group. Specifically, Jaskyte (2004) conducted a study to determine if there was a correlation between transformational leadership and organizational innovativeness. Her findings indicated that there was no relationship between transformational leadership and innovativeness. However, she did find a strong relationship between transformational leadership and organizational culture.

Other researchers point out the emotional relationships between leaders and followers and their impact on creativity. This requires looking at research on intrinsic motivation and the

personality traits that help people increase their level of creative skills. These are the traits where the individual feels comfortable disagreeing with others or assuming the role of devil's advocate. Jung (2000-2001) discusses various studies on transformational leadership and creativity by comparing the effects of transformational and transactional leadership on group members' creative thinking in a face-to-face environment. When democratic, considerate, and participative leader behaviors are positively correlated, subordinates' creativity increases.

Transformational leaders tend to build environments in which subordinates feel safe in trying out innovative approaches without fear of punishment or failure. A key characteristic of transformational leadership is intellectual stimulation. Creativity is promoted by encouraging followers to think "out of the box" and by enhancing generative and explorative thinking, thereby thinking about old problems in new ways (Jung, 2000-2001).

Transformational leadership is an attribution based on the perceptions of a leader's behavior. With this thought, a transformational leader should develop a collective mindset among employees, so that followers perceive the leader, goals, and activities in the same way. A second core attribute of transformational leadership is developing agreement or consensus among the group of followers. So, to have the attributions of a transactional leadership style, leaders need to both exhibit an appropriate set of behaviors and promote consensus among their followers (Feinberg et al., 2005).

These researchers also noted that previous studies cited the relevance of consensus within rating groups to factors such as climate and self-other agreement. Most of the studies have focused on the relationship between the level of behaviors exhibited and leadership style outcomes. This focus fails to take into consideration that effective transformational leadership also depends on fostering perceptual agreement among followers and not discontents. Two

aspects of transformational leadership, behavior and fostering agreement, are likely to interact by exhibiting positive leadership behaviors and creating consensus among subordinates. This should result in the highest attributions of the transformational leadership style (Feinberg et al., 2005).

In their own study, Feinberg et al. (2005) found a consistent pattern of relationships across rating groups among behavior rating, within-group consensus, and transformational style. This was of particular interest due to the lack of a significant relationship between peer and subordinate leader behavior ratings.

McGuire and Kennerly (2006), in their study of nurse managers, pointed out that transformational leaders use ideals, inspiration, intellectual stimulation, and individual consideration to influence the behaviors and attitudes of others. The environment of hospitals today calls for managers who have the ability and the desire to coach and mentor staff (Shiparski, 2005). Transformational leaders have the ability to move followers beyond their own self-interest toward the impact they can have on the competitive positioning of the organization. Followers were influenced by leaders who were admired, who were trusted, and who expended specific effort to meet the followers' needs and wants (McGuire & Kennerly, 2006). McGuire and Kennerly also contend that organizations need to develop, promote, and hire individuals for management positions who demonstrate a balance of leadership characteristics that are more transformational than transactional. McGuire and Kennerly (2006) write, "employing charismatic managers who have high ethical and moral character and integrity and exhibit risk-taking behaviors is an absolute plus at a time when corporate compliance, conflict of interest, and unethical business practices are being scrutinized closely" (p. 185).

With the changing world and the globalization of organizations, highly skilled and experienced leaders are becoming harder to find. The challenge today for organizations is to find



leaders who can get superior results without making sacrifices related to quality of care or in ethical behavior in terms of how those results are achieved. When leaders are strong and growing, the people they lead have greater confidence, feel more engaged, and execute the business strategy more effectively. The two major reasons that leaders fail come from poor people skills and personal qualities (e.g., style, attitude, habits) (Bernthal & Wellins, 2006).

Researchers have expanded research by asking questions concerning the relationship between emotional intelligence and transformational leadership as well as if there are differences between genders. Bass (1990) points out that the transformational leader must possess multiple types of intelligence and that social and emotional intelligence are critical because these are important to the leader's ability to inspire employees and build relationships.

Mandell and Pherwani (2003) also found a significant relationship between the transformational leadership style and emotional intelligence. Their regression analysis suggested that the transformational leadership style of managers could be predicted from their emotional intelligence scores.

Earlier studies on transformational leadership and emotional intelligence have shown that individuals that score high on either of these constructs exhibit superior performance. Transformational leaders seem to spread their own sense of confidence and competence, and they inspire people to be more imaginative (Goleman, 1995).

Mandell and Pherwani (2003) stated that no gender differences were found for transformational leadership scores of male and female managers. However, the study did show that there are gender differences in the emotional intelligence scores of male and female managers and suggested that females have higher emotional intelligence scores than males. "It is possible that women as compared to men scored high on certain components (for example,

empathy and social skills) and low on certain other components (for example, motivation and self-regulation)” (Mandell & Pherwani, 2003, p. 400).

Mandell and Pherwani (2003) pointed out that the application of the positive relationship between transformational leadership and emotional intelligence could benefit organizations in several ways. Companies that hire and promote people to leadership positions might find this relationship useful. With this knowledge, organizations would be able to identify and train potential leaders. Organizations with transformational leaders are not only better at handling change but also more effective and profitable. Organizations may also find that emotional intelligence measures may be valuable tools in the hiring, promotion, and development of organizational leaders.

Robinson and Lipman-Blumen (2003) used the connective leadership model to study the leadership behavior of male and female managers. The focus was on the global forces of interdependence and diversity. For six of the nine achieving styles they found no significant differences. They did find a significant difference in the competitive behavior with males scoring much higher. On the intrinsic style, women scored higher than men. Males reported slightly greater use of the vicarious style. From the years 1984 to 2002, as the periods of time advanced, the differences became smaller.

Researchers have identified four dimensions of transformational leadership and can be categorized as idealized influence/charisma, inspirational motivation, intellectual stimulation, and individualized consideration (Bass, 1985; Avolio & Bass, 1995). Shao and Webber (2006) claimed that the five-factor model of personality, which includes neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness, showed the predictive power of

certain personality traits of transformational leadership and the possibility to use these to select transformational leaders.

The studies supporting these findings were all done in the Western Hemisphere, but Shao and Webber (2006) also studied leaders in China using the same criteria. Their conclusion was that the five-factor model of personality was not a useful predictor of transformational leadership behaviors in China as it is in the United States.

The most recent focus on transformational and visionary leadership styles has emphasized the interpersonal processes between leaders and followers. Research into transformational leaders stresses the factors of intellectual stimulation and inspiration. Two recurring elements of leadership are the process of influencing others' behavior and the relationship to goal development and achievement (Davies & Davies, 2004).

Organizations are seen today as very complex systems that face the challenge of continuing efficient operations and adapting to a changing environment. Because of this, organizations are seeking leaders who can manage the tension between long and short-term objectives and between exploration and exploitation. Hazy (2006) states that leadership must focus on five areas to promote sustainability in organizations:

1. *Work for collective benefit*—encouraging the organization's members to work for the collective benefit rather than for their own personal agendas.
2. *Improve process effectiveness*—facilitating team dynamics to improve process effectiveness and promote process team accountability and teamwork.
3. *Promote learning and knowledge sharing*—encouraging communication across boundaries and tolerating mistakes that signal individuals to promote learning and knowledge sharing.

4. *Innovate and nurture powerful ideas*—empowering teams to develop ideas, iterating prototypes quickly, and channeling resources to experimentation, which all signal individuals to innovate and nurture powerful new ideas.
5. *Balance investment and risk*—establishing consistent, well-defined decision criteria for projects, which signals individuals how to balance investment and risk within the organization to guard the organization's resources (p. 74).

As organizations move further into the 21st century, the need to understand leadership styles increases. Researchers are more concerned about the systematic development of global leaders. The new global leaders require an even stronger and more-focused commitment. Leaders need to know what they are doing, why they are doing it, and what they want to get out of it. Heames and Harvey (2006) developed a comparative view of the 20th century manager with the 21st century global leader.

The 20th century manager:

- has broad interests and wide imagination and understanding;
- has superior intellectual capacities;
- understands the field of human relations;
- appreciates the importance of persuasion in human affairs; and
- understands what constitutes rational behavior toward the unknown and the unknowable.

The 21st century global leader:

- is open minded and flexible;
- has value-added technical and business skills;
- demonstrates cultural interest and sensitivity;

- is resilient, resourceful, optimistic, and energetic;
- has a stable personal life; and
- possesses and engenders honesty and integrity.

Two common themes run through these two lists. First, both leadership images capture the value and possession of the human relational skills needed to succeed. Each seems to echo the Dale Carnegie philosophy of understanding your fellow man and mastering the art of influence and persuasion. Second, a commonality that ties the two together is the thought that first-hand experience is the lead role and is still the most helpful step in the development of a leader (Heames & Harvey, 2006).

Organizational variables such as size, environment, type of strategy, technology, and globalization of markets are increasingly placing greater demands on leaders. Further, business markets are becoming unstable, customer needs and desires are rapidly changing, and information flow is increasingly more diverse and complex. As a consequence, transformational leadership has become a necessity in the postindustrial world of employment, as it is an important mechanism for introducing necessary organizational change.

The idealized influence aspect of transformational leadership is very close to that of charismatic leadership, but there are major differences between transformational and charismatic leaders. Charisma is a necessary but insufficient component of transformational leadership. Some leaders may be charismatic but have no transformational leadership characteristics (Masood et al., 2006).

The success of organizations today is dependent on leadership. It is important that the differences between managers and leaders are clearly defined. As Higgins (1991, pp. 498–499) stated, “the guiding rule is that managers are rational problem solvers whereas leaders are more

intuitive and more visionary. Managers plan, organize, control, make decisions, and provide communications.” Leaders are primarily concerned with results.

Tichy and Devanna (1986), authors of *The Transformational Leader*, characterized transformational leader in this manner:

Transformational leadership is about change, innovation, and entrepreneurship. It is a leadership process that is systematic, consisting of purposeful and organized search for changes, systematic analysis, and the capacity to move resources from areas of losses to greater productivity. It is a behavior process capable of being learned and managed.  
(p. xii)

### **Summary of the Literature Review**

In this review of the literature the focus was on the progression of leadership. This was accomplished by first seeing a brief history on the development of leadership theory that included trait, behavior, and contingency theories of leadership. The second section focused on the differences between management and leadership and their relationship to each other. The third section reviewed the process used by situational leaders and the rules to create a decision tree. The last section focused on transformational and transactional leadership theory.

The literature suggests that it is the transformational leader who sees the big picture, has the vision, creates the energy to move forward, and encourages the members of the organization to follow. This study will attempt establish the relationship among the CEO, transformational leadership, and the success of the hospital.

## Chapter 3: Methodology

### Introduction

This study identified the type of leadership behavior associated with success in the establishment of available and affordable health care to the general population. Creating stability in providing health care and making it more accessible lead to greater quality of life for more people. This study utilized a correlational research design to measure the degree of association among variables of interest.

Correlational designs are procedures in quantitative research in which investigators measure the degree of association (or relationship) between two or more variables using the statistical procedure of correlational analysis. This degree of association, expressed as a number, indicates whether the variables are related or whether one can predict another. (Creswell, 2005, p. 52)

### Participants and Procedure

In addition to its complexity and cost, health care changes rapidly. This is driven by technology, demographics, economies, and politics. Additionally new forces are impacting the delivery of health care because as the population ages, it requires more services (Griffith & White, 2006).

When comparing hospitals, the following measurable groups are identified. They are either non-profit or for-profit and grouped by bed size as follows:

- 100 beds or fewer;
- 101 to 250 beds;
- 251 to 500 beds; and
- more than 500 beds.

The participants selected for this study were CEOs of the hospitals identified in the Texas Hospital Association (THA; 2014) *Directory of Texas Hospitals*. The THA is a professional

membership organization of hospitals in the state of Texas. The directory listed both members and nonmembers of the organization and identified the name, hospital type (for-profit or non-profit), address, main telephone number, and website. The state of Texas was selected as the site for this study because of the large number of hospitals that operate within the state, the mix of rural and urban hospitals, and the number of hospitals distributed over the bed-size ranges.

Hospital success was defined in two ways. First, to be considered a successful hospital, it had to be recognized by CMS and the major payer organizations as “centers of excellence” in at least two different modalities. Second, it had to have an operating margin that was greater than 8%. This information was obtained from the annual reports filed by the public health care systems, and for the others, the information was obtained from data extracted from the cost reports filed with CMS. This required filing of a freedom-of-information request with the government. As discussed in more detail below, the leadership behaviors associated with successful Texas hospitals were compared with those that failed to meet the above criteria.

The relationship of inputs and outcomes are portrayed in Figure 5, where hospital and leadership characteristics are associated with both center of excellence designations and operating margins.

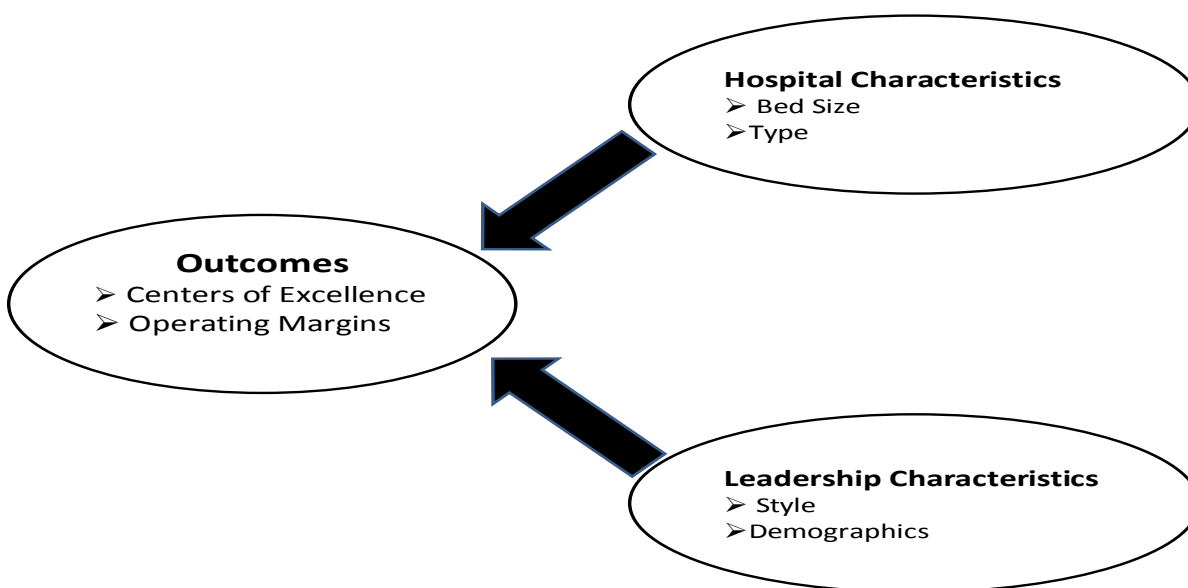
The health care organizations identified by this process were grouped by the size of the hospital, the type of ownership, and the gender of the executive. Additionally the executives were asked for their current age, their highest level of education, the number of months in their current position, and the college or university (if attended) that granted their degree.

Demographic questionnaires were given to the CEOs of each of the selected organizations.



## Instrumentation

The instrument used was the Multifactor Leadership Questionnaire (MLQ) 5X-Revised (Avolio & Bass, 2004) where participants evaluated how frequently, or to what degree, they believed they engage in certain types of leadership behavior toward their supervisees or colleagues. More commonly known as the MLQ-5X-Short, it contains 45 items and assesses 9 leadership components (behaviors) and 3 outcome components. Table 4 identifies those individual components.



*Figure 5.* Inputs and outcomes.

The MLQ-5X-Short measured a broad range of leadership types from passive leaders, to leaders who gave contingent rewards to followers, and to leaders who transformed their followers into becoming leaders themselves. It also identified the characteristics of a transformational leader and helped individuals discover how they measure up in their own eyes and in the eyes of those with whom they work (Bass & Avolio, 1996).

The MLQ is not designed to encourage the labeling of a leader as Transformational or Transactional. Rather, it is more appropriate to identify a leader or group of leaders as (for example) ‘more transformational than the norm’ or ‘less transactional than the norm’ (Avolio & Bass, 2004, p. 118).

Table 4

*MLQ-5X-Short Assesses a Full Range of Leadership Behaviors*

Leadership behaviors	Leadership attributes
Transformational leadership	Idealized attributes Idealized behaviors Inspirational motivation Intellectual stimulation Individualized consideration
Transactional leadership	Contingent reward Management-by-exception (active)
Passive/avoidant leadership	Management-by-exception (passive) Laissez-faire
Outcomes of leadership	Extra effort Effectiveness Satisfaction

**Selection of the MLQ-5X-Short.** Mind Garden (n.d.) offers a variety of assessments and instruments and advertises itself as an independent publisher of these psychological tests. Mind Garden aims to serve academic, research, and consulting communities. There were two primary types of instruments—assessment and developmental measures. The MLQ-5X-Short is one of eight questionnaires and inventories included in their developmental measures under the topic of leadership:

1. Authentic Leadership Questionnaire;
2. Bass Orientation Inventory;
3. Developing the Leader Within;
4. Multifactor Leadership Questionnaire (n.d.);
5. Organizational Description Questionnaire;

6. Psychological Capital Questionnaire;
7. Social Skills Inventory; and
8. Team Multifactor Leadership Questionnaire.

Founders Kouzes and Posner espoused their approach to achieving organizational transformation through leadership in *The Leadership Challenge* (n.d.). In their approach they focused on five core practices: model the way, inspire a shared vision, challenge the process, enable others to act, and encourage the heart. Their research suggested that these practices are integral to leaders being at their personal best. Like Mind Garden and the MLQ, Kouzes and Posner have developed and tested their own Leadership Practices Inventory (LPI) in assessing these core practices. The MLQ-5X-Short was selected for this research because of its comprehensive consideration of leadership. The theoretical model described in Chapter 1 encompassed a wide range of leadership characteristics that can be differentiated as well as synthesized and integrated.

Table 5 gives an example of the questions and scales of the MLQ-5X-Short.

Table 5

*Example Items and Scale for the Questionnaire*

Question number	Rating				
	Not at all	Once in a while	Sometimes	Fairly often	Frequently, if not always
1. Talks optimistically about the future	0	1	2	3	4
2. Spends time teaching and coaching	0	1	2	3	4
3. Avoids making decisions	0	1	2	3	4

All the questions had five categories for rating the values ranging from 0 to 4. The proprietary MLQ-5X-Short questionnaire instrument was purchased from Mind Garden, Inc., the publisher. The questionnaire is not included as an appendix to this dissertation because it is protected and Mind Garden, Inc. would not grant permission.

The alternative and null hypotheses were developed to test the following independent and dependent variables identified in Tables 6 and 7.

Table 6

*Primary Independent Variables*

Name and acronym	Type	Definition	Scale
Idealized influence (attributed) (IIA)	Cont.	Transformational	Percentile range 0 to 100
Idealized influence (behavior) (IIB)	Cont.	Transformational	Percentile range 0 to 100
Inspirational motivation (IM)	Cont.	Transformational	Percentile range 0 to 100
Intellectual stimulation (IS)	Cont.	Transformational	Percentile range 0 to 100
Individualized consideration (IC)	Cont.	Transformational	Percentile range 0 to 100
Contingent reward (CR)	Cont.	Transactional	Percentile range 0 to 100
Management by exception (active) (MBE-A)	Cont.	Transactional	Percentile range 0 to 100
Management by exception (passive) (MBE-P)	Cont.	Non-transactional	Percentile range 0 to 100
Laissez-faire (LF)	Cont.	Non-transactional	Percentile range 0 to 100
Hospital size (HS)	Cont.	No. of licensed beds	Actual number
Hospital type (HT)	Dich.	Non-profit or for-profit	0 = Non-profit 1 = For-profit
CEO gender (CGE)	Dich.	Female or male	0 = Female 1 = Male
CEO level of education (CEDU)	Cat.	Highest degree earned	1 = No degree, 2 = Bachelor's, 3 = Master's, 4 = Doctorate
CEO age (CAGE)	Cont.	Current age	Actual number
CEO experience (CEXP)	Cont.	Months in position	Actual number

*Note.* Continuous (Cont.), Dichotomous (Dich.), Categorical (Cat.).

Table 7

*Primary Dependent Variables*

Name and acronym	Type	Definition	Scale
Center of excellence (COE)	Dich.	Actual number of diseases recognized for being a center of excellence	1 = two or more centers of excellence 0 = fewer than two centers of excellence
Operating margins (OM)	Cont.	Actual operating margin percentage	Actual number
Hospital best practice (HBP)	Dich.	If 2+ centers of excellence and operating margins > 8%	0 = No 1 = Yes

*Note.* Continuous (Cont.), Dichotomous (Dich.), Categorical (Cat.).

Hospitals are identified by bed size and type of ownership, and CEOs include both genders. These divisions led to the development of the following research questions and hypotheses.

### **Research Questions and Hypotheses**

In order to answer the research questions, formal hypotheses were developed. The alternative and null hypotheses for the 5 primary and 14 secondary research questions follow.

**Research Question 1.** Are the operating margins for Texas hospitals associated with the CEOs' nine leadership behaviors, hospital size, type of hospital, and CEO gender, level of education, experience, and age?

**Null Hypothesis 1a.** Operating margins are not associated with the nine CEO leadership behaviors.

**Alternative Hypothesis 1a.** Operating margins are associated with the nine CEO leadership behaviors.

**Null Hypothesis 1b.** Operating margins are not associated with hospital size.

*Alternative Hypothesis 1b.* Operating margins are associated with hospital size.

*Null Hypothesis 1c.* Operating margins are not associated with hospital type.

*Alternative Hypothesis 1c.* Operating margins are associated with hospital type.

*Null Hypothesis 1d.* Operating margins are not associated with hospital CEO gender.

*Alternative Hypothesis 1d.* Operating margins are associated with hospital CEO gender.

*Null Hypothesis 1e.* Operating margins are not associated with hospital CEO age.

*Alternative Hypothesis 1e.* Operating margins are associated with hospital CEO age.

*Null Hypothesis 1f.* Operating margins are not associated with hospital CEO level of education.

*Alternative Hypothesis 1f.* Operating margins are associated with hospital CEO level of education.

*Null Hypothesis 1g.* Operating margins are not associated with hospital CEO level of experience.

*Alternative Hypothesis 1g.* Operating margins are associated with hospital CEO level of experience.

**Research Question 2.** Is Texas hospital recognition as a center of excellence by CMS in two or more modalities associated with the nine CEO leadership behaviors, type of hospital, hospital size, and CEO gender, level of education, experience, and age?

*Null Hypothesis 2a.* Center of excellence is not associated with the nine CEO leadership behaviors.

*Alternative Hypothesis 2a.* Center of excellence is associated with the nine CEO leadership behaviors.

*Null Hypothesis 2b.* Center of excellence is not associated with hospital size.

*Alternative Hypothesis 2b.* Center of excellence is associated with hospital size.

*Null Hypothesis 2c.* Center of excellence is not associated with hospital type.

*Alternative Hypothesis 2c.* Center of excellence is associated with hospital type.

*Null Hypothesis 2d.* Center of excellence is not associated with CEO gender.

*Alternative Hypothesis 2d.* Center of excellence is associated with CEO gender.

*Null Hypothesis 2e.* Center of excellence is not associated with CEO age.

*Alternative Hypothesis 2e.* Center of excellence is associated with CEO age.

*Null Hypothesis 2f.* Center of excellence is not associated with CEO level of education.

*Alternative Hypothesis 2f.* Center of excellence is associated with CEO level of education.

*Null Hypothesis 2g.* Center of excellence is not associated with CEO level of experience.

*Alternative Hypothesis 2g.* Center of excellence is associated with CEO level of experience.

**Research Question 3.** Are operating margins associated with a specific CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience, and age?

*Null Hypothesis 3.* Operating margins are not associated with CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience, and age.

*Alternative Hypothesis 3.* Operating margins are associated with CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience, and age.

**Research Question 4.** Is the number of center of excellence modalities that hospitals are recognized for associated with a specific CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience, and age?

**Null Hypothesis 4.** Centers of excellence are not associated with CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience, and age.

**Alternative Hypothesis 4.** Centers of excellence are associated with CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience, and age.

**Research Question 5.** Is Texas hospital recognition as being best practice by having qualified for 2+ centers of excellence and having operating margins > 8% associated with a specific CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience, and age?

**Null Hypothesis 5.** Best practice is not associated with CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience, and age.

**Alternative Hypothesis 5.** Best practice is associated with CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience, and age.

### **Uniqueness of the Study**

The uniqueness of this study added a new dimension to the benchmarking already used to identify the best-performing hospitals.



## **Data Collection and Analyses**

Figure 6 portrays the overall collection, analysis, and reporting process beginning with the required Institutional Review Board (IRB) and CITI researcher certification. After these requirements were met, the collection process commenced with the dissemination of the participants' letter, informed consent, demographic survey, and instrumentation. The primary participants for this study were the CEOs. After dissemination, collecting and monitoring of the responses were essential and included categorization, data planning and organization, and initial analyses. Both descriptive and inferential analyses were part of this process. Follow-up was required to maintain quality in the process. As the results entered into the final analyses stage, the reporting of these results became the focus along with continuing analyses.

**Institutional review board and CITI certification.** The IRB of the University of the Incarnate Word reviewed this research for protection of human subjects' rights. The invitation letter to the participants (see Appendix A) explains the purpose of the research and encourages engagement. This letter was accompanied by the informed consent form (see Appendix B) reiterating the purpose, benefits, and risks of the research. In addition, the consent stipulated the anonymity of the subjects and their institutional affiliations, and ended with the opportunity to participate as indicated by the individual's signature. The demographic survey (see Appendix C) was also part of the invitation letter and informed consent form. The last part of the welcome packet was the instrumentation previously noted. A postage-paid envelope was included in this packet for the consenting participants to return their signed consents, demographic survey, and MLQ-5X-Short. The approved IRB is attached (see Appendix D).

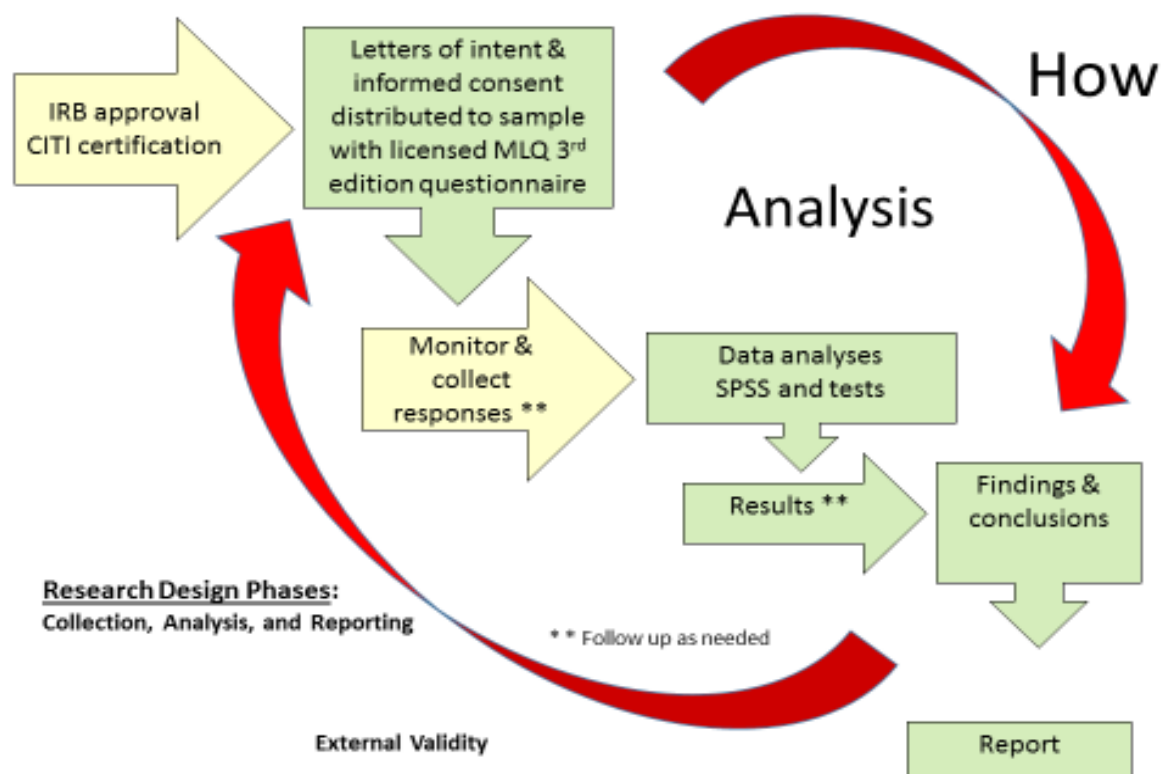


Figure 6. Data collection and measurement process.

**Control and security of data.** Only the researcher had access to the data and codes of the survey instrument, and only aggregated or group results were reported. The collected and analyzed data, specifically data that can be identified to an individual, will be destroyed by the researcher two years after the research is finalized. Analyzed data that are aggregated and cannot be identified to any specific individual are retained.

**Dissemination.** Originally the dissemination phase was envisioned as starting with the human resource representative who would then take the next step in disseminating the letters, consent, demographic survey, and instrumentation to the primary and intended participants. In retrospect, this process would have inserted an unintended gatekeeper. Instead, the dissemination phase began and ended with the CEO.

**Collection and initial analyses.** As the surveys and consent forms were returned, the researcher monitored the process, began the initial analyses, and set the foundation for incorporating all the results collected. Collected data were analyzed in relation to the research questions and hypotheses, with descriptive and inferential statistics using the tests identified by the research questions in Table 8.

Table 8

*Analysis Tests*

Research questions	Tests
1a	Pearson's $r$
1b	Pearson's $r$
1c	Point-biserial correlation
1d	Point-biserial correlation
1e	Pearson's $r$
1f	Spearman's correlation
1g	Pearson's $r$
2a	Point-biserial correlation
2b	Point-biserial correlation
2c	Pearson's phi
2d	Pearson's phi
2e	Point-biserial correlation
2f	Mann-Whitney U test
2g	Point-biserial correlation
3	Multiple regression
4	Logistic regression
5	Logistic regression

Data analysis was conducted using SPSS Version 22 statistical analysis software. A variety of descriptive statistics were generated to reflect hospital leadership demographics. For inferential statistical tests, all assumptions were verified to ensure appropriate application of the statistical methods. Correlation coefficients were computed to test the magnitude and direction of linear relationships between variables. Multivariate analyses including multiple regression and logistic regression were used.

**Final analyses and reporting of results.** When all of the data were collected, the final analysis was accomplished. Results were reviewed while analysis continued.

Figure 4 incorporates the reporting of results accompanied by recommendations and areas of further research, necessary parts of the research to complete the dissertation.

**Feedback to participants.** Another aspect of the reporting was also important in this research: How to provide the results of the research to the participants? The results were aggregated, ensuring confidentiality. A copy of the individual leaders' behavior outcomes based on how they answered the MLQ-5X-Short questionnaire was also provided to those who requested it.

## Chapter 4: Data Collection and Analyses

### Introduction

This chapter describes the data, how they were collected, and analyses of the data to evaluate the relationship between the hospital's CEO leadership behaviors and the overall performance of the hospital. The study was guided by the research questions that are outlined in Chapter 3. This chapter is organized into two sections: data collection and data analyses. The data collection section includes questionnaire response rates and respondent data characteristics. It also includes the MLQ-5X-Short scores as well as the questionnaire and demographic results. The data analyses section is divided into the following topics: describing the population, testing the hypotheses by research question, and summarizing the analyses. The research concludes in Chapter 5 where the results are discussed, recommendations for further research are given, and a summation is made.

This research assessed the relationship between the hospital CEO leadership behaviors and successful hospitals. The full range of the leadership theoretical model (Bass & Avolio, 1994) described and further developed in Chapter 1, and the MLQ-5X-Short (Avolio & Bass, 2000, 2004; Bass & Avolio, 1996) were used to determine the relationship.

### Data Collection

A directory of Texas hospitals was obtained from the Texas Hospital Association (2014). It listed all the hospitals in the state of Texas by type (non-profit or for-profit), names of the CEOs/administrators along with other senior staff members, number of licensed beds, address, telephone number, and the hospital's website.

**Determining the required sample size.** In order to determine the appropriate sample size a power calculation (Power Analysis Using G\*Power, 2015) was completed. For the

multiple regression model, G\*Power 3.1.3 was used to calculate required sample size to detect a moderate effect size ( $f^2 = .15$ ) with  $\alpha = .05$ , power = .80, and 10 independent variables. The required total sample size was 118. As noted in Figure 7, larger sample sizes will yield increased power. For example, a sample size of 130 should yield a power of .85.

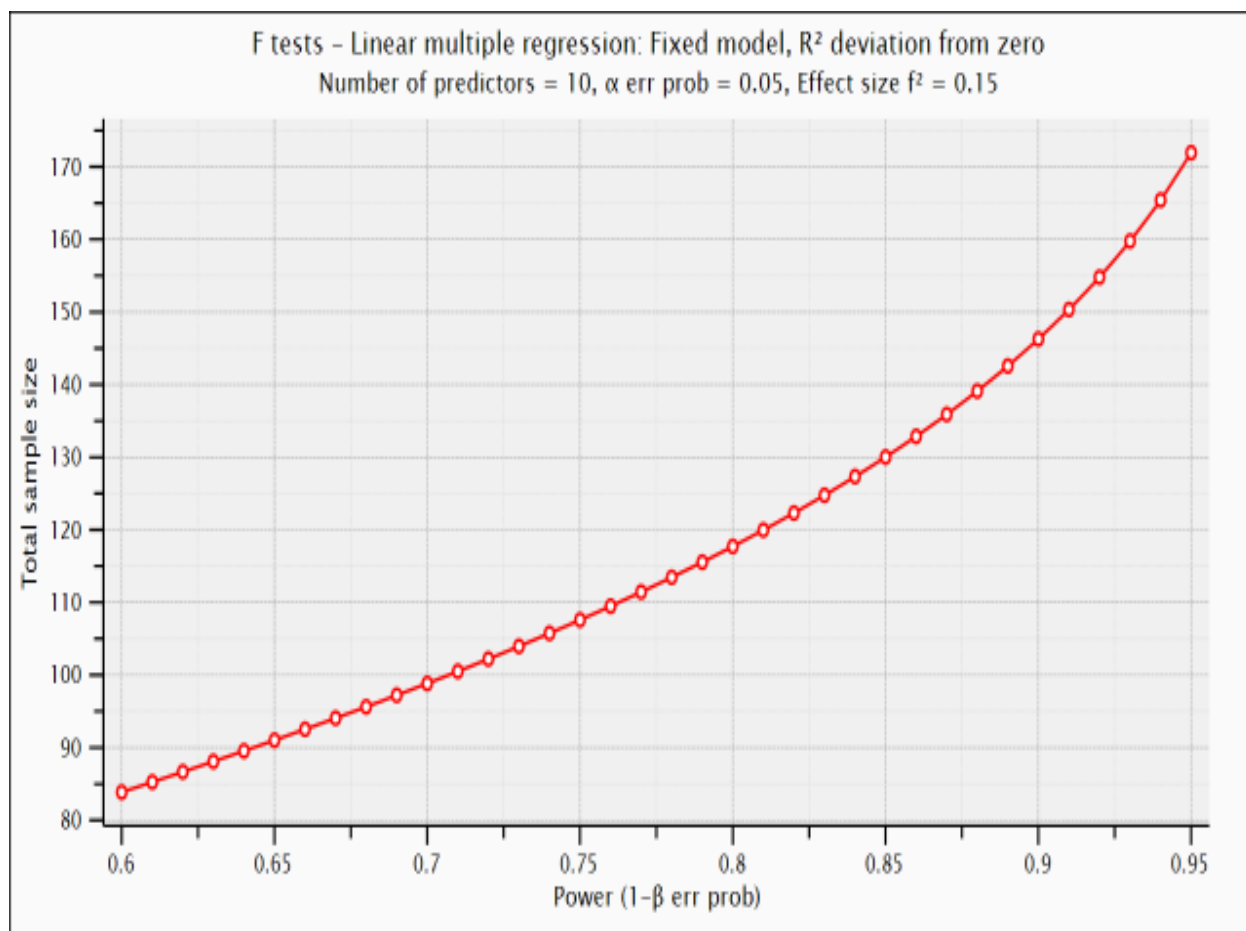


Figure 7. Power calculation.

Packets that were to be mailed out were then assembled. The packets contained a letter requesting participation, along with the consent form, the demographic questionnaire, the MLQ-5X-Short instrument, and a postage-paid return envelope. These were mailed to the CEOs/administrators of the hospitals in the state of Texas. Military and Veteran's Affairs (VA)

hospitals were excluded as noted in the delimitations. Based on the *2014 Texas Fact Sheet: Acute Care Hospitals* (Texas Department of State Health Services, p. 1), the pool of 564 hospitals fell into the following groupings:

For-profit hospitals: 295 (52%)  
Non-profit hospitals: 269 (48%)

Metropolitan: 414 (73%)  
Nonmetropolitan: 150 (27%)

100 beds or fewer: 370 (65%)  
101 to 250 beds: 85 (15%)  
251 to 500 beds: 71 (13%)  
501+ beds: 38 (7%)

The initial returned surveys were limited in volume. The low response rate of the first mailing ended up requiring additional mailings. A total of three different mailings were processed to obtain the required number of responses. The first mailing resulted in only 90 surveys being returned. The initial invitation letter did not include a return-by date. The second mailing was sent out, excluding hospitals that responded to the first mailing. It produced 20 completed surveys increasing the total number of responses to 110. It did have a request to complete and return the survey within 10 days. This was still short of the required target number of 118 responses and made a third mailing necessary. This mailing excluded those who responded to the first two mailings. This mailing resulted in an additional return of 14 completed surveys for a total of 124, a 22% response rate. This exceeded the target number of 118. The researcher offered to provide a copy of the results of the study to those who requested it to thank them for their participation. These preliminary results were provided to the participants. There were also six CEOs who returned the surveys stating that they would not participate in the study and an additional four where the hospital had closed.

**MLQ-5X-Short Questionnaire.** The MLQ-5X-Short form is a validated instrument of 45 questions for research purposes. Nine of the questions are used to measure outcomes and were excluded from this study as noted in the delimitations. The remaining 36 questions were all used in this study. The latest version of the MLQ-5X instrument has been used in nearly 300 research programs, doctoral dissertations, and theses throughout the United States and abroad, between 1995 and 2004 (Avolio & Bass, 2004). The respondents completed the questionnaire by answering each of the questions of how they evaluated themselves. The questions are grouped into five behaviors for transformational leadership: idealized influence (attributed), idealized influence (behavior), inspirational motivation, intellectual stimulation, and individualized consideration; two behaviors for the transactional style: contingent reward and management by exception (active); and two behaviors for laissez-faire style: management by exception (passive) and laissez-faire.

The respondents indicated on the questionnaire how they saw themselves when answering each of the questions on the survey. The answer choices were on a Likert scale where 0 = not at all, 1 = once in a while, 2 = sometimes, 3 = fairly often, and 4 = frequently or always. All of the returned and completed MLQ instruments were used in the data analyses.

The MLQ-5X-Short was selected for the study because of its ease of understanding and the ability to complete the questionnaire in a short period of time. It takes approximately 20 minutes or fewer to complete it. Although the MLQ-5X-Short is easy and straightforward in its design, it can also be used in a 360-degree design. This is because it has two formats, one for leaders and one for raters. In this study, only the leaders rated themselves.

**Scoring the MLQ-5X-Short.** As the completed surveys were received they were assigned a sequence number for identity purposes and no names were recorded. In order to



minimize risk, no questions were asked or data collected that would put the respondent at any personal or professional risk. Once the responses were received, the instrument was scored using the procedure described in the associated MLQ manual (Avolio & Bass, 2004). The scores are categorized by the nine behaviors described earlier in Chapter 3, Table 4.

Each of the nine behaviors had four questions that were associated with it on the questionnaire that the participant completed. Each of those responses had a numeric value on the score sheet. The score for each factor was then determined by calculating the average value of the four responses associated with the behavior. The respondents' scores were determined by how they ranked themselves as described earlier in Chapter 3, Table 5.

**Providing MLQ-5X-Short feedback to requesting participants.** Individual scores were provided to those participants who requested it following the scoring of the questionnaire. This was done so that requesting participants did not have to experience the long wait associated with completing the entire research study.

**Demographic questionnaire.** In addition to the MLQ-5X-Short instrument, a demographic questionnaire to capture the specific demographics for each of the respondents was also included (see Appendix C). These questions included age (in years), gender, level of education, institution (university/college) granting the degree, experience in the current position (in months), and any certifications that may be held by the respondent.

Prior to the collecting of data it was determined that multiple linear and logistic regression modeling would be used to determine if operating margins and best practices are associated with hospital and leader attributes. Independent variables included leadership behaviors, hospital size, hospital type, and CEO gender, level of education, experience, and age.

**Scoring the demographic questionnaire.** Once the instrument and questionnaires were scored, the results were recorded into an Excel spreadsheet. Also recorded into the same Excel file were the demographic data that were returned with the questionnaire. The demographic data resulted with the coding of nine additional variables. These were composed of 13 continuous variables: nine leadership behaviors along with operating margins, hospital size, experience in current position, and CEO age. Four of the variables were dichotomous: center of excellence, hospital best practice, hospital type, and CEO gender. One of the variables was categorical: CEO level of education.

### **Organizing the Data**

The data captured from the two questionnaires (MLQ-5X-Short and demographic form) were then transcribed into an Excel worksheet. The data were organized under the column headings identified in Table 9.

### **Data Analyses**

This section begins with the statistical analysis software used and continues with the checking of the data for completeness. Then the descriptive and inferential analyses are presented, first with the sample population and then with testing the individual research questions and hypotheses.

**Statistical software used in the analyses.** Data analysis was conducted using SPSS Version 22 statistical analysis software. A variety of descriptive statistics were generated to reflect hospital demographics. The collected data were imported from an Excel file into a single database using the SPSS format. Once all relevant data were formatted for use in SPSS, the data were validated and further data analysis was completed.

Table 9

*Demographic Questionnaire Excel Data Column Headings Reported/Requested by Respondent*

Column headings	Assigned, recorded, or coded by researcher
<i>Survey response number</i>	Assigned
<i>Experience in current position expressed by number of months</i>	Recorded
<i>Highest level of education earned (1 = No Degree, 2 = Bachelor's, 3 = Master's, and 4 = Doctorate)</i>	Coded
<i>College/university degree earned from</i>	Recorded
<i>Professional certifications earned</i>	Recorded
<i>Current age</i>	Recorded
<i>Gender (0 = Female, 1 = Male)</i>	Coded
<i>Previous position held prior to current one</i>	Recorded
<i>Operating margin identified on last year-end report</i>	Recorded
<i>Hospital best practice if 2+ centers of excellence and operating margins &gt; 8% (0 = No, 1 = Yes)</i>	Coded
<i>Requested copy of results (Y = Yes, N = No)</i>	Coded
<i>No. of licensed beds</i>	Recorded
<i>Hospital type (0 = Non-profit, 1 = For-profit)</i>	Coded
<i>No. recognized as center of excellence (0 = Fewer than 2 centers, 1 = 2 or more centers)</i>	Coded
<i>Center of excellence areas recognized for</i>	Recorded

**Checking completeness of data.** A check for errors was completed by looking for values that fell outside the range of possible values for the each of the variables. This was followed with a review to determine if any data were missing. No data were found to be missing. After the data screening was completed, a series of analyses was completed to answer the proposed research questions.

### **Descriptive Analyses**

**Descriptive statistics.** Descriptive statistics were used to analyze the demographics, leadership behaviors of the CEOs, variables, and individual hypotheses.

**Characteristics of survey final sample compared to the sample pool.** The 124 hospitals represented in the final sample (no missing values) differed somewhat from the 564 hospitals in the sample pool in terms of size (number of licensed beds). The largest difference was in the 101 to 250 bed size where the final sample was 3.4% higher than the sample pool. The smallest difference was in the 501 bed and over size where the final sample was 1.4% lower than the sample pool. The 124 hospitals in the final sample also differed when compared to the number of for profit and non-profit hospitals in the sample pool. In the final sample there was a higher percentage of non-profit hospitals, 65 (52%), compared to the sample pool of 269 (48%). Consequently, there was a lower percentage of for profit hospitals, 59 (48%) in the final sample, compared to the sample pool of 295 (52%). The mix of the urban hospitals and non-urban remained the same in the final sample and in the sample pool. In the final sample there were 90 (73%) metropolitan hospitals and 34 (27%) non-metropolitan hospitals whereas in the sample pool there were 414 (73%) metropolitan hospitals and 150 (27%) non-metropolitan hospitals. The final sample demographic closely reflected the demographic of all Texas hospitals in the sample pool minus the delimited military and Veteran's Affairs hospitals. For a summary of the demographic information described below, see Table 10.

**Describing the population by age.** The ages of the respondents in this study ranged from 28 to 73 years ( $M = 52.85$ ,  $SD = 9.569$ ). Figure 8 presents the shape of the distribution and evidence that the distribution is roughly normal. This is important, because normal distribution is an assumption for the use of statistical tests such as the  $t$ -test and multiple regression.

**Describing the population by gender.** In the gender division of this study, there were more male respondents (69.4%) than female (30.6%).

**Describing the population by experience in current position.** Experience in the current position is captured in months, and the range is from 1 month to 367 months ( $M = 60.19$ ,  $SD = 70.669$ ).

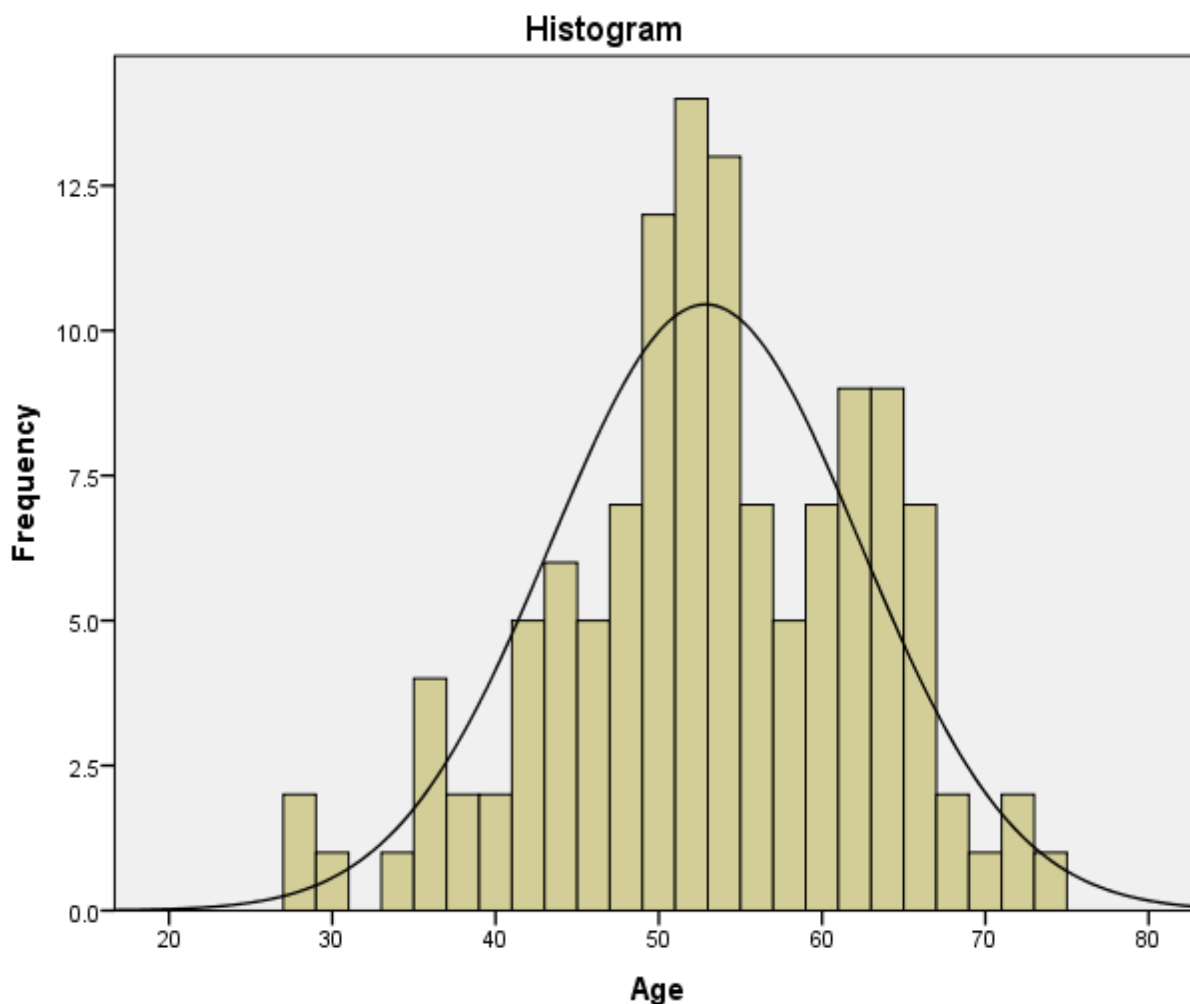


Figure 8. Ages (years) for respondents.

**Describing the population by highest level of education.** The respondents' highest level of education fell into one of four groups: no degree = 2 (1.6%), bachelor's = 13 (10.5%), master's = 97 (78.2%), and doctorate = 12 (9.7%).

**Describing the population by type of hospital.** The type of hospital was almost equally divided with non-profit at 65 (52.4%) and for-profit at 59 (47.6%).

**Describing the population by size of hospital.** The number of hospital beds ranged from 4 to 1082; hospital size is captured in the number of licensed beds ( $M = 54$ ,  $SD = 220.066$ ).

Table 10

*Categorical and Dichotomous Variable Descriptive Statistics*

Variable	<i>N</i>	Percent
Level of education (independent categorical)	No degree $N = 2$	1.6%
	Bachelor's $N = 13$	10.5%
	Master's $N = 97$	78.2%
	Doctorate $N = 12$	9.7%
	Total $N = 124$	100%
Gender (independent, dichotomous)	Male $N = 86$	69.4%
	Female $N = 38$	30.6%
	Total $N = 124$	100%
Center of excellence (dependent, dichotomous)	Two of more $N = 23$	18.5%
	Fewer than two $N = 101$	81.5%
	Total $N = 124$	100%
Best practice (dependent, dichotomous)	Yes $N = 16$	12.9%
	No $N = 108$	87.1%
	Total $N = 124$	100%
Hospital type (independent, dichotomous)	For-profit $N = 59$	47.6%
	Non-profit $N = 65$	52.4%
	Total $N = 124$	

**Describing the leadership.** In this study, the MLQ-5X-Short questionnaire was sent only to the CEOs. Therefore the scoring is based on the perceptions of how the CEOs view their own leadership behaviors. The MLQ-5X-Short questionnaire is composed of 45 items to account for the full range of leadership theory model. The questions are grouped into 9 behaviors. Each of these behaviors has four questions for a total of 36 questions: idealized influence (attributed), idealized influence (behavior), inspirational motivation, intellectual stimulation, and individualized consideration; 2 behaviors for the transactional style: contingent reward and management by exception (active); and 2 behaviors for laissez-faire style: management by

exception (passive) and laissez-faire. The remaining 9 questions focused on the outcomes of the leadership behaviors and were delimited in this research. Each response ( $N = 124$ ) was used in the data analysis. The data were analyzed using descriptive statistics procedures, see Table 11.

Table 11

*Continuous Variable Descriptive Statistics*

Leadership behavior	<i>N</i>	Min.	Max.	<i>M</i>	<i>SD</i>	Variance
IIA	124	.00	95.00	67.4194	25.33101	641.660
IIB	124	10.00	95.00	77.5403	20.84102	434.348
IM	124	30.00	95.00	79.2339	20.02077	400.831
IS	124	20.00	95.00	71.1694	19.25554	370.776
IC	124	.00	95.00	64.8387	27.68093	766.234
CR	124	.00	95.00	68.5081	26.64872	710.154
MBE-A	124	5.00	95.00	58.2661	27.96662	782.132
MBE-P	124	.00	95.00	43.1048	27.27899	744.143
LF	124	5.00	95.00	37.7419	32.55611	1059.900
CAGE	124	28.00	73.00	52.86	9.466	89.599
CEXP	124	1	367	60.19	70.669	.044
HS	124	4	1082	155.2	220.066	48429.219
Valid <i>N</i>	124					

*Note.* Leadership behaviors: IIA = Idealized influence (attributed), IIB = Idealized influence (behavior), IM = Inspirational motivation, IS = Intellectual stimulation, IC = Individualized consideration, CR = Contingent reward, MBE-A = Management by exception (active), MBE-P = Management by exception (passive), LF = Laissez-faire; Other variables: CAGE = CEO age, CEXP = CEO experience HS = Hospital size.

**Describing the leadership behaviors.** The percentile scores for all the participants from the MLQ-5X-Short are analyzed and reported in Table 12. The values ranged from a low for the behavior laissez-faire with a mean score of 37.74 and *SD* of 32.55 to a high mean score of 79.23 and *SD* of 20.02 for inspirational motivation.

### Inferential Analyses

To answer the research questions, formal hypotheses were developed and tests were identified as described earlier in Chapter 3. Testing for the alternative and null hypotheses for the research questions follows. The results are discussed using the identified tests. Results for all the

research questions are summarized at the end of this section in three tables. To simplify and focus the inferential analyses on testing the null and alternative hypotheses, the original five research questions have been renumbered to group the question and hypotheses together. This grouping results in Research Questions 1a through 1g, Research Questions 2a through 2g, Research Question 3, Research Question 4, and Research Question 5.

Table 12

*Descriptive Leadership Behavior Percentile Scores*

Descriptive leadership behavior	<i>N</i>	Min.	Max.	<i>M</i>	<i>SD</i>
Idealized influence (attributed)	124	.00	95.00	67.4194	25.33101
Idealized influence (behavior)	124	10.00	95.00	77.5403	20.84102
Inspirational motivation	124	30.00	95.00	79.2339	20.02077
Intellectual stimulation	124	20.00	95.00	71.1694	19.25554
Individualized consideration	124	.00	95.00	64.8387	27.68093
Contingent reward	124	.00	95.00	68.5081	26.64872
Management by exception (active)	124	5.00	95.00	58.2661	27.96662
Management by exception (passive)	124	.00	95.00	43.1048	27.27899
Laissez-faire	124	5.00	95.00	37.7419	32.55611
Valid <i>N</i>	124				

**Research Question 1a.** Are the operating margins for Texas hospitals associated with the CEO's nine leadership behaviors, hospital size, type of hospital, and CEO gender, level of education, experience in current position, and age? Table 13 is referenced for all the null and alternative hypotheses, tests, and results associated with Research Question 1.

Null Hypothesis 1a states that operating margins are not associated with the nine CEO leadership behaviors. Alternative Hypothesis 1a states that operating margins are associated with the nine CEO leadership behaviors.



**Testing Research Question 1a.** A Pearson's  $r$  correlation was completed to determine if there is a correlation between the operating margins and the nine CEO leadership behaviors.

Table 13 shows the correlation with the operating margin for each of the 124 respondents.

Table 13

*Research Question (RQ) 1: Tests, Results, and Variables—Operating Margin*

RQ	Variables	Statistic	Value	Sig (two tailed)	Type	N
1a	IIA	Pearson's r	.052	.570	CV	124
	IIB	Pearson's r	.116	.199	CV	124
	IS	Pearson's r	.090	.323	CV	124
	IM	Pearson's r	-.121	.180	CV	124
	IC	Pearson's r	.041	.652	CV	124
	CR	Pearson's r	.054	.549	CV	124
	MBE-A	Pearson's r	.084	.356	CV	124
	MBE-P	Pearson's r	.102	.262	CV	124
	LF	Pearson's r	.003	.973	CV	124
1b	HS	Pearson's r	-.103	.253	CV	124
1c	HT	Point biserial	.398**	.000	DV	124
1d	CGE	Point biserial	-.190*	.035	DV	124
1e	CAGE	Pearson's r	-.167	.064	DV	124
1f	CEDU	Spearman's rho coefficient	.040	.655	CAT	124
1g	CEXP	Pearson's r	-.073	.419	CV	124

*Note.* Leadership behaviors: IIA = Idealized influence (attributed), IIB = Idealized influence (behavior), IM = Inspirational motivation, IS = Intellectual stimulation, IC = Individualized consideration, CR = Contingent reward, MBE-A = Management by exception (active), MBE-P = Management by exception (passive), LF = Laissez-faire; Variable type: CV = Continuous variable, DV = Dichotomous variable, CAT = Categorical variables; Other variables: HS = Hospital size (number of licensed beds), HT = Hospital type, CGE = CEO gender, CAGE = CEO age, CEDU = CEO level of education, CEXP = CEO experience (time in current position)

\*Correlation is significant at the .05 level (two-tailed).

\*\*Correlation is significant at the .01 level (two-tailed).

**Results of Research Question 1a.** The  $p$ -value for each of the leadership behaviors is greater than .05, and therefore the results are not significant. Since the finding is not significant, there is not sufficient evidence to reject the null hypothesis. Therefore the finding is that operating margins are not associated with leadership behaviors.

**Research Question 1b.** Are the operating margins for Texas hospitals associated with the CEO leadership behaviors, hospital size (number of licensed beds), type of hospital, and CEO gender, level of education, experience in current position, and age? Null Hypothesis 1b states operating margins are not associated with hospital size. Alternative Hypothesis 1b states operating margins are associated with hospital size.

**Testing Research Question 1b.** Table 13 shows the results of testing the hospital size (number of licensed beds) and operating margin using Pearson's  $r$  test.

**Results of Research Question 1b.** The  $p$ -value is 0.253 (sig. two-tailed), which is greater than 0.05. Since the finding is not significant, there is not enough evidence to reject the null hypothesis. Therefore the finding is that operating margins are not associated with hospital size.

**Research Question 1c.** Are the operating margins for Texas hospitals associated with the CEO leadership behaviors, hospital size, type of hospital, and CEO gender, level of education, experience in current position, and age? Null Hypothesis 1c states operating margins are not associated with hospital type and Alternative Hypothesis 1c states operating margins are associated with hospital type.

**Testing Research Question 1c.** Table 13 shows the results of testing the hospital type (non-profit and for-profit) and operating margin by using a point-biserial correlation.

**Results of Research Question 1c.** Since the  $p$ -value is  $< .05$  (.001, two-tailed), the evidence supports the alternative hypothesis and the null hypothesis is rejected. Because the correlation of operating margins with hospital type is positive, this means that for-profit hospitals have significantly higher operating margins. Therefore the finding is that operating margins are associated with the hospital's type.

**Research Question 1d.** Are the operating margins for Texas hospitals associated with the CEO leadership behaviors, hospital size, type of hospital, and CEO gender, level of education, experience in current position, and age? Null Hypothesis 1d states that operating margins are not associated with hospital CEO gender and Alternative Hypothesis 1D states operating margins are associated with hospital CEO gender.

**Testing Research Question 1d.** Table 13 shows the results of testing hospital CEO gender and operating margin by using a point-biserial correlation.

**Results of Research Question 1d.** Since the  $p$ -value is  $< .05$  (.035, two-tailed), the evidence supports the alternative hypothesis and the null hypothesis is rejected. Because the correlation of operating margins with hospital CEO gender is negative, this means that female leaders are from hospitals with significantly higher operating margins. Therefore the finding is that operating margins are associated with hospital CEO gender.

**Research Question 1e.** Are the operating margins for Texas hospitals associated with the CEO leadership behaviors, hospital size, type of hospital, and CEO gender, level of education, experience in current position, and age? Null Hypothesis 1e states that operating margins are not associated with hospital CEO age, and Alternative Hypothesis 1e states that operating margins are associated with hospital CEO age.

**Testing Research Question 1e.** Table 13 shows the results of testing the hospital size and operating margin with Pearson's  $r$  test.

**Results of Research Question 1e.** The  $p$ -value is .064 (sig. two-tailed), which is greater than .05. Since the finding is not significant, there is not enough evidence to reject the null hypothesis. Therefore the finding is that operating margins are not associated with the CEO's age.

**Research Question 1f.** Are the operating margins for Texas hospitals associated with the CEO leadership behaviors, hospital size, type of hospital, and CEO gender, level of education, experience in current position, and age? Null Hypothesis 1F states that operating margins are not associated with hospital CEO level of education and Alternative Hypothesis 1f states that operating margins are associated with hospital CEO level of education.

**Testing Research Question 1f.** Table 13 shows the results of testing the hospital CEO's level of education and operating margins with Spearman's rho test.

**Results of Research Question 1f.** The  $p$ -value is .655 (sig. two-tailed), which is greater than .05. Since the finding is not significant, the null hypothesis cannot be rejected. Therefore the finding is that operating margins are not associated with the CEO's level of education.

**Research Question 1g.** Are the operating margins for Texas hospitals associated with the CEO leadership behaviors, hospital size, type of hospital, and CEO gender, level of education, experience in current position, and age? Null Hypothesis 1g states that operating margins are not associated with hospital CEO level of experience, and Alternative Hypothesis 1e states that operating margins are associated with hospital CEO level of experience.

**Testing Research Question 1g.** Table 13 shows the results of testing hospital CEO experience in the current position and operating margin with Pearson's  $r$  test.

**Results of Research Question 1g.** The  $p$ -value is .419 (sig. two-tailed), which is greater than .05. Since the finding is not significant, there is not enough evidence to reject the null hypothesis. Therefore the finding is that operating margins are not associated with the CEO's experience in the current position.

**Research Question 2a.** Is Texas hospital recognition as a center of excellence by CMS in two or more modalities associated with the nine CEO leadership behaviors, hospital type,

hospital size, and CEO gender, level of education, experience in current position, and age?

Similar to the Research Question 1, Table 14 is referenced for all the null and alternative hypotheses, tests, and results associated with Research Question 2 with the exception of Research Question 2f.

Table 14

*Research Question (RQ) 2: Tests, Results, and Variables—Centers of Excellence*

RQ	Variables	Statistic	Value	Sig. (two tailed)	Type	N
2a	IIA	Point biserial	.143	.112	CV	124
	IIB	Point biserial	.077	.398	CV	124
	IS	Point biserial	-.062	.497	CV	124
	IM	Point biserial	.096	.287	CV	124
	IC	Point biserial	-.065	.474	CV	124
	CR	Point biserial	-.004	.961	CV	124
	MBE-A	Point biserial	-.011	.901	CV	124
	MBE-P	Point biserial	.037	.682	CV	124
	LF	Point biserial	.027	.767	CV	124
2b	HS	Point biserial	.567**	.000	CV	124
2c	HT	Pearson's phi	.002	.979	DV	124
2d	CGE	Pearson's phi	.002	.981	DV	124
2e	CAGE	Point biserial	-.002	.984	CV	124
2f	CEDU	Mann-Whitney U	See Table 15		CAT	124
2g	CEXP	Point biserial	-.015	.870	CV	124

Note: Leadership behaviors: IIA = Idealized influence (attributed), IIB = Idealized influence (behavior), IM = Inspirational motivation, IS = Intellectual stimulation, IC = Individualized consideration, CR = Contingent reward, MBE-A = Management by exception (active), MBE-P = Management by exception (passive), LF = Laissez-faire; Variable type: CV = Continuous variable, DV = Dichotomous variable, CAT = Categorical variables; Other variables: HS = Hospital size (number of licensed beds), HT = Hospital type, CGE = CEO gender, CAGE = CEO age, CEDU = CEO level of education, CEXP = CEO experience (time in current position)  
\*\*Correlation is significant at the .01 level (two-tailed).

Null Hypothesis 2a states that center of excellence is not associated with the nine CEO leadership behaviors, and Alternative Hypothesis 2a states that center of excellence is associated with the nine CEO leadership behaviors.

**Testing Research Question 2a.** Table 14 shows the results of testing the hospital CEO's leadership behaviors and centers of excellence with a point-biserial correlation to determine if there is a correlation between recognition as a center of excellence by CMS in two or more modalities and the CEO's leadership behaviors.

**Results of Research Question 2a.** The  $p$ -value for each of the leadership behaviors is greater than .05, and therefore the result is not significant. Since the finding is not significant, there is not sufficient evidence to reject the null hypothesis. Therefore the finding is that centers of excellence are not associated with leadership behaviors.

**Research Question 2b.** Is Texas hospital recognition for two or more centers of excellence associated with CEO leadership behaviors, type of hospital, hospital size, and CEO gender, level of education, experience in current position, and age? Null Hypothesis 2b states center of excellence is not associated with hospital size. Alternative Hypothesis 2b states center of excellence is associated with hospital size.

**Testing Research Question 2b.** Table 14 shows the results of testing the hospital size (number of licensed beds) and centers of excellence by using a point-biserial correlation.

**Results of Research Question 2b.** Since the  $p$ -value is  $<.05$  (.001, two-tailed), the evidence supports the alternative hypothesis and the null hypothesis is rejected. Because the correlation of centers of excellence with hospital size is positive, this means that hospitals that are recognized with two or more modalities tend to have larger bed counts than hospitals with fewer than two modalities.

**Research Question 2c.** Is Texas hospital recognition as a center of excellence by CMS in two or more modalities associated with CEO leadership behaviors, type of hospital, hospital size, and CEO gender, level of education, experience in current position, and age? Null Hypothesis 2c

states that center of excellence is not associated with hospital type, and Alternative Hypothesis 2c states that center of excellence is associated with hospital type.

**Testing Research Question 2c.** Table 14 shows the results of testing the number of modalities (fewer than two, or two or more) and hospital type with Pearson's phi test.

**Results of Research Question 2c.** The  $p$ -value is 0.979 (sig. two-tailed), which is greater than .05. Since the finding is not significant, there is not enough evidence to reject the null hypothesis. Therefore the finding is that center of excellence is not associated with hospital type.

**Research Question 2d.** Is Texas hospital recognition as a center of excellence by CMS in two or more modalities associated with CEO leadership behaviors, type of hospital, hospital size, and CEO gender, level of education, experience in current position, and age? Null Hypothesis 2d states that center of excellence is not associated with CEO gender, and Alternative Hypothesis 2d states that center of excellence is associated with CEO gender.

**Testing Research Question 2d.** Table 14 shows the results of testing the number of modalities (fewer than two, or two or more) and CEO gender with Pearson's phi test.

**Results of Research Question 2d.** The  $p$ -value is .981 (sig. two-tailed), which is greater than .05. Since the finding is not significant, there is not enough evidence to reject the null hypothesis. Therefore the finding is that center of excellence is not associated with CEO gender.

**Research Question 2e.** Is Texas hospital recognition as a center of excellence by CMS in two or more modalities associated with CEO leadership behaviors, hospital size, type of hospital, and CEO gender, level of education, experience in current position, and age? Null Hypothesis 2e states that center of excellence is not associated with CEO age, and Alternative Hypothesis 2e states that center of excellence is associated with CEO age.

**Testing Research Question 2e.** Table 14 shows the results of testing CEO age and hospitals with two or more centers of excellence as well as those with fewer than two centers of excellence by using a point-biserial correlation.

**Results of Research Question 2e.** Since the  $p$ -value is greater than .05 (.984, two-tailed), the finding is not significant. Therefore the finding is that center of excellence is not associated with CEO age.

**Research Question 2f.** Is Texas hospital recognition as a center of excellence by CMS in two or more modalities associated with CEO leadership behaviors, type of hospital, hospital size, and CEO gender, level of education, experience in current position, and age? Null Hypothesis 2f states that center of excellence is not associated with CEO level of education, and Alternative Hypothesis 2f states that center of excellence is associated with CEO level of education.

**Testing Research Question 2f.** Table 15 shows the results of testing the CEO's level of education and hospitals with two or more centers of excellence as well as those with fewer than two centers of excellence by using a Mann-Whitney U Test.

Table 15

*Mann-Whitney U Test*

Type of test	Highest level of education obtained
Mann-Whitney U	1128.000
Wilcoxon W	6279.000
Z	-.299
Asymp. sig. (two-tailed)	.765

*Note:* Grouping variable: Center of excellence.

**Results of Research Question 2f.** Since the Z-value is  $-.299$  and the  $p$ -value is greater than .05 (.765, two-tailed), the findings are not significant and there is not enough evidence to



reject the null hypothesis. Therefore center of excellence is not associated with CEO level of education.

**Research Question 2g.** Is Texas hospital recognition as a center of excellence by CMS in two or more modalities associated with CEO leadership behaviors, hospital size, type of hospital, and CEO gender, level of education, experience in current position, and age? Null Hypothesis 2g states center of excellence is not associated with hospital CEO experience in the current position, and Alternative Hypothesis 2g states center of excellence is associated with hospital CEO experience in the current position.

**Testing Research Question 2g.** Table 14 shows the results of testing hospital CEO experience in the current position and center of excellence (fewer than two modalities, or two or more) by using a point-biserial correlation.

**Results of Research Question 2g.** Since the  $p$ -value is greater than .05 (.87, two-tailed) and the finding is not significant, there is not enough evidence to reject the null hypothesis. Therefore the finding is that center of excellence is not associated with CEO experience in the current position.

**Research Question 3.** Are operating margins associated with specific CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience, and age? Null Hypothesis 3 states that operating margins are not associated with CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience, and age, and Alternative Hypothesis 3 states that operating margins are associated with CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience, and age.

**Testing Research Question 3.** A hierarchical multiple regression was used to assess the ability of leadership behaviors to predict operating margins after controlling for hospital size, hospital type, and CEO level of education, gender, experience, and age. Primary analyses were conducted to ensure there were no violations of the assumptions of normality, linearity, multicollinearity, and homoscedasticity.

The principle of parsimony was used to look for the simplest solution. The level of education variable was not significant and was removed from the model. The model was rerun to identify the next variable with the highest  $p$ -value. This was repeated until only the variable, hospital type, with a significant  $p$ -value remained in Model 1. Model 1 in Table 16 explains 15.8% of the variance. After the leadership behavior variables were added in Model 2, the model as a whole explained 25.1% of the variance. The  $R$ -square change value is .09, meaning that the behavior variables explain an additional 9% of the variance in operating margin which is not a significant contribution since the  $p$ -value for this line is .136.

*Table 16*

*Model Summary*

Model	$R$	$R$ -square	Adjusted $R$ -square	Std. error of the estimate	Change statistics				
					$R$ -square change	$F$ change	$df1$	$df2$	Sig. $F$ change
1	.398 <sup>a</sup>	.158	.151	10.4067	.158	22.943	1	122	.000
2	.501 <sup>b</sup>	.251	.185	10.1984	.093	1.559	9	113	.136

*Note.* Leadership behaviors: IIA = Idealized influence (attributed), IIB = Idealized influence (behavior), IM = Inspirational motivation, IS = Intellectual stimulation, IC = Individualized consideration, CR = Contingent reward, MBE-A = Management by exception (active), MBE-P = Management by exception (passive), LF = Laissez-faire; Model 1 predictors (constant): Hospital type; Model 2 predictors (constant): Hospital type and leadership behaviors; Dependent variable: Operating margin.

The ANOVA in Table 17 indicates the model as a whole is significant since  $F = 3.792$  and  $p < .005$ . The results indicated in Table 18 show the variance inflation factor (VIF) values

are all less than 2 and well within the accepted boundaries of less than 10. This indicates that multicollinearity is not a concern.

Table 17

## ANOVA

Model		Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
1	Regression	2484.704	1	2484.704	22.943	.000 <sup>b</sup>
	Residual	13212.492	122	108.299		
	Total	15697.196	123			
2	Regression	3944.429	10	394.443	3.792	.000 <sup>c</sup>
	Residual	11752.767	113	104.007		
	Total	15697.196	123			

*Note.* Leadership behaviors: IIA = Idealized influence (attributed), IIB = Idealized influence (behavior), IM = Inspirational motivation, IS = Intellectual stimulation, IC = Individualized consideration, CR = Contingent reward, MBE-A = Management by exception (active), MBE-P = Management by exception (passive), LF = Laissez-faire; Model 1 predictors (constant): Hospital type; Model 2 predictors (constant): Hospital type and leadership behaviors; Dependent variable: Operating margin.

In Table 18, only three of the Model 2 variables made a statistically significant contribution (less than .05). In order of importance they are: hospital type ( $\beta = .436$ ), leadership behavior IIB ( $\beta = .225$ ), and leadership behavior IM ( $\beta = -.230$ ). This meant that operating margins are associated with these specific CEO leadership behaviors after controlling for hospital type.

The residual results reported in Table 19 show the maximum Mahalanobis (Mahal.) distance value as 23.707. This value is well below the critical value of 29.59 and indicates that there are no multivariate outliers.

In the normal probability plot (p-p) of the regression standardized residual displayed in Figure 9, the points lie in a straight diagonal line from the bottom-left to the top-right and suggest no major deviations from normality.

Table 18

*Coefficients*

Model		Unstd. coeff.	Std. coeff.	<i>t</i>	Sig.	Correlations			Collin-earity statistic	
		<i>B</i>	Std. error			Beta	Zero-order	Partial	Part	VIF
1	(Const)	3.349	1.291	2.594	.011					
	Hosp. type	8.963	1.871	.398	4.790	.000	.398	.398	.398	1.000
2	(Const)	-4.456	6.058	-.736	.464					
	Hosp. type	9.820	1.935	.436	5.075	.000	.398	.431	.413	1.113
	IIA	.002	.047	.005	.050	.960	.052	.005	.004	1.676
	IIB	.122	.053	.225	2.318	.022	.116	.213	.189	1.425
	IM	-.130	.060	-.230	-2.149	.034	-.121	-.198	-.175	1.727
	IS	.098	.063	.167	1.543	.126	.090	.144	.126	1.760
	IC	-.029	.045	-.071	-.644	.521	.041	-.061	-.052	1.851
	CR	.018	.040	.042	.443	.659	.054	.042	.036	1.340
	MBE-A	-.014	.035	-.035	-.401	.689	.084	-.038	-.033	1.165
	MBE-P	.050	.037	.120	1.342	.182	.102	.125	.109	1.198
LF	.012	.031	.035	.393	.695	.003	.037	.032	1.226	

*Note.* Leadership behaviors: IIA = Idealized influence (attributed), IIB = Idealized influence (behavior), IM = Inspirational motivation, IS = Intellectual stimulation, IC = Individualized consideration, CR = Contingent reward, MBE-A = Management by exception (active), MBE-P = Management by exception (passive), LF = Laissez-faire; Unstd. coeff. = Unstandardized coefficient; Std. coeff. = Standardized coefficient; Dependent variable: Operating margin.

The scatterplot displayed in Figure 10 indicates that the standardized residuals are roughly rectangularly distributed. The majority scores are concentrated in the center and along the 0-point line. This supports the assumption of homoscedasticity.

**Results of Research Question 3.** The evidence supports the alternative hypothesis, and the null hypothesis is rejected. Therefore operating margins are associated with two specific leadership behaviors (IIB and IM) after controlling for hospital type.

Table 19

*Residuals Statistics*

Values	Minimum	Maximum	Mean	SD	N
Predicted value	-2.939	21.598	7.613	5.6629	124
Std. predicted value	-1.863	2.470	.000	1.000	124
Standard error of predicted value	1.874	4.570	2.977	.604	124
Adjusted predicted value	-3.663	22.740	7.645	5.7225	124
Residual	-24.1504	25.7463	.0000	9.7750	124
Std. residual	-2.368	2.525	.000	.958	124
Stud. Residual	-2.473	2.637	-.001	1.002	124
Deleted residual	-26.3282	28.0883	-.0312	10.6846	124
Stud. deleted Residual	-2.531	2.710	.000	1.012	124
Mahal. Distance	3.161	23.707	9.919	4.327	124
Cook's distance	.000	.063	.008	.012	124
Centered leverage value	.026	.193	.081	.035	124

Note: Dependent variable: Operating margin.

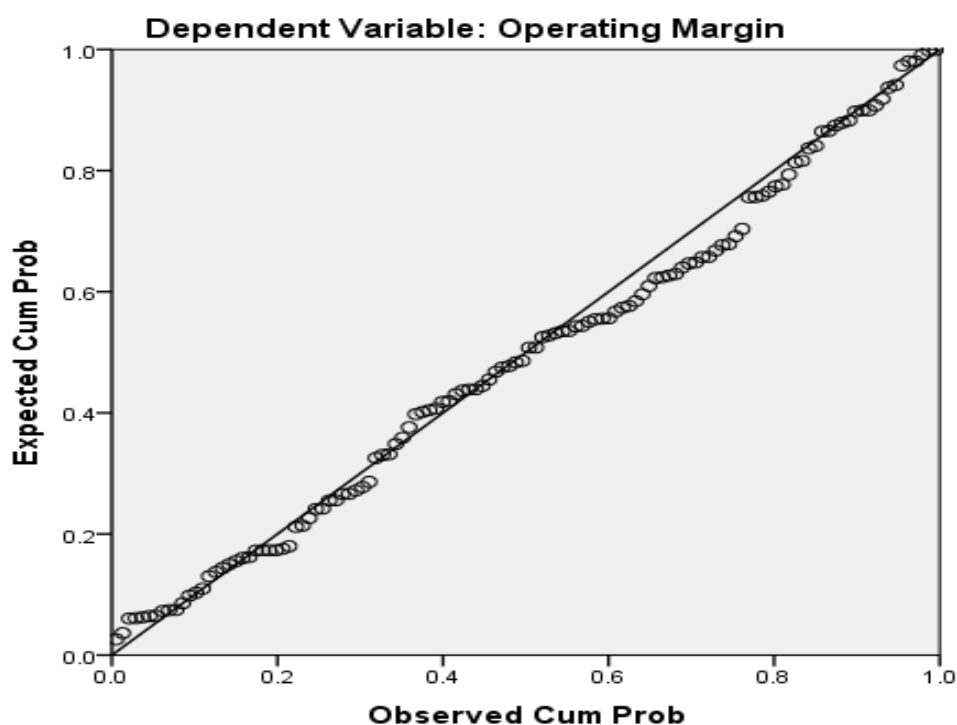


Figure 9. Normal p-p plot of regression standardized residual.

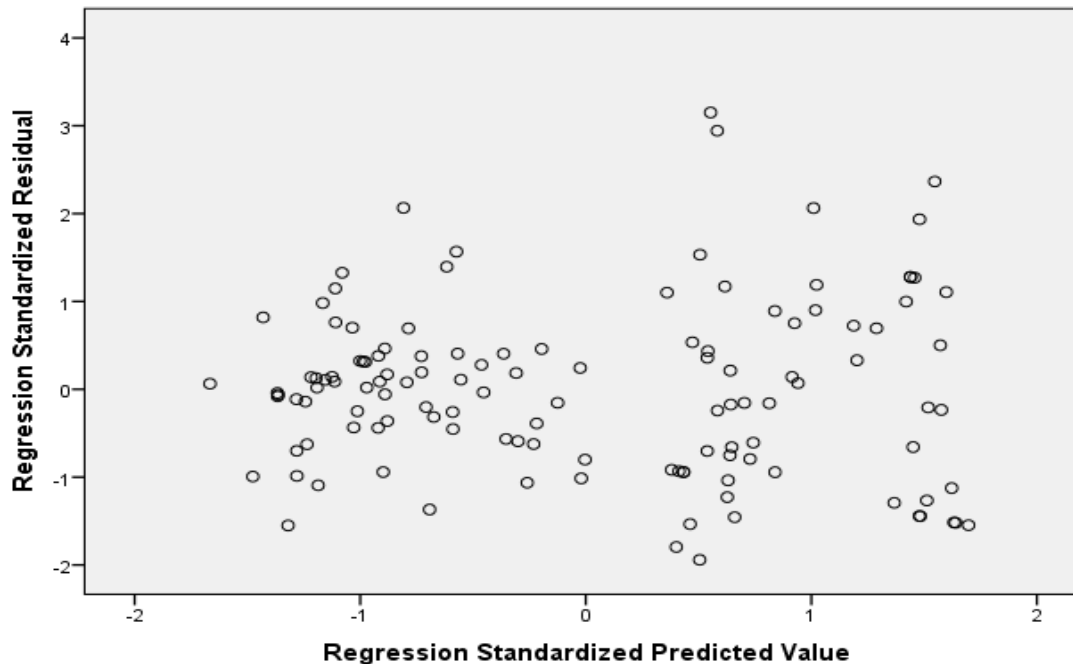


Figure 10. Scatterplot dependent variable: operating margin.

**Research Question 4.** Is the number of centers of excellence modalities that hospitals are recognized for associated with a specific CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience in current position, and age? Null Hypothesis 4 states that centers of excellence are not associated with CEO leadership behavior after controlling for hospital size, hospital type, and CEO gender, level of education, experience in current position, and age. Alternative Hypothesis 4 states that centers of excellence are associated with CEO leadership behavior after controlling for hospital size, hospital type, and CEO gender, level of education, experience in current position, and age.

**Testing Research Question 4.** Binary logistic regression was performed to assess the impact of a number of factors on the likelihood that CEO leadership behaviors are associated with the number of centers of excellence. In the interest of parsimony, control variables that were not statistically significant were systematically removed from the regression model. The initial

classification (Step 0) in Table 20 correctly classified 81.5% of the cases. The final model (Step 1) contained 1 control variable (hospital size) and the 9 leadership behavior independent variables. Step 1 of the classification is depicted in Table 21.

Table 20

*Classification Table: Research Question 4, Step 0*

		Observed	Predicted		Percentage correct
			Centers of excellence		
			Fewer than two centers of excellence	Two or more centers of excellence	
Step 0	Center of excellence	Fewer than two centers of excellence	101	0	100.0
		Two or more centers of excellence	23	0	.0
Overall percentage					81.5

*Note:* Constant is included in the model; Cut value is .500

Table 21

*Classification Table: Research Question 4, Step 1*

		Observed	Predicted		Percentage correct
			Center of excellence		
			Fewer than two centers of excellence	Two or more centers of excellence	
Step 1	Center of excellence	Fewer than two centers of excellence	98	3	97.0
		Two or more centers of excellence	13	10	43.5
Overall percentage					87.1

*Note:* Cut value is .500.

This classification now correctly identified 87.1% of the cases. This model containing all predictors was statistically significant,  $\chi^2(10, N = 124) = 36.601, p < .001$ , as shown in Table 22.

Table 22

*Omnibus Tests of Model Coefficients—Research Question 4, Step 1*

Step 1	Chi-square	df	Sig.
Step	36.601	10	<.001
Block	35.997	8	<.001
Model	35.997	8	<.001

The model summary shown in Table 23 explains between 25.6% (Cox & Snell *R*-square) and 41.4% (Nagelkerke *R*-square) of the variance in centers of excellence.

Table 23

*Model Summary—Research Question 4*

Step	-2 log likelihood	Cox & Snell <i>R</i> -square	Nagelkerke <i>R</i> -square
1	82.342 <sup>a</sup>	.256	.414

*Note:* Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Only the control variable, hospital size, made a unique statistically significant contribution to the model (centers of excellence). The Hosmer-Lemeshow test shown in Table 24 indicates a chi-square value of 9.638 and a significance level of .291. This significance value is larger than .05 and indicates support for the model.

Table 24

*Hosmer-Lemeshow Test—Research Question 4*

Step	Chi-square	df	Sig.
1	9.638	8	.291

The Nagelkerke *R*-square from Table 23 equaled .414 and indicated that 41.4% of the variance in centers of excellence is explained by the logistic regression model.



Table 25 indicates that there is only one control variable that has a  $p$ -value less than .05. This variable, hospital size ( $p$ -value = .001), contributed significantly to the predictive ability of the model. With an odds ratio  $\text{Exp}(B) = 1.007$ , this variable indicated that the larger the hospital size, the more likely to report a center of excellence. None of the 9 leadership behaviors (the primary independent variables) were significant in this model.

Table 25

*Variables in the Equation—Research Question 4, Step 1*

Variable	$B$	S.E.	Wald	$Df$	Sig.	$\text{Exp}(B)$	95% C.I. for $\text{Exp}(B)$	
							Lower	Upper
IIA	.021	.019	1.221	1	.269	1.021	.984	1.061
IIB	.008	.019	.163	1	.686	1.008	.971	1.045
IM	-.005	.020	.078	1	.780	.995	.957	1.034
IS	.006	.020	.076	1	.782	1.006	.966	1.047
IC	-.014	.015	.840	1	.359	.986	.957	1.016
CR	.005	.015	.104	1	.747	1.005	.976	1.035
MBE-A	-.004	.012	.106	1	.745	.996	.972	1.020
MBE-P	-.004	.012	.089	1	.765	.996	.974	1.020
LF	.006	.010	.329	1	.566	1.006	.986	1.026
HS	.007	.002	17.136	1	.000	1.007	1.004	1.010
Constant	-5.517	3.278	2.833	1	.092	.004		

*Note:* Leadership behaviors: IIA = Idealized influence (attributed), IIB = Idealized influence (behavior), IM = Inspirational motivation, IS = Intellectual stimulation, IC = Individualized consideration, CR = Contingent reward, MBE-A = Management by exception (active), MBE-P = Management by exception (passive), LF = Laissez-faire; HS = Hospital size.

**Results of Research Question 4.** Therefore based upon the evidence, the null hypothesis cannot be rejected: Center of excellence is not associated with the CEO leadership behaviors after controlling for the significant covariate, hospital size.

**Research Question 5.** Is Texas hospital recognition as being best practice by having qualified for 2+ centers of excellence and having operating margins > 8% associated with a

specific CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience in current position, and age? Null Hypothesis 5 states that best practice is not associated with CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience in current position, and age. Alternative Hypothesis 5 states that best practice is associated with CEO leadership behavior after controlling for hospital size, hospital type, CEO level of education, gender, experience in current position, and age.

**Testing Research Question 5.** Binary logistic regression was performed to assess the likelihood that CEO leadership behaviors are associated with being recognized for best practices.

The initial classification (Step 0) in Table 26 correctly classified 87.1% of the cases.

Table 26

*Classification Table: Research Question 5, Step 0*

Observed		Predicted			
		Best practice		Percentage correct	
		No	Yes		
Step 0	Best practice	No	108	0	100.0
		Yes	16	0	.0
Overall percentage					87.1

*Note:* Cut value is .500.

The final model contained the 9 leadership independent variables and the statistically significant control variable, hospital type. Step 1 of the classification is depicted in Table 27. This classification now correctly identifies 87.9% of the cases.

Table 27

*Classification Table: Research Question 5, Step 1*

Observed		Predicted			
		Best practice		Percentage correct	
		No	Yes		
Step 1	Best practice	No	107	1	99.1
		Yes	14	2	12.5
Overall percentage					87.9

*Note:* Cut value is .500.

This model containing all predictors was statistically significant,  $\chi^2(10, N = 124) = 12.530, p = .251$ , as shown in Table 28, and indicates that the model did not achieve significantly better fit than the null model.

Table 28

*Omnibus Tests of Model Coefficients: Research Question 5, Step 1*

Model	Chi-square	df	Sig.
Step	12.530	10	.251
Block	12.530	10	.251
Model	12.530	10	.251

The model summary shown in Table 29 explains between 9.6% (Cox & Snell *R*-square) and 17.9% (Nagelkerke *R*-square) of the variance in the number of best practice hospitals. Only the control variable hospital type made a unique statistically significant contribution to the model (best practice). The Hosmer-Lemeshow Test (goodness-of-fit test) shown in Table 30 indicated a chi-square value of 14.815 and a significance level of .063. This significance value is larger than .05 and indicates support for the model. Table 31 indicates that only one control variable contributed significantly to the model (hospital type, *p*-value .021).

Table 29

*Model Summary: Research Question 5, Step 1*

Step	-2 log likelihood	Cox & Snell R-square	Nagelkerke R-square
1	82.836 <sup>a</sup>	.096	.179

Note: Estimation terminated at iteration number 6 because parameter estimates changed by less than .001

The Nagelkerke R-square from Table 29 equals .179 and indicates that 17.9% of the variance in best practice is explained by the logistic regression model.

Table 30

*Hosmer-Lemeshow Test: Research Question 5*

Step	Chi-square	df	Sig.
1	14.815	8	.063

Table 31

*Variables in the Equation: Research Question 5, Step 1*

Variable	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for Exp(B)	
							Lower	Upper
IIA	.026	.018	2.263	1	.132	1.027	.992	1.063
IIB	.005	.017	.079	1	.779	1.005	.972	1.038
IM	.006	.019	.098	1	.754	1.0006	.970	1.043
IS	-.024	.019	1.604	1	.205	.977	.942	1.013
IC	-.003	.013	.046	1	.830	.997	.972	1.023
CR	-.008	.012	.430	1	.512	.992	.968	1.016
MBEA	-.013	.012	1.319	1	.251	.987	.965	1.009
MBEP	.013	.012	1.224	1	.269	1.013	.990	1.037
LF	-.001	.010	.007	1	.933	.999	.980	1.019
HT	1.553	.675	5.290	1	.021	4.725	1.258	17.746
constant	-2.987	1.971	2.298	1	.130	.050		

Note: Leadership behaviors: IIA = Idealized influence (attributed), IIB = Idealized influence (behavior), IM = Inspirational motivation, IS = Intellectual stimulation, IC = Individualized consideration, CR = Contingent reward, MBE-A = Management by exception (active), MBE-P = Management by exception (passive), LF = Laissez-faire; HT = Hospital type.

With an odds ratio  $\text{Exp}(B) = 4.725$ , the significant control variable contributing in Table 31 indicated that for-profit hospitals are more likely to be associated with best practice. None of the 9 leadership behaviors (the primary independent variables) were significant in this model. Given the non-significant goodness-of-fit test, interpretation of the model is limited.

**Results of Research Question 5.** Based upon the evidence, the null hypothesis cannot be rejected: Best practice is not associated with the CEO leadership behaviors after controlling for hospital type.

### Summary of the Results

Tables 32 and 33 summarize results from the first two research questions and associated seven hypotheses. Table 34 summarizes results for the remaining three primary research questions and their associated three hypotheses.

Table 32

#### *Summary of Findings for Research Questions 1*

Null and Alternative (Alt.) Hypotheses		Results
Quest 1	Are the operating margins for Texas hospitals associated with the CEOs' nine leadership behaviors, hospital size, type of hospital, and CEO gender, level of education, experience, and age?	
Null 1a	Operating margins ARE NOT associated with the nine CEO leadership behaviors.	ACCEPTED
Null 1b	Operating margins ARE NOT associated with hospital size.	ACCEPTED
Alt. 1c	Operating margins ARE associated with hospital type.	ACCEPTED
Alt. 1d	Operating margins ARE associated with hospital CEO gender.	ACCEPTED
Null 1e	Operating margins ARE NOT associated with hospital CEO age.	ACCEPTED
Null 1f	Operating margins ARE NOT associated with hospital CEO level of education.	ACCEPTED
Null 1g	Operating margins ARE NOT associated with hospital CEO level of experience.	ACCEPTED

Table 33

*Summary of Findings for Research Question 2*

Null and Alternative (Alt.) Hypotheses		Results
Quest. 2	Is Texas hospital recognition as a center of excellence by CMS in two or more modalities associated with the nine CEO leadership behaviors, type of hospital, hospital size, and CEO gender, level of education, experience, and age?	
Null 2a	Center of excellence IS NOT associated with the nine CEO leadership behaviors.	ACCEPTED
Alt. 2b	Center of excellence IS ASSOCIATED with hospital size.	ACCEPTED
Null 2c	Center of excellence IS NOT associated with hospital type.	ACCEPTED
Null 2d	Center of excellence IS NOT associated with CEO gender.	ACCEPTED
Null 2e	Center of excellence IS NOT associated with CEO age.	ACCEPTED
Null 2f	Center of excellence IS NOT associated with CEO level of education.	ACCEPTED
Null 2g	Center of excellence IS NOT associated with CEO level of experience.	ACCEPTED

Table 34

*Summary of Findings for Research Questions 3, 4, and 5*

Null and Alternative (Alt.) Hypotheses		Results
Quest. 3	Are operating margins associated with a specific CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience, and age?	
Alt.	Operating margins ARE associated with specific CEO leadership behaviors (IIB, idealized influence behaviors, and IM, inspirational motivation) after controlling for hospital type.	ACCEPTED
Quest. 4	Is the number of center of excellence modalities that hospitals are recognized for associated with a specific CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience, and age?	
Null	Centers of excellence ARE NOT associated with CEO leadership behavior after controlling for hospital size.	ACCEPTED
Quest. 5	Is Texas hospital recognition as being best practice by having qualified for 2+ centers of excellence and having operating margins > 8% associated with a specific CEO leadership behavior after controlling for hospital size, hospital type, and CEO level of education, gender, experience, and age?	
Null	Best practice IS NOT associated with CEO leadership behavior after controlling for hospital type age.	ACCEPTED

## Chapter 5: Discussion, Conclusions, and Recommendations

### Introduction

This chapter begins with a short introduction including the five primary research questions followed by a discussion of the results. Following this discussion, implications for CEOs and hospitals in Texas are delineated. Recommendations for further research are followed by conclusions.

The correlational research assessed the leadership behaviors of Texas hospital CEOs and how their behaviors affect the overall success of their particular hospital. The leadership behaviors were identified in the MLQ. In addition to the MLQ, a demographic questionnaire was developed and used.

The research questions that guided this study were the following:

1. Are the operating margins for Texas hospitals associated with the CEOs' nine leadership behaviors, hospital size, type of hospital (non-profit, for-profit), and CEO gender, level of education, experience in current position, and age?
2. Is Texas hospital recognition as a center of excellence by CMS in two or more modalities associated with the nine CEO leadership behaviors, type of hospital (non-profit, for-profit), hospital size, and CEO gender, level of education, experience in current position, and age?
3. Are operating margins associated with a specific CEO leadership behavior after controlling for hospital size, hospital type (non-profit, for-profit), and CEO level of education, gender, experience in current position, and age?
4. Is the number of center of excellence modalities that hospitals are recognized for associated with a specific CEO leadership behavior after controlling for hospital size, hospital type (non-profit, for-profit), and CEO level of education, gender, experience in current position, and age?
5. Is Texas hospital recognition as being best practice by having qualified for 2+ centers of excellence and having operating margins >8% associated with a specific CEO leadership behavior after controlling for hospital size, hospital type (non-profit, for-profit), and CEO level of education, gender, experience in current position, and age?

The two survey questionnaires were mailed to 564 qualifying hospitals in the state of Texas. A total of 124 CEOs completed and returned the survey instruments, a 22% response rate.

### **Discussion of the Results**

This study assessed leadership behaviors and their impact on hospital operating margins and performance as indicated by formal recognition for best practice. Bass and Avolio (1991) stressed that empirically, transformational leadership was more effective than transactional leadership, which was more effective than laissez-faire.

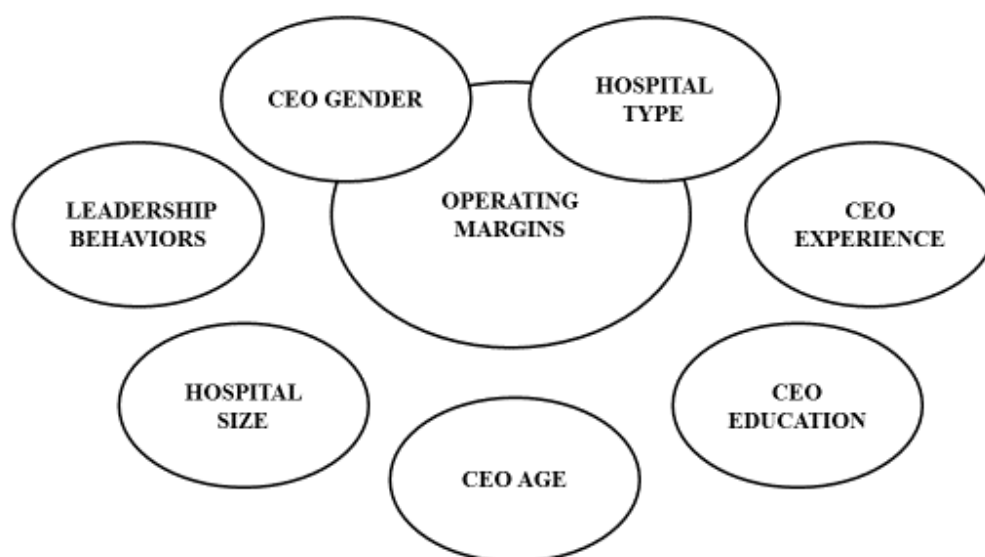
The make-up of the respondents that participated in this study was 86 males and 38 females. Their ages ranged from 28 to 73. The majority of the respondents held a master's degree (78.2%), 65 of them worked for non-profit hospitals, and 59 worked for for-profit hospitals.

To assess the impact of the CEOs' leadership behavior on successful Texas hospitals, 15 specific research questions were established. Specific findings are discussed below.

**Operating margins—CEO gender and hospital type.** The results of Research Question 1 established associations of independent variables—hospital type and gender—with the dependent variable, operating margin, as depicted in Figure 11.

The finding from the research is that operating margins are not associated with the CEOs' leadership behaviors (independent and continuous) and they are not associated with hospital size (independent). Operating margins were the same for all leadership behaviors and all sizes of hospitals. The study did not find any significant differences that were associated CEO age or level of education. However, operating margins are associated with the type of hospital and with the gender of the CEO. For-profit hospitals have a significantly higher operating margin than non-profit hospitals. The study also found that female CEOs were associated with hospitals that had a significantly higher operating margin.





*Figure 11.* Research Question 1 associations.

Non-profit and for-profit hospitals exhibited similar leadership behaviors as shown in Figure 12.

**Center of excellence and hospital size.** The results of Research Question 2 established an association between center of excellence and hospital size as depicted in Figure 13.

The finding from the research is that there is not a significant difference in Texas hospitals with centers of excellence, in two or more modalities, and they are not associated with CEO leadership behaviors, age, or level of education. The number of modalities recognized as centers of excellence was not associated with the type of hospital (non-profit or for-profit) or the gender of the CEO. However, the study did find a significant correlation with the size of the hospital. Hospitals with two or more modalities tended to be larger than those with fewer than two modalities. No association was found that impacted the number of modalities of centers of excellence with the age of or with the level of education of the CEO.

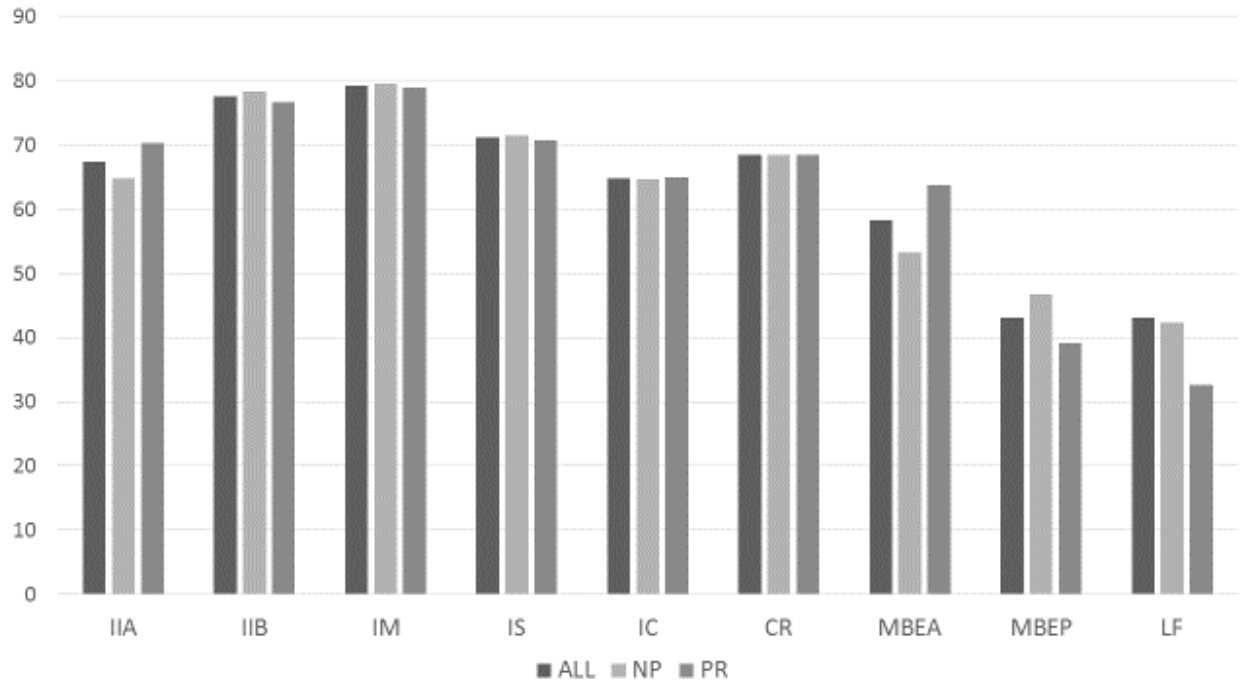


Figure 12. Percentile averages for leadership behaviors—For-profit and non-profit.

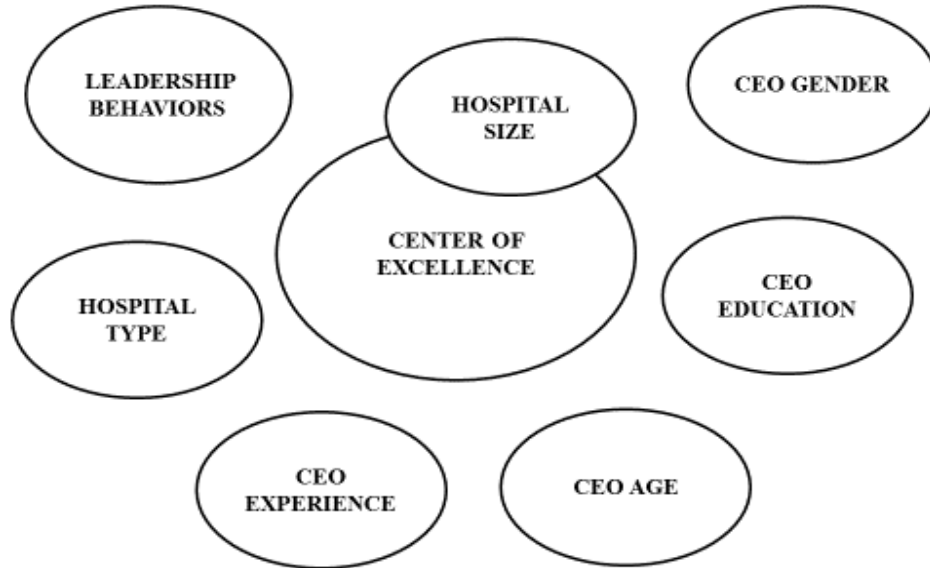
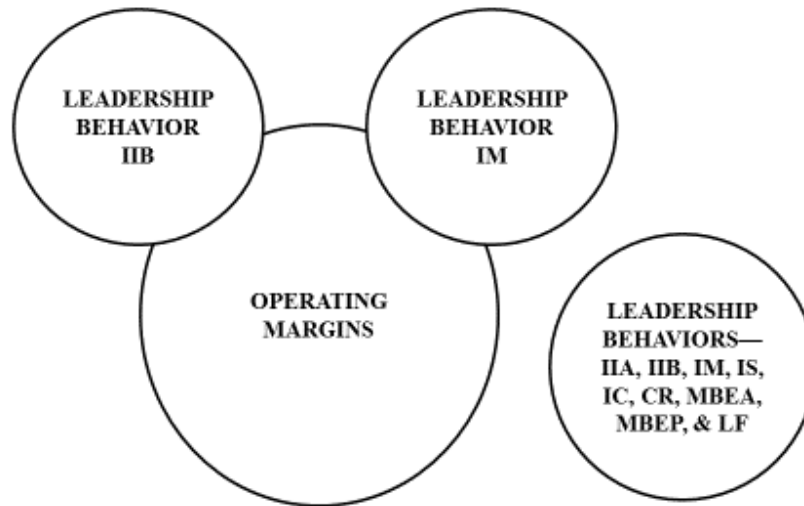


Figure 13. Research Question 2 associations.

**Operating margins and leadership behaviors—IIB and IM.** The results of Research Question 3 established an association between operating margins and two specific leadership behaviors as depicted in Figure 14.



*Figure 14.* Research Question 3 associations.

**Center of excellence and leadership behaviors.** The results of Research Question 4 did not establish any association between centers of excellence and any of the leadership behaviors as depicted in Figure 15.

**Best practices and leadership behaviors.** The results of Research Question 5 did not establish any association between best practices and any of the leadership behaviors as depicted in Figure 16.

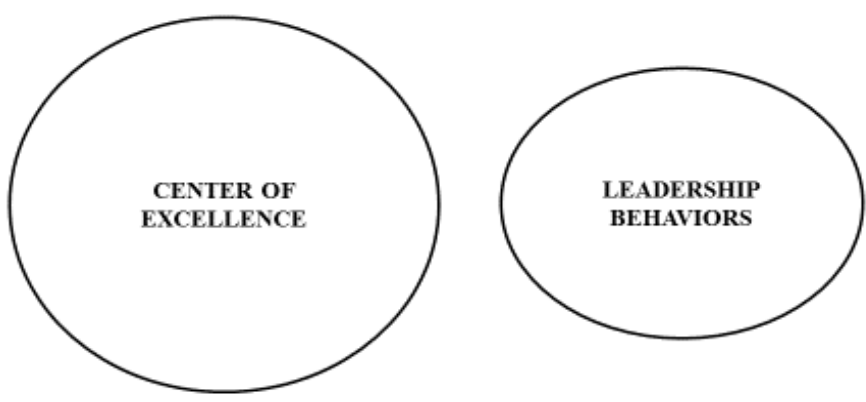


Figure 15. Research Question 4 associations.

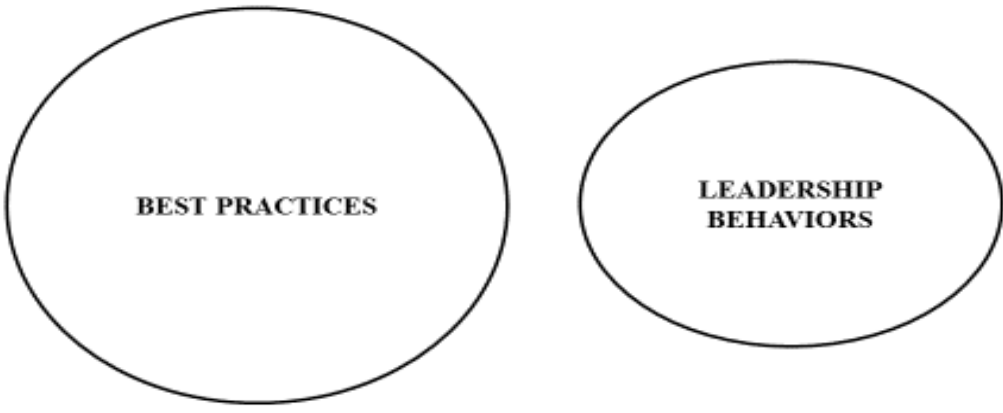


Figure 16. Research Question 5 associations.

**Implications for CEOs and Hospitals in Texas**

**Operating margins.** Operating margins are important measurements when looking at the possible survival rate for Texas hospitals. In this study, 41.1% were found to have operating margins that were 8% or larger. The research also found 15.3% with negative operating margins, 14.5% with zero operating margins, and 29.1% with operating margins between 1 and 8%. CEOs from for-profit hospitals had greater operating margins than CEOs from non-profit hospitals.

Gender also made a significant impact as female CEO leaders had greater operating margins than the male CEO leaders.

**Hospital type.** The hospital type was a significant contributor in determining the level of operating margins. For-profit hospitals were found to have higher levels of operating margins than non-profit hospitals.

**Hospital size.** For this study, hospital size was determined by the number of licensed beds that the hospital was authorized to operate by the state of Texas. Larger hospitals tended to have two or more centers of excellence when compared to smaller hospitals. Of the 124 participating hospitals, 52 hospitals (42%) had at least one qualifying modality of excellence. The range was from 1 to 6 qualifying modalities.

**Leadership behaviors.** Of the nine leadership behaviors that make up the full range leadership model only two idealized influence (behavior), IIB, and inspirational motivation, IM, were found to be significant in this study. These two behaviors are part of the group of five behaviors that compose the transformational leadership style along with idealized influence (attributed) or IIA, intellectual stimulation (IS), and individualized consideration (IC).

Leaders showing the behavior of idealized influence (behavior) are admired, respected, and trusted. They talk about their most important values and beliefs and specify the importance of having a strong sense of purpose. They consider the moral and ethical consequences of their decisions and emphasize the importance of having a collective sense of mission. Leaders showing the behavior of inspirational motivation behave in ways that motivate others by providing meaning and challenge to their followers' work. They encourage others to envision attractive future states where they can see themselves. The leaders talk optimistically about the

future and enthusiastically about what needs to be accomplished. They express confidence that goals will be achieved and articulate a strong vision of the future (Avolio & Bass, 2004).

The two significant behaviors found in this study (IIB & IM) are behaviors that demonstrate a willingness to not only share the risks with their subordinates but are consistent with demonstrating a strong set of values when practicing the moral and ethical values of the decisions that the leaders make. With the landscape of health care constantly undergoing change, leaders are needed that not only see the future, but can communicate the needs to move the organization to meet those needs. Followers need leaders who can not only share the vision, but also inspire them to believe that they can achieve it and these two leadership behaviors demonstrate the ability of the leader to do just that.

### **Recommendations for Further Research**

The findings of this study suggest several avenues for future research. These recommendations include enlarging the scope, adding outcome measures, focusing on centers of excellence and positive operating margins, and integrating qualitative measures.

**Adding rater review for the C-suite.** First, the study could be enhanced by enlarging the scope to include organizational members who report directly to the CEO. This would require providing rater questionnaires (MLQ Rater Form) to these additional staff members, primarily the executive suite. This would provide a more complete view of the CEO's leadership style and that of the executive leaders. This addition also facilitates leadership training and development. Though noted earlier in Chapter 1, a major limitation of this study was that the leadership measurement is based upon the leaders' self-reported leadership behaviors. Adding the rater review at the executive level would mitigate this limitation.

**Adding leadership outcomes.** Second, comparing leader outcomes using the entire MLQ-5X-Short questions could be added. Consideration may also be given to adding the outcome measurements that are a part of the MLQ-5-Short and comparing the results to the behaviors for male and female CEOs.

**Refocusing on centers of excellence and positive operating margins.** Third, an additional recommendation would be to focus the study only on hospitals that are recognized as a center of excellence and have a positive operating margin. Doing this would give the researcher a manageable size sample that would allow for a qualitative component to be added.

**Incorporating more of a mixed method and qualitative measures.** Fourth, being able to add qualitative data to the research would enhance the effect that the CEO's leadership style has on the overall success of the hospital and its recognition as being a best practice hospital.

## **Conclusion**

As noted in the Chapter 1, a major limitation of this study was that the leadership measurement is based upon the leaders' self-reported leadership behaviors.

Hospital CEOs in the state of Texas lead and manage in a challenging landscape. Texas was one of the 27 states that did not join with the federal government in setting up a state-based marketplace or a partnership health exchange under the Affordable Care Act. Even though Texas did not join the health exchanges, the Affordable Care Act will still affect hospital operations in the state as implementation continues. One example is the added burden of regulations and shifting of payment for services from third parties to individuals that is anticipated next year. As the largest border state in the lower 48 states, Texas has its own immigration problems, not unlike other southern U.S. border states. However, the recent executive action allowing the stay

of some five million immigrants will have its own effect in the state. These challenges will compete for limited state resources.

As this research has evidenced, participating hospital CEOs exhibited varying degrees of leadership behaviors identified in the nine-factor leadership model and in the questionnaires. Two of these behaviors, IIB and IM, were transformational elements. These behaviors were found to be associated with operating margins. In comparing female and male CEOs, the female CEOs exhibited higher degrees of all the transformational elements.



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## **Appendix A: Participation Invitation Letter**

Dear Chief Executive Officer:

My name is Newt Courtney, a doctoral candidate at the University of the Incarnate Word in San Antonio, Texas. I cordially invite you to participate in my dissertation research, a quantitative study investigating the relationship between the leadership style of the hospital chief executive officers (CEOs) and hospital success. The study uses the Multifactor Leadership Questionnaire (MLQ) to investigate this relationship by surveying the CEOs in the state of Texas.

The results of this research may be of benefit to you and your institution in generalizing the findings among the sample, resulting from identifying and contacting hospitals, private and public, in the state that meet certain criteria. The research will use the MLQ, a nationally recognized survey focusing on Bass and Avolio's full-range of leadership.

Your participation is voluntary and I thank you in advance, hoping you will participate. In addition to the questionnaire, there is a demographic/background survey intended to add another layer of context to the quantitative study. I am attaching the informed consent letter, the MLQ, and the demographic/background survey to this invitation.

If you agree to participate, please sign and return the informed consent copy along with the completed MLQ and demographic survey at your earliest opportunity in the postage-paid envelope.

Thank you.

Sincerely,

Newt Courtney

Enclosures

## Appendix B: Informed Consent Form

1. Title: AN ASSESSMENT OF THE RELATIONSHIP BETWEEN CEO LEADERSHIP STYLE AND HOSPITAL SUCCESS.

2. Conducted by: **Researcher:** Newt Courtney, Researcher, Doctoral Program in Organizational Leadership, Dreeben School of Education, University of the Incarnate Word, 210-829-3937.  
**Dissertation Director:** Dr. Daniel Dominguez, Director, Master of Health Administration, H-E-B School of Business and Administration, University of the Incarnate Word, 210-829-3180.

3. You are being asked to participate in a quantitative research study. This form provides you with important information about the study. Please read the information below and ask questions about anything you don't understand before deciding whether or not to take part in the study. Your participation is entirely voluntary. In addition, you can stop your participation at any time by simply telling the researcher.

4. Purpose: The purpose of this study is to examine the relationship between the leadership style of hospital chief executive officers (CEOs) and hospital success. The study uses the Multifactor Leadership Questionnaire (MLQ) to investigate this relationship.

5. If you agree to be in the study, you will be asked to do the following: Participate in and respond to the Multifactor Leadership Questionnaire at your institution.

6. Time: The questionnaire will require approximately 15 minutes per person. Any follow up to the questionnaire will require a minimal amount of time, not to exceed 10 minutes. The demographic/background survey should take no longer than 5 minutes per person.

7. Risks and Benefits: There are no risks associated with this study. All possible efforts will be taken to ensure your confidentiality. The potential benefits of the study include a better understanding of how transformational leadership is being utilized at your hospital.

8. Confidentiality: Questionnaires will be confidential to the researcher. After the study has been completed, any recorded data will be destroyed. The results of the study will be aggregated, further protecting the anonymity of your institution. All publications will exclude any information that will make it possible to identify you as a participant.

9. Compensation: No compensation will be provided.

10. Contacts and Questions: If you have any questions about the study please ask. If you have questions later or want additional information, please call: Newt Courtney, Phone: (210) 262-5753, Email: Ncourtney@aol.com. If you have questions about your rights as a research participant, please contact: School of Graduate Studies and Research, University of the Incarnate Word, Phone: (210) 829-3157.

11. Statement of Consent: I have read the above information and the information in the invitation letter and have sufficient information to make a decision about participating in this study. I consent to participate in the study.

Signature of Participant: \_\_\_\_\_ Date: \_\_\_\_\_

Signature of Researcher: \_\_\_\_\_ Date: \_\_\_\_\_

### Appendix C: Demographic/Background Survey

Please answer the questions that are applicable to you.

1. How long have you been in your current position as Chief Executive Officer (years/months)?

2. What is your highest level of education? \_\_\_\_\_

3. Which university did you receive the above level of education from?

\_\_\_\_\_

4. What professional certifications do you have?

\_\_\_\_\_

\_\_\_\_\_

5. What is your current age in years? \_\_\_\_\_

6. What is your gender? (Please circle the appropriate response.)      Male      Female

7. What previous position did you hold and where was that position?

\_\_\_\_\_

\_\_\_\_\_

8. What is the reported operating margin on your last year-end report? \_\_\_\_\_%

9. Would you like a copy of your individual leader outcomes based on the MLQ-5X-Short

questionnaire used in this research? (Please circle appropriate response.)      Yes      No

10. What is your email address so you can be sent an abridged results copy and other results as requested?

\_\_\_\_\_

## Appendix D: HSIRB Approval Letter

Page 1 of 7

University of the Incarnate Word  
 IRB Approved  
 Application No. 14-03-003

Application for Institutional Review Board Approval  
 University of the Incarnate Word

Title of Study: An Assessment of the Relationship between the CEO Leadership Style and Hospital Success



College/School or Division/Discipline: Education, Organizational Leadership



INVESTIGATORS			
<b>Principal Investigator</b> - A UIW PI must be designated for all projects in which UIW is engaged in research.			
Name: Newton Courtney	Phone #: 210 492 4388	E-mail: Ncourtney@aol.com	Address: San Antonio, Texas
<b>Co-Investigator(s)</b> – List all co-investigators and provide contact information (list each on a separate line)			
Name:	Phone #:	E-mail:	Address:
<b>Faculty Supervisor</b> of Student Project, Thesis, or Dissertation			
Name: Daniel G Dominguez	Phone #: 210 829 3180	E-mail: dominguez@uiwtx.edu	Address: San Antonio, Texas
CITI TRAINING			
<input checked="" type="checkbox"/> All investigators (including faculty supervisors) have completed CITI training and are currently certified			

RESEARCH INFORMATION		
<b>Research Category:</b> <input type="checkbox"/> Exempt <input checked="" type="checkbox"/> Expedited Review <input type="checkbox"/> Full Board Review		
Number of Subjects: 564	Number of Controls: 0	Duration of Study: One year
<b>Does this research involve any of the following (check all that apply):</b>		
<input type="checkbox"/> Inmates of penal institutions <input type="checkbox"/> Institutionalized intellectually handicapped <input type="checkbox"/> Institutionalized mentally disabled <input type="checkbox"/> Committed patients <input type="checkbox"/> Intellectually handicapped outpatient <input type="checkbox"/> Mentally disabled outpatient <input type="checkbox"/> Pregnant women <input type="checkbox"/> Fetus in utero <input type="checkbox"/> Viable fetus <input type="checkbox"/> Nonviable fetus <input type="checkbox"/> Dead fetus <input type="checkbox"/> In Vitro fertilization <input type="checkbox"/> Minors (under 18)		

FUNDING DISCLOSURES
<b>Funding source:</b> <input checked="" type="checkbox"/> None <input type="checkbox"/> Internal <input type="checkbox"/> External <input type="checkbox"/> Pending
<b>List all external funding sources (pending and awarded):</b> none
<b>The funding provides for (select all that apply):</b>

<input type="checkbox"/> Investigator release time or compensation <input type="checkbox"/> Research materials <input type="checkbox"/> Graduate assistants, student workers, or other project employees <input type="checkbox"/> Travel <input type="checkbox"/> Other: <a href="#">Click here to enter text.</a>
<b>Financial Conflict of Interest:</b>
Please describe any financial interest in the funding organization or any similar organization (stocks, board membership, etc): none

SIGNATURES		
Original Signatures are required. This application will not be processed until all signatures are obtained. Ensure the document is finalized BEFORE collecting signatures. Any subsequent edits will remove signature verification and require the collection to begin again.		
<b>Signature of the Principal Investigator</b> The undersigned accepts responsibility for the study, including adherence to DHHS, FDA, and UIW policies regarding protections of the rights and welfare of human subjects participating in the study. In the case of student protocols, the faculty supervisor and the student share responsibility for adherence to policies.		
<b>Name:</b>  Newton Courtney	<b>Signature:</b> DocuSigned by:  220081485887400...	<b>Date:</b>  3/10/2014
<b>Signature of Faculty Research Supervisor – Required for student investigators</b> By signing this form, the faculty research supervisor attests that he/she has read the attached protocol submitted for IRB review, and agrees to provide appropriate education and supervision of the student investigator above.		
<b>Name:</b>  Daniel G. Dominguez	<b>Signature:</b> DocuSigned by:  A5ABA0F5D3814E0...	<b>Date:</b>  3/10/2014

APPROVAL SIGNATURE(S)		
<b>Signature of the IRB College/School Representative:</b>		
<b>Name:</b>  Michael T. Risku	<b>Signature:</b> DocuSigned by:  500916ACB7FA48B...	<b>Date:</b>  3/11/2014
<b>Signature of the IRB Chair (if needed)</b>		
<b>Name:</b>  Kevin B. Vichales	<b>Signature:</b> DocuSigned by:  7B0828B8F6F7473...	<b>Date:</b>  3/10/2014