AN EXAMINATION OF THE RELATIONSHIP BETWEEN PERSONALITY TYPE, SELF PERCEPTION ACCURACY AND TRANSFORMATIONAL LEADERSHIP PRACTICES OF FEMALE HOSPITAL LEADERS

Gretchen K. Carroll

A Dissertation

Submitted to the Graduate College of Bowling Green State University in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

December 2010

Committee:

Judith Zimmerman, Chair
Mary Hare
Graduate Faculty Representative
Patrick Pauken
Rachel Reinhart
Renay Scott
ABSTRACT

Judith A. Zimmerman, Advisor

This dissertation explores the relationship between Myers-Briggs personality type preference, self perception accuracy and transformational leadership practices of female hospital leaders. The women in the sample completed the MBTI and participated in a 360-degree Leadership Practices Inventory (LPI) assessment to measure their self-identity, and reputation, as a transformational leader. Self-accuracy was determined by examining congruence between individual's self ratings on the LPI and the rating's of observers. Chi Square results and t-tests found that MBTI preferences for Extraversion (E), Intuition (N), Feeling (F) and Perceiving (P) had a significant positive effect on both the individual's self-identity and reputation as a transformational leader. The self-perception accuracy of the female hospital leaders did not differ by MBTI type preference.
DEDICATION

This dissertation is dedicated to my husband, Paul Edgar Carroll III,
whose unwavering support, steadfast love, and
continuous encouragement
have made all my educational endeavors
and career aspirations possible.
Your loyalty, unquestioning faith, work ethic, determination, generosity,
humble nature and love of family
serve as a constant reminder of the truly important things in life.
You have unselfishly given me the opportunity
to create myself
during the course of our marriage.
I am eternally grateful!
ACKNOWLEDGMENTS

The greatest joy in any journey are the people one meets along the way! After all, it is not where one goes, or what one does, it is who is beside you that counts. My educational journey would have been virtually impossible, and terribly lonely, without the support, encouragement, wisdom and commitment of many wise sages including my committee members, family members, colleagues and friends. So it is with humility and sincere and grateful appreciation that I acknowledge the many individuals who have helped me throughout this journey.

Dissertation Committee

Dr. Judith Zimmerman, you are a phenomenal woman, mentor, and guide. Your insights, knowledge, dedication, resolve, candor and acute eye for detail kept me on track throughout the doctoral journey and dissertation process. Thank you for sacrificing your own personal time and energy to help me succeed. Dr. Rachel Reinhardt, the only word that truly describes you is Amazing! You are a gifted professor who truly puts students at ease with quantitative stats. I have no doubt that chapters III and IV are only possible because of your patience, kindness, and knowledge. Dr. Patrick Pauken, my kindred spirit in the fields of law and leadership, you inspire me! Your energy, enthusiasm, brilliance, writing style and love of teaching and Bowling Green State University are second to none. Dr. Mary Hare, I truly could not have selected a better grad representative for my committee. I am very appreciative of your encouragement, suggestions and feedback, thank you. Dr. Renay Scott, you are a wonderful role model who truly exemplifies transformational leadership in higher education administration. Thank you so much for your support and strong commitment to my personal and professional success. I have no doubt that our paths will continue to intertwine, as we develop leadership related initiatives at Owens Community College. I am looking forward to working with you for many years to come!
Family and Friends

An old proverb quips "a man is known by the company he keeps". I could not be more blessed to be in the wonderful company of family and friends who have constantly encouraged, supported, and cheered my personal and professional growth and development. My life's journey truly has been one of abundance, love, and joy which is only made possible because all of you are by my side.

To my parents, Colonel and Mrs. Edwin G. Schwoppe, thank you for being wonderful and supportive role models my entire life. My morals, values, ethics and love of learning were all developed at an early age through your love and guidance. Dad, you taught me that "it isn't good enough in life to be average" and that quitting is never an option. Mom, you taught me how to write. Undoubtedly, my success in law school and this doctoral program are testaments to the excellent upbringing and opportunities I had early in life. Thank you, I love you both dearly!

To my husband, Paul, my dedication of this dissertation to you really says it all. I'm sure that 17 years ago when we got married, and blended our families, you never contemplated that my life's journey would include changing careers, having a baby, four years of law school, studying for and passing the bar exam, and then going back to school for another four years to earn a doctorate in leadership and policy studies. Thank you for your patience, support, willingness to cook, clean, do homework and laundry, and pay the bills. You are amazing and I am blessed to have you as my partner in life.

To my children, Jonathan, Christina, Cody, Cameron and Teagan thanks for your understanding, support, respect, love, and patience with me as a mom. Obviously, all these years of education have meant less time spent with you. Nevertheless, I love you and am so proud of each and every one of you and your life's accomplishments. I do owe a special thank you to
Teagan. Thank you for being you! Thank you for being my own personal cheerleader. I love my "Mommy you can do it and you will" sign you made and hung over my desk, and I really appreciate the big hugs you gave me when I got frustrated and was ready to cry. I love you however much you love me +1.

To my good friend and mentor, Debra Ball, thank you for being an inspirational and transformational leader who truly made this dissertation possible. You rock! I was so blessed to have the opportunity to get to know you and all the amazing female leaders in the hospital who participated in this study. I am awed and inspired by you, and your female colleagues, who are a selflessly dedicated to the people you lead, serve, and save.

To my good friend, confidant, and cohort colleague, Dr. David Wagner, thank you for the fond memories of many hours spent at Myles, Frickers, Myers-Briggs training, and Buffet concerts engaging in theoretical debates, working on class projects, contemplating life, and just plain "hanging-out". You, and our other cohort 11 members, really made Tuesday evenings an adventure worth taking! Thank you to, Peggy, Peter, Al, Tiffany, Marcia, Andrea, Larry, Steve, and Teresa for sharing knowledge, wisdom, insight, laughter and food. You're the best!

To so many other friends, thank you for all your help, support, and commitment at various points during the completion of my dissertation. To my Owens colleagues and students thank you for teaching me about leadership, friendship, balance, and patience. My desire to study leadership can be directly attributed to Jeff Hardesty, Dr. Christa Adams, and Charlie Boxell. Thank you for opening my eyes to the world of leadership studies and leader development! A special thanks to my good friend Linda Brown, who has spent numerous hours, helping, listening, advising, and caring for both me and Teagan. To Kimberly Minke, you are my best friend; thank you for your unyielding encouragement, help with understanding psychology,
accompanying me to Myers-Briggs training, carrying the OLA torch forward, and fun afternoons at El Camino. To Kelly Card Schulte thank you for introducing me to wonderful female leaders including Debra Ball and Juanita Kessler, and opening the doors for all the work I'm doing in leadership development. My final thank you is to Juanita Kessler, another kindred spirit in leadership development who has been a wonderful mentor, friend, advisor, and encourager. You are another truly amazing woman who I sincerely appreciate having in my life. You were right, as usual. I was going to turn 50, either with or without a Dr. in front of my name. You gently reminded me, as only you can do, that earning a doctorate was worth the journey. Thanks for encouraging me to push forward. When I'm really ready to step onto the motivational speaking circuit, you'll be the first one I call to join me in the journey. Thank you, all!
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAPTER I. INTRODUCTION</td>
<td>Background of the Problem</td>
<td>1</td>
</tr>
<tr>
<td>Purpose of the Study</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Research Questions</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Theoretical Framework</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Significance of the Study</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Limitations and Delimitations of the Study</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>CHAPTER II. REVIEW OF THE LITERATURE</td>
<td>Introduction</td>
<td>17</td>
</tr>
<tr>
<td>Leadership Theory</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Trait Theory</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Behavioral Leadership Theory</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Contingency and Situational Leadership Theory</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Integrative Leadership Theory</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Myers-Briggs Personality Type and Cognitive Leadership Styles</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Introduction to the Myers-Briggs Type Indicator</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Myers-Briggs Theory of Personality</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Functions and Preferences</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Extraversion and Introversion</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Sensing and Intuition</td>
<td>36</td>
<td></td>
</tr>
</tbody>
</table>
Thinking and Feeling ................................................................. 37
Judging and Perceiving .............................................................. 37
Understanding the Interplay of the Functions .............................. 39
Understanding MBTI Function Pairs ............................................. 41
Function Pairs in the Workplace .................................................. 42
Sensing plus Thinking (ST) ......................................................... 42
Sensing plus Feeling (SF) .......................................................... 42
Intuition plus Feeling (NF) ........................................................ 42
Intuition plus Thinking (NT) ...................................................... 43
The Relationship between the MBTI and the Big Five ..................... 44
Personality and Transformational Leadership Theory .................... 48
Leadership Practices Inventory as a Measure of Transformational Leadership .......... 54
Modeling the Way ........................................................................ 56
Inspiring the Shared Vision ......................................................... 56
Challenging the Process ............................................................ 56
Enabling Others to Act .............................................................. 57
Encouraging the Heart .............................................................. 57
Using the MBTI to Understand Transformational Leadership and Self
Perception Accuracy ...................................................................... 58
Concluding Remarks .................................................................... 62
CHAPTER III. METHODOLOGY .................................................. 64
Purpose and Overview of the Study ............................................. 64
Research Design .......................................................................... 65
Context .......................................................................................................................... 65
Participants .................................................................................................................. 66
Instrumentation and Measures ....................................................................................... 67
  The Myers-Briggs Type Indicator (MBTI) ............................................................... 67
  The Leadership Practices Inventory (LPI) ............................................................ 70
Data Collection .......................................................................................................... 73
Data Analysis ............................................................................................................. 74
Summary .................................................................................................................... 79

CHAPTER IV. ANALYSIS AND PRESENTATION OF THE FINDINGS ......................... 80
  The Effect of Personality Type on Self Identity and Reputation as a
    Transformational Leader ....................................................................................... 81
  The Relationship between Transformational Leadership Practices and Cognitive
    Function Pairs ............................................................................................................... 88
  Self Perception Accuracy of Female Hospital Leaders by Type Preference .......... 89
  Summary ......................................................................................................................... 93

CHAPTER V. DISCUSSION, IMPLICATIONS, RECOMMENDATIONS ......................... 94
  Summary of the Research .......................................................................................... 94
  Implications of the Findings ....................................................................................... 97
  Implications of the Findings for Leadership Development Practitioners .............. 110
  Study Limitations ...................................................................................................... 111
  Ideas for Future Research ......................................................................................... 113
  Conclusions ............................................................................................................... 114

REFERENCES ........................................................................................................... 116
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>76</td>
</tr>
<tr>
<td>2</td>
<td>78</td>
</tr>
<tr>
<td>3</td>
<td>80</td>
</tr>
<tr>
<td>4</td>
<td>81</td>
</tr>
<tr>
<td>5</td>
<td>82</td>
</tr>
<tr>
<td>6</td>
<td>83</td>
</tr>
<tr>
<td>7</td>
<td>84</td>
</tr>
<tr>
<td>8</td>
<td>85</td>
</tr>
<tr>
<td>9</td>
<td>87</td>
</tr>
<tr>
<td>10</td>
<td>88</td>
</tr>
<tr>
<td>11</td>
<td>90</td>
</tr>
<tr>
<td>12</td>
<td>90</td>
</tr>
<tr>
<td>13</td>
<td>91</td>
</tr>
<tr>
<td>14</td>
<td>91</td>
</tr>
<tr>
<td>15</td>
<td>91</td>
</tr>
<tr>
<td>16</td>
<td>91</td>
</tr>
<tr>
<td>17</td>
<td>92</td>
</tr>
<tr>
<td>18</td>
<td>93</td>
</tr>
</tbody>
</table>

1. Raw LPI Score Requirements and Percentile Ranking
2. Research Questions, Variables, and Data Analysis
3. Descriptive Statistics for LPI Scores by Self, Manager, Others
4. Frequency and Percentages of MBTI Preferences and Temperaments
5. Differences in Leadership Practices by Extraversion-Introversion
6. Differences in Leadership Practices by Sensing-Intuition
7. Differences in Leadership Practices by Thinking-Feeling
8. Differences in Leadership Practices by Judging-Perceiving
9. Chi Square Results Comparing Personality Preference and Level of Leadership Behavior for Self, Manager, and Observer Scores
10. Differences in Leadership Practices by Cognitive Function
11. T-Test of Paired Samples: Accuracy of Self with Manager and Observers
12. Self Perception Accuracy on Extraversion-Introversion Dichotomy
13. Self Perception Accuracy on Sensing-Intuition Dichotomy
14. Self Perception Accuracy on Thinking-Feeling Dichotomy
15. Self Perception Accuracy on Judging-Perceiving Dichotomy
16. Chi-Square Values for Overall LPI Scores by High-Low Congruence
17. Self Perception Level of Accuracy (Under, Accurate, Over Raters)
18. Chi Square Results for Personality Preference and Level of Accuracy (Under, Accurate, Over) for Each Leadership Behavior
CHAPTER I. INTRODUCTION

"Personality is and does something...

It is what lies behind specific acts and within the individual"

-Gordon Allport

Background of the Problem

For at least a century, scholars have been conducting research to find the relationship between personality traits and leadership behavior (Smith & Canger, 2004). However, despite the rigorous line of inquiry, little consensus has emerged on the traits of successful leaders and the extent to which leadership is predicted by personality (Smith & Canger, 2004). Complicating matters further is that, although leadership has been extensively studied, no agreed-upon definition of leadership exists (Kezar, 2006) nor is there a single best way to assess leader effectiveness (Hogan, Curphy, & Hogan, 1994). This is in part due to the context in which leadership occurs, as well as how leadership is conceptualized, and the fragmented and narrow focus of most empirical research on leadership (Kezar, 2006; Nysted, 1997). Nevertheless, because our quality of life depends on the quality of our leaders (Bennis, 2009), and the future successes of organizations, communities, states and countries are tied to the development of quality leaders, leadership and leadership development remains one of the most important topics in the social, behavioral and management sciences. Unfortunately, it also remains one of the most poorly understood, and significant debate and discussion exists among scholars and leadership development practitioners in regards to investigations relating gender, personality, and transformational leadership style (Fitzgerald & Kirby, 1997; Hogan & Kaiser, 2005; Judge, Bono, Ilies, & Gerhards, 2002; Northouse, 2007; Ross & Offerman, 1997).
A global leadership crisis, in addition to the current organizational focus on revitalizing and transforming organizations to meet the global competitive challenges in an increasingly complex and changing world, has spurred an increasing interest among leadership researchers and leadership development practitioners in developing individuals as transformational leaders (Bennis 2009; Ewing, Bruce, & Rickets, 2009; Kouzes & Posner, 2003; Northouse, 2007; Ross & Offerman, 1997). Perhaps nowhere is the leadership crisis more pervasive than in the healthcare and public health systems, in the United States, as they face a serious challenges related to access, quality, cost containment, and infrastructure (Lantz, 2008). The demand for healthcare reform is driving a forceful call from trade and academic publications for strong female leaders, especially in the clinical staff and management of health care organizations (Lantz, 2008). These women need to be equipped to guide the transformational change process required of public healthcare (Lantz, 2008). Therefore, institutions have begun investing training dollars in leadership development in order to hardwire excellence in healthcare systems (Studer, 2003). Yet, little information exists about the number of women in leadership positions in hospitals or the reasons women are not advancing into top management and executive leadership positions even though women compose 78% of the healthcare industry's workforce, and are the largest consumers of healthcare (Lantz, 2008). Even outside of the healthcare setting, the study of female leadership is an important topic. Despite the advancement of women in the work force, there continues to be a shortage of female leaders represented at the highest levels within organizations creating a tremendous amount of speculation as to the reasons (Turkel, 2008).

Compounding the confusion is existing research that suggests that women often tend to be more transformational in their leadership style than their male colleagues (Bass & Avolio, 1994; Bass,
Avolio, & Atwater, 1996; Bass, 1999; Northouse, 2007) and therefore logically should be advancing to more senior leadership positions.

Considered to be part of the "New Leadership" paradigm, which gives attention to the charismatic and effective elements of leadership, transformational leadership is a process that changes and transforms people (Northouse, 2007, p. 175). The organizational interest is in part due to research that has demonstrated the effectiveness of transformational leaders and their ability to motivate and commit followers to well-above-average organizational performance (Bass, 1985; Bass & Avolio, 1990; Hater & Bass, 1988; Kouzes & Posner, 2003; Northouse, 2007; Yammarion & Bass, 1990). It is also due to strong evidence that has demonstrated that leaders are made, not born, and it is possible to systematically develop an individual's transformational leadership skills (Avolio & Bass, 2000; Bass, 1999; Bennis, 2009; Bono, 2002; Kouzes & Posner, 2003; Northouse, 2007). Yet, there is also contradictory empirical research that found significant correlations between aspects of transformational leadership and personality traits, or preferences, indicating that although leaders can be systemically developed there are dispositional factors, and gender biases, that contribute to perceived effectiveness (Hogan, Curphy, & Hogan, 1994; Hughes, Ginnett, & Curphy, 2009, pp. 648-653; Judge & Bono, 2000; Northouse, 2007; Walck, 1997). In fact, a recent meta-analytic review of personality concluded that the Big Five personality dimensions are quite highly related to effective leadership (Judge, Bono, Ilies, & Werner, 2002). Therefore, some leadership researchers have concluded that perhaps some aspects of transformational leadership actually are heritable and personality does make a difference (Hughes, Ginnett, & Curphy, 2009, pp. 648-653). However, other research has found that women exceed men in the use of transformational leadership behaviors and contingent reward behaviors (Northouse, 2007). However, these behaviors have not been tied to personality
leading leadership researchers to ponder whether the difference in the use of transformational leadership behaviors by males and females is really gender based, or is it personality based?

Another source of concern is research that demonstrates that effective leaders are defined through the eyes of the led, and therefore there is no guarantee that leaders who have been trained on the appropriate leadership techniques will be perceived as being transformational by followers (Hogan & Kaiser, 2005; Hughes, Ginnett, & Curphy, 2009). This may be especially true for female leaders because recent findings suggest that female leaders, even those with a transformational style, are devalued by male subordinates and colleagues (Northouse, 2007). Moreover, an empirical study conducted by Eagly, Karau, and Makhijani (1995) demonstrated that even when men and women are viewed as equally effective leaders, there are gender differences such that women and men were more effective in leadership roles that were congruent with their gender (Northouse, 2007). Furthermore, while it may be possible to train some managers to improve their transformational leadership skills like inspiring a shared vision or enabling others to act, if they have low scores on certain personality traits (e.g., agreeableness, extraversion, conscientiousness, emotional stability, and openness) or they have well defined personality preferences for Introversion (I), Thinking (T) and Judging (J), they may not benefit much from leadership training without the assistance of a knowledgeable leadership development practitioner (Hughes, Ginnett, & Curphy, 2009; Myers, McCaulley, Quenk, & Hammer, 2003).

Nevertheless, organizations are collectively spending millions of dollars annually on leadership training and development initiatives in the hopes of transforming individuals and organizations. In fact, in 2003 an annual survey of executive education reported that more than 21,000 employees, from 134 companies and 20 nations were enrolled in leadership programs, at
a cost of $210 million (Merritt, 2003). As a result of this and other studies, leadership and leadership development is an exploding field of practice and research (Lawrence & Martin, 2001, p. 147). Yet, a chasm remains between the personality research conducted by academics which has primarily used male samples and focused on the Big Five Factor Model (FFM) of personality and the leadership development practitioner's use of the Myers Briggs Type Indicator® (MBTI), the most widely used non-clinical measure of personality in the world (Furnham, Dissou, Sloan & Premuzic, 2007).

The MBTI's popularity with practitioners involved in leader development is rooted in its accessible presentation of personality-related preference, based on Jungian theory of personality, and the ease in which it can be related to work preferences and leadership style (Michael, 2003; Van Velsor & Fleenor; 1997). It is a self-report instrument that measures personality types rather than traits or continuous variables. It examines fundamental differences in the way people approach the world and take in information and make decisions. Each year it is administered over 3 million times and it is used in 89 of the Fortune 100 companies and by the Center for Creative Leadership (Myers, McCaulley, Quenk, & Hammer, 2003, p. 352). Yet some academics have challenged the conceptual underpinnings and the construct validity of the MBTI, and have warned users to apply the results with caution (Michael, 2003). Although academics have encouraged users of the MBTI to consider adopting the "Big Five" model of personality, because there is empirical evidence to support its construct validity and predictive validity related to job performance, issues with the validity of its psychometric properties and predictive powers exist (Michael, 2003). Furthermore, using the Big Five in work settings, such as in leader development and coaching, is problematic for several reasons. First, it is evaluative in nature. Second, with terms like neuroticism, agreeableness, and conscientiousness it is not user friendly (Michael,
And finally, Bono and Judge (2004), two of the primary researchers who have examined the link between personality and transformational leadership utilizing the Big Five have concluded, "the Big Five may not be the best way to discover personality antecedents of ratings of transformational and transactional leadership behaviors" (p. 908). Interestingly, other research conducted by McCrea and Costa (1989), McDonald et al. (1994), and Furnham, Dissou, Sloan and Premuzic (2007) found a significant overlap between the Big Five Factor Model of personality and MBTI preferences. Thereby they recommended that research conducted on the two tests separately should be joined to provide researchers with a more comprehensive picture of the construct of personality (Furnham et al., 2007).

Another widely used tool in leadership development and training is the Leadership Practices Inventory (LPI). Frequently used in conjunction with the MBTI, the LPI is a 360-degree multi-rater feedback instrument that allows managers to rate themselves and to be rated by their supervisors, and co-workers on their perceived transformational leadership practices (Kouzes & Posner, 2002). Over its 20-year history, the LPI has become the most popular off-the-shelf 360-degree leadership assessment instrument in the world and is currently being used by over one million leaders (Carless, 2001; Kouzes & Posner, 2002). According to the authors, leadership is a learned set of practices, available to all, regardless of personality, and learning to exhibit the behaviors (modeling the way, inspiring a shared vision, challenging the process, enabling others to act, and encouraging the heart) promoted in the model will assist managers in becoming transformational leaders (Kouzes & Posner, 2002). Yet the relationship between MBTI personality type and perceived transformational leadership behaviors as measured by the LPI has not been thoroughly examined especially in an organizational setting.

Because the MBTI and the LPI are the two most widely used instruments in leadership
training today (Carless, 2001; Hautala, 2005; Kouzes & Posner, 2003; Michael, 2003; Van Veslor & Fleenor, 1997) researchers have a prime opportunity to examine the relationship between different personality type profiles and perceived transformational leadership practices, as well as self-perception accuracy of individuals in leadership positions. Although there is little evidence that certain MBTI personality types prefer one leadership style over another, there is clear evidence that type is associated with some particular leadership behaviors (Lawrence & Martin, 2001). For example, it seems quite plausible that MBTI personality type preferences, especially as correlated with the Big Five personality traits of Extraversion, Openness, Agreeableness, and Conscientiousness, will be predictive of transformational leadership behaviors. Furthermore, little research has been conducted on the relationship between frequently used personality measures, such as the MBTI, and instruments that assess leadership capacities from a variety of perspectives (commonly referred to as 360-degree feedback), such as the LPI (Van Velsor & Fleenor, 1997). This line of research is important because enhanced self-awareness, as provided by 360-degree feedback, and a leader's self-perception accuracy are critical success factors for maximum leadership performance (Goleman, 1999; Turkel, 2008). Some research has reported that female leaders are less self-aware of their own leadership behaviors and skills, and are therefore less effective as leaders (Beyer, 1990; Van Velsor, Taylor & Leslie, 1993). However, Turkel (2008) challenged those findings as stereotypical biases that may be influencing the lack of advancement of female leaders, and challenged researchers to study self-perception accuracy of females using a dataset comprised solely of female leaders. There are even fewer studies that look at the relationship between a leader's Myers-Briggs cognitive style, or problem solving style and perceived leadership skills through the eyes of others and self (Van Velsor & Fleenor, 1997; Walck, 1997), and no studies that have examined
perceived effectiveness of females as transformational leaders based upon Myers-Briggs type preferences (Northouse, 2010). Yet, this kind of research is important for leadership development practitioners in order to help them assist managers in interpreting both the MBTI and leadership skills instruments. Perhaps even more important, this research is needed to help close the gap between the empirical leadership research on personality and leadership and the practical implications of that research for leadership development and coaching, especially of female leaders in a healthcare setting (Lawrence & Martin, 2001; Nysted, 1997; Van Velsor & Fleenor, 1997).

**Purpose of the Study**

The purpose of this study will be to examine the relationship between Myers-Briggs personality type preferences of female hospital leaders and their perceived transformational leadership practices, as measured by 360-degree multi-rater feedback, as well as the relationship between personality type and self-perception accuracy. In this study, the independent variables will be eight personality preferences - Introversion (I) vs. Extraversion (E), Sensing (S) vs. Intuition (N), Thinking (T) vs. Feeling (F), Judging (J) vs. Perceiving (P) - as well as the four function pairs (ST, NT, SF, NF) also referred to as leadership and cognitive styles (Walck, 1997). The dependent variables are transformational leadership practices: modeling the way, inspiring a shared vision, challenging the process, enabling others to act, encouraging the heart.

**Research Questions**

This research proposes to examine the relationship between personality type preferences and transformational leadership practices of female hospital leaders. The following research questions will be explored:
1) Do transformational leadership practices of modeling the way, inspiring a shared vision, challenging the process, enabling others to act, and encouraging the heart, as perceived by self, manager, and co-workers, differ by personality type pair preference (Introversion (I) vs. Extraversion (E), Sensing (S) vs. Intuition (N), Thinking (T) vs. Feeling (F), and Judging (J) vs. Perceiving (P)) among female hospital leaders?

2) Do transformational leadership practices (modeling, inspiring, challenging, enabling and encouraging), as perceived by self, manager, and co-workers, differ by Myers-Briggs function pairs or cognitive styles (ST, NT, SF, NF) among female hospital leaders?

3) Does self-perception accuracy of transformational leadership practices differ by Myers-Briggs personality type preference among female hospital leaders?

**Theoretical Framework**

The framework for this study is based on Jungian psychological type, sometimes referred to as cognitive style, decision-making style, or problem-solving style that can be used to understand managers as leaders (Fitzgerald & Kirby, 1997). The personality type preferences of the study participants will be reported by the *Myers-Briggs Type Indicator* (MBTI) which has operationalized the Jungian construct of type so that it can be quickly and reliably identified, quantified and compared to other measures of leadership (Fitzgerald & Kirby, 1997). The perceived effectiveness of the female hospital leaders as transformational leaders will be evaluated through the constructs of transformational leadership practices as defined by Kouzes and Posner's (1995) *Leadership Practices Inventory* (LPI). Both of these instruments, and their theoretical constructs, will be discussed more fully in Chapter II.
Significance of the Study

The study of leadership and personality has a long and controversial history (Nystedt, 1997). Results of decades of investigations relating personality traits to leadership behaviors have been inconsistent and disappointing (Judge, Bono, Ilies, & Gerhards, 2002). Even today, with a renewed interest in dispositional explanations of transformational leadership attitudes and behaviors, pessimism continues about the link between personality variables and leaders behaviors (Judge et al., 2002). Yet, according to McCormick and Burch (2008), personality does have an important role in leadership and according to Kaiser and Hogan (2005), personality is the most important factor in explaining individual differences between leaders.

In an attempt to help leadership scholars and leadership development practitioners make sense of the relationship between personality and transformational leadership, and close the gap between empirical research and practice, this study will utilize the two most widely used tools in leadership development today, the Myers-Briggs Type Indicator (MBTI) and the leadership practices inventory (LPI) on a sample of female hospital leaders. The MBTI and the LPI when used in conjunction with each other will give the researcher the opportunity to look at those two very unique perspectives because the MBTI is a self-report and the LPI is a multi-rater report including a self-assessment of transformational leadership practices. These two instruments will give the researcher the opportunity to examine a leader's self "identity" and self-perception accuracy, in addition to his "reputation" as a transformational leader. Moreover, using the Myers Briggs MBTI and the LPI as a conceptual framework for examining the relationship between personality and transformational leadership will not only shed new light on the relationship between the two variables, it will also increase the understanding of the dimensions of the MBTI.
and management positions, little is known about the impact of the Feeling (F) preference on leadership behavior (Fitzgerald & Kirby, 1997). This study will help close that gap by examining female hospital leaders, the majority of whom exhibit a Myers-Briggs preference for Feeling (F) rather than Thinking (T) (Macdaid, McCaulley & Kainz, 1991). Moreover, by studying the relationship between personality type and transformational leadership practices in an organizational setting, leadership development practitioners will be able to provide valuable feedback to managers about various aspects of their leadership behaviors as they relate to personality, thereby advancing the field of leadership development and coaching.

**Definition of Terms**

*Female hospital leader*- in this study the female hospital leaders are women in various leadership positions within the hospital, including: Directors, Supervisors, Administrators, Managers, and Nurse Educators.

*Five exemplary practices of leadership*- the five practices of exemplary leadership are available to everyone and can and should be learned if one desires to be successful in a leadership position (Kouzes & Posner, 2002). Each of the five practices contains two behavioral descriptors designed to defined the actions or "commitments" necessary to convey exemplary leadership: 1) Model the way by finding one's voice and setting the example, 2) inspire a shared vision by envisioning the future and enlisting others, 3) challenge the process by searching for opportunities and experimenting and taking risks, 4) enable others to act by fostering collaboration and strengthening others, and 5) encourage the heart by recognizing contributions and celebrating the values and victories.

*Leaders*- Leaders are defined as people who are in administrative, managerial or supervisory positions.
Leadership - Leadership is defined as a process of social interaction where performance outcomes are strongly influenced by the leader's ability to influence the behavior of their followers (Humphrey, 2002).

Leadership Practices Inventory (LPI) - is a 360 degree assessment tool that consists of 30 questions that assess individual leadership competencies. The LPI is used to measure the behaviors described in the Kouzes and Posner (1987, 2002) model of the exemplary practices of leadership: model the way, inspire a shared vision, challenge the process, enable others to act, encourage the heart (Northhouse, 2007. p. 189).

Myers-Briggs Personality Type - personality type assumes that there are qualitatively different types of people and leaders. According to type theory, people differ on four bipolar dimensions, which include Extraversion (E) - Introversion (I), Sensing (S) - Intuition (N), Thinking (T) - Feeling (F), and Judging (J) - Perceiving (P). (Hughes, Ginnett, Curphy, 2009, pg. 205).

Myers-Briggs Type Indicator (MBTI) - The MBTI reliably measures personality characteristics, decision making styles, and lifestyle preferences. The instrument is questionnaire style, consisting of items arranged in a forced-choice format that measures personality preferences through four scales of opposite polls. The four scales of opposite or dichotomous polls are: Introversion (I) vs. Extraversion (E), Sensing (S) vs. Intuition (N), Thinking (T) vs. Feeling (F), Judging (J) vs. Perceiving (P). (Myers, McCaulley, Quenk, & Hammer, 2003).

Extraversion (E) - individuals with a Myers-Briggs preference for extraversion direct energy mainly toward the outer world of people and objects (Myers, McCaulley, Quenk, & Hammer, 2003).

Introversion (I) - individuals with a preference of introversion direct energy mainly toward the inner world of experiences and ideas (Myers, McCaulley, Quenk, & Hammer, 2003).
**Sensing (S)** - individuals with a preference for sensing focus mainly on what can be perceived by the five senses (Myers, McCaulley, Quenk, & Hammer, 2003).

**Intuition (N)** - individuals with a preference for intuition focus mainly on perceiving patterns and interrelationships (Myers, McCaulley, Quenk, & Hammer, 2003).

**Thinking (T)** - individuals with a preference for thinking base conclusions on logical analysis with a focus on objectivity and detachment (Myers, McCaulley, Quenk, & Hammer, 2003).

**Feeling (F)** - individuals with a preference for feeling base conclusions on personal or social values with a focus on understanding and harmony (Myers, McCaulley, Quenk, & Hammer, 2003).

**Judging (J)** - individuals with a preference for judging prefer the decisiveness and closure that result from dealing with the outer world using one of the judging processes either thinking or feeling (Myers, McCaulley, Quenk, & Hammer, 2003).

**Perceiving (P)** - individuals with a preference for perceiving prefer the flexibility and spontaneity that results from dealing with the outer world using one of the perceiving processes of either sensing or intuition (Myers, McCaulley, Quenk, & Hammer, 2003).

**Judgment** - means all the ways individuals come to conclusions about what is being perceived. It includes evaluation, choice, decision making, and the selection of a response after perceiving a stimulus. Thinking and Feeling are the two kinds of judgment in the MBTI (Myers, McCaulley, Quenk, & Hammer, 2003).

**Perception** - means all the ways individuals become aware of things, people, events, or ideas. It includes information gathering, the seeking of sensation or of inspiration, and the
selection of a stimulus to attend to. Sensing and Intuition are the two kinds of perception in the MBTI (Myers, McCaulley, Quenk, & Hammer, 2003).

*Personality*- personality is comprised of the underlying, or unseen structures and processes inside a person that explain why individuals behave the way they do; why each person's behavior tends to be relatively similar across different situations, yet also different from another's behavior (Hughes, Ginnett, Curphy, 2009, pg. 205).

*Personality Traits* - are the recurring regularities or trends in an individual's behavior. Although traits cannot be seen, they can be inferred from consistent patterns of behavior and reliably measured by personality inventories. (Hughes, Ginnett, Curphy, 2009, pg. 205).

*Practitioners* - are individuals who are engaged in the practice of leadership development (Fitzgerald & Kirby, 1997).

*Self perception accuracy* - The degree of similarity between self-ratings of transformational leadership practices and manager and co-worker ratings (Atwater & Yammarino, 1992). Self-awareness, or the ability to see and assess one's behavior as it is perceived and assessed by others is important to success as a leader (Roush & Atwater, 1992).

*Transformational leadership* - is a process whereby a person engages with others and creates a connection that raises the level of motivation and morality in both the leader and the follower (Burns, 1978, p.18).

**Limitations and Delimitations of the Study**

This study will not examine gender differences between personality types and perceived leadership effectiveness for a variety of reasons. Women compose over 78% of the healthcare industry's workforce however, they remain underrepresented in top management and executive leadership positions in health care (Lantz, 2008). Therefore, researchers are calling for a more
focused and thoughtful approach to the issue of gender and leadership in healthcare administration and more research needs to be conducted on female leadership styles using a dataset comprised predominately or solely of female leaders (Lantz, 2008; Turkel, 2008). Secondly, previous studies have found that women tend to adopt a more transformational style of leadership than men (Bass, Avolio, and Atwater, 1996; Eagly, Johannesen-Schmidt, and van Engen, 2003). Because this study is examining the relationship between personality and transformational leadership behaviors, using a relatively homogenous sample of female hospital leaders, many of whom have the same professional education and training, it controls for variability that may be a result of factors other than personality and thereby reduces threats to internal validity. Thirdly, stereotypes about gender differences in personality traits and leadership capabilities abound and may be a limiting factor in the advancement of female leaders (Lantz, 2008; Turkel, 2008). This study may help dispel preexisting gender stereotypes and contribute to the body of research on leadership styles of women in healthcare management and administration. Finally, little research has been conducted on the self-perception accuracy of females in leadership positions, yet the literature suggests that it is common knowledge that women are more likely to underrate their managerial abilities and leadership competencies than men and are therefore less effective (Turkel, 2008). If in fact, female leaders do underrate their own performance it implies, according to Turkel (2008), that they lack self-awareness which may help explain their lack of advancement to higher leadership positions. This study will contribute to the body of research on female self perception accuracy in regards to leadership behaviors.

This study will not examine the personality preferences of the individuals providing the multi-rater feedback on the LPI because the data were collected anonymously through an on-line
survey instrument. The raters logged into a third party LPI administrator so that anonymity would be protected and raters would feel more comfortable providing feedback, without fear of retaliation or retribution, thereby enhancing the value of the feedback data collected. Although multi-rater feedback is a subjective measure of leadership effectiveness, it is valuable for leaders to see themselves through the eyes of the led in order to enhance the leadership development process. The observers were selected by the female hospital leaders in the sample, and therefore the number of observers per leader varied, another limitation of the study.

This study will be limited to the female leader's self assessment of personality type preference and transformational leadership behaviors. Self report responses may be affected by the participant's biases and organizational culture. Because all of the participants and observers are from the same hospital the location threat to the internal validity of the research is also reduced.

Chapter I developed the basis and importance for the study of personality type preference and transformational leadership behaviors, statement of the problem, purpose of the study, research questions, and a definition of terms as well as the limitations of the study. The remainder of this study consists of the following chapters: Chapter II, a review of the literature relevant to this study; Chapter III consists of the research methodology and includes a description of the survey instruments used in the study; Chapter IV offers an analysis and detailed presentation of the data; and finally Chapter V summarizes the research and its findings, states the conclusions and implications as well as recommendations for further research.
CHAPTER II. REVIEW OF THE LITERATURE

In order to provide a framework for an examination of the relationship between personality and transformational leadership, this chapter presents a review of the related literature, which provides an underlying framework for understanding concepts that are essential to this study: (a) an introduction to the problem (b) leadership theory, (c) Myers-Briggs (MBTI) personality type cognitive leadership styles (d) personality and transformational leadership theory, (e) Leadership Practices Inventory (LPI) as a measure of transformational leadership, (f) using the MBTI and LPI to understand transformational leadership and self-perception accuracy, (g) concluding remarks.

Introduction

In these times of change and challenge, calls for the development of effective leaders with the ability to transform organizations and lead in a global economy have become more robust. Although leadership theories abound, organizations are calling for better, stronger, bolder and more charismatic leaders who are able to articulate a clear vision of the future, enable followers to transcend self-interest for the sake of collective purpose, build highly functioning teams, while managing change and complex global environments (Ewing, Bruce, & Ricketts, 2009; Walck, 1997). Yet, the calls remain virtually unheeded by the academic community as leadership scholars and educators continue to struggle with the definition of leadership, theories of leadership, and the application of new theories and approaches to understanding leadership (Kezar, 2006). Complicating the problem, from a leadership development practitioner viewpoint, is the lack of useful research that can be used in building and creating effective leader education and development programs (Fitzgerald & Kirby, 1997).
Although scholars of various disciplines and backgrounds have been intrigued by the plethora of factors that impact the perceived effectiveness of leaders and leadership on organizations and society, there is little consensus on how leaders develop, what makes a leader effective, and the relationship between gender, personality and transformational leadership behaviors (Fitzgerald & Kirby, 1997; Hautala, 2005; Smith & Canger, 2004). Although the importance of transformational leadership behaviors has been supported through research, the extent that these behaviors can be predicted by a leader's personality is still unclear (Fitzgerald & Kirby, 1997; Smith & Canger, 2004). Compounding the problem is the lack of an agreed-upon definition of the terms leader and leadership (Kezar, 2006). In fact, according to Stogdill (1974, p. 7), there are almost as many different definitions of leadership as there are people who have tried to define it. The terms can have different meanings for different people based upon the conceptualization of the term, the context in which the study of leadership occurs, and the frame or paradigm through which it is examined (Kezar, 2006). Nevertheless, because the future success of organizations, communities, states, and the country are tied to the development of quality leaders, leadership remains a topic with universal appeal (Northouse, 2007). Despite the prevalence of the topic of leadership, in both the popular press and in scholarly journals, understanding the nature of leaders and leadership remains a major challenge that continues to draw significant debate and discussion (Hogan & Kaiser, 2005; Northouse, 2007).

Although Bensimon, Neumann, and Birnbaum (1989) recognized the gap between leadership research and the practical implications of the research, they nevertheless concluded that those who seek specific activities that will enable them to be more effective are doomed to disappointment, because research can only provide trivial and superficial responses to those who seek specific answers (p. 69). This is an important reminder for both scholars and leadership
development practitioners today. As scholars continue their debates regarding the latest theories of leadership, organizations remain far more interested in leader development programs that effectively transform participants and organizations. Therefore, researchers and leadership educators need to be open to data that may conflict with their underlying assumptions, such as the evidence that leadership is at least, in part, a socially constructed and collective phenomenon (Hogan & Kaiser, 2005; Kezar, 2006). The frameworks and assumptions of individuals do affect what they perceive to be effective leadership. In essence, effective leaders are defined through the eyes of the led (Hogan & Kaiser, 2005). Furthermore, individual frames and assumptions impact leader identity, the way leaders enact their role, as well as the relationship between the leader and follower (Kezar, 2006). Communication and relational skills that many researchers have identified as important aspects of effective transformational leadership are critical competencies that leaders need to spend time developing (Kezar, 2006; Hogan & Kaiser, 2005). What this means for leadership development is that participants need to spend more time introspectively understanding their own frameworks and assumptions that impact their leadership identity, including personality preferences and constituent perception.

Posner (2009) sees the lack of an "inside-out" focus as a basic problem with the way leadership is taught. Too often leadership educators and leadership development practitioners focus on teaching about leadership; about leadership theories and concepts as "applied" to leading, rather than on learning to be a leader which does require an inside-out focus. Moreover, recent research conducted by Lord and Brown (2004), has demonstrated the importance of conceptualizing "leader" as a social identity as perceived by the self and others. Understanding one's identity, which includes personality, is probably the most important aspect of leadership development (Komives, Longerbeam, Owen, Mainella, & Osteen, 2006).
According to leadership identity development theory, advanced by Komives, et al. (2006), leader identity can be viewed as a type of social identity. Therefore, the application of a social learning construct to leadership development programs is helpful. Because leadership development is a result of identity development, it is important to consider the factors that influence identity development. The primary factors, according to the theory, are developing self awareness, group influences, reflective learning, and broadening views of leadership, in essence, self development. Although this seminal work focused on college student development, and is a grounded theory approach not generalizable to other populations, there is little doubt that all leadership development involves self development. As such, leader identity continues to develop over a life time and is continually impacted by an individual's understanding of self, broadening views of leadership, group or social influences including organizational culture, and developmental influences including, but not limited to, education and training that all contribute to a leader's self efficacy. A central component to all of these stages is undoubtedly personality preferences. Personality impacts who we are, how we interact with others, how we learn, how we develop psychologically, and how we lead (Fitzgerald & Kirby, 1997; Hogan & Kaiser, 2005). Moreover, leadership failure, according to Hogan and Kaiser (2005), is often the result of personality disorders or dysfunctional interpersonal dispositions that prevent people from completing one of the essential tasks of leadership: building a team. Therefore, some researchers have concluded that there should be little doubt that personality has a major impact on leader identity, self efficacy, and the practice of leadership (Hogan & Kaiser, 2005). Yet, the link between personality and the perceived effectiveness of leaders is one of the biggest areas of continuing controversy, among researchers.
Results of decades of investigations relating personality traits to leadership behaviors have been inconsistent and very disappointing (Judge, Bono, Ilies, & Gerhards, 2002). Even today, with a renewed interest in dispositional explanations of transformational leadership attitudes and behaviors, pessimism continues about the link between personality variables and leadership behaviors (Judge, et al., 2002). However, according to Nysted (1997), the failure to find a link may be a result of a fragmented and narrow focus that has been characteristic of most empirical research, rather than a result of a holistic and realistic approach to the study of leadership and personality.

One of the biggest problems in past research relating personality to leadership is the lack of consistent definitions of leadership among scholars. Several hundred definitions of leadership have been presented over the years, and most definitions include elements of goal attainment, position in the organizational structure, and interpersonal relationships (Anderson, 2006). How leadership is defined and studied is in part due to the academic background of the researchers. While social and political scientists study leadership in terms of social and political movements, behavioral scientists are more likely to focus on the relationship between personality and behavior and why leaders behave the way they do. Moreover, management and organizational scholars tie leadership theory to goal attainment, because in an organization or a group the formal leader is responsible for results in accordance with organizational goals (Anderson, 2006). Therefore, the main issue in management research is what kind of behavior managers, as formal leaders, exhibit and how behavior affects the outcome of the organization. What managers do has been extensively researched with the aim of describing the behavioral patterns of leaders and the impact of managerial behavior on organizational effectiveness (Anderson, 2006). What managers "do" is also, in part, a reflection of who they are, including their
leadership self-concept or identity which is derived from personality. Unfortunately, this information has not been captured in empirical studies (Hogan & Kaiser, 2005; Komives, Longerbeam, Owen, Mainella, & Osteen, 2006).

Compounding the problem is the term "effectiveness". It is a nebulous concept and the varying definitions of leadership provide divergent constructs for the study of the personality traits and behaviors of effective leaders. After reviewing the research, and in response to the difficulty, researchers have concluded that there is no single best way to assess leader effectiveness (Smith & Canger, 2004). In fact, researchers have used a variety of techniques to study the performance of leaders. Some of these techniques include objective measures of team performance, ratings from multiple sources available from 360-degree feedback, self-ratings, and on-line assessment centers, all of which provide unique and important information for the study of leader effectiveness, yet provide little cohesiveness to research constructs (Smith & Canger, 2004). However, Hogan, Curphy and Hogan (1994) believe that the appropriate way to measure leadership is in terms of team, group, or organizational effectiveness. Moreover, they advocated that subordinate, peer and supervisor ratings are a very viable measure of leader effectiveness. This belief is mirrored in the popularity of multisource performance reviews that have been used since the 1970s in modern business practice (Schullery, Knudstrup, Schuller, & Pfaff, 2009). Typically these 360-degree evaluations are used to provide feedback from all directions—supervisor, employee, peer co-workers and the subject him or her self- and are used to help the individual develop as a leader (Schullery, et al., 2009). Both scholars and leadership development practitioners believe that subordinates, in particular, are in a unique position to judge leadership effectiveness, because effective leadership increases group output which is a function of the interaction between managers and their subordinates (Hogan, Curphy, & Hogan,
1994). Therefore, they concluded that perhaps the best alternative to the question of "How should leaders be evaluated?" is to ask subordinates, peers and superiors to evaluate a leader through a 360 degree performance mechanism. Of importance to the present study is their conclusion that "because subordinates', peers', or bosses' ratings involve judgments about the frequency of certain behaviors, researchers typically find stronger links between personality and these ratings than between personality and other indices of effectiveness (Hogan, Curphy, Hogan, 1994, p. 496).

Writers in the popular press have asserted that there are gender differences in leadership styles and that a female leadership style may be more effective in the 21st century (Northouse, 2007). However, academics disagree and have argued that gender has little or no relationship to leadership style or effectiveness and overall men and women were equally effective leaders (Northouse, 2007). Nevertheless, women remain underrepresented in elite leadership positions leading some to contend that men are just inherently and biologically more disposed to leadership than women and there are psychological differences between men and women on traits that are often seen as related to effective leadership (Northouse, 2007). Yet, it is still unclear how important the traits are to leadership, the relationship between leadership traits and personality, and whether these psychological differences are innate or a result of socialization (Northouse, 2007). Compounding the problem are gender biases stemming from stereotypical expectations. For example, women were perceived as being more effective in leadership roles that were aligned with gender expectations like education, health care and social service where communal interpersonal skills are highly valued, but less effective in masculine leader roles (Northouse, 2007).
Another major problem in personality research is the lack of a valid and reliable structure that describes leadership behaviors that are at least, in part, a result of personality preferences (Judge, Bono, Ilies, & Gerhardt, 2002). The structural defect was noted by House and Aditya (1997) who found that there was little empirically substantiated personality theory to guide the search for leadership traits or behaviors. Compounding the problem is the number of psychological studies attempting to link single personality variables to leadership behaviors (Fleenor, 1997). According to Judge et al. (2002) and McCormick and Burch (2008), consensus is emerging that the five-factor model of personality (often termed the Big Five) can be used to describe the most salient aspects of personality and be used as a predictor of leadership emergence and effectiveness. However, other studies have shown that the Big Five does not give a full description of all the personality dimensions that are part of the human lexicon (de Vries, 2008), and therefore is not as useful as a leadership development training tool. In fact, Bono and Judge themselves concluded in 2004 that given the modest results of a meta-analysis of the relationship between the Big Five traits and transformational leadership, "the Big Five may not be the best way to discover personality antecedents of ratings of transformational and transactional leadership behaviors" (p. 908). Moreover, the five factors it identifies, neuroticism, extraversion, openness, agreeableness, conscientious, are a difficult foundation upon which leadership training or development programs can be established.

Despite the fact that the search for personality traits associated with effective leadership usually results in limited success, the ability to predict and understand effective leadership remains crucial to organizations in a rapidly changing global economy (Smith & Canger, 2004). More than ever, organizations need transformational leaders, who are recognized as change agents, to inspire a shared vision and guide them through turbulent times (Northouse, 2007).
Although the importance of transformational leadership behaviors has been supported through empirical findings the extent that these behaviors can be predicted by personality, or developed through leadership training, is still unclear (Smith & Canger, 2004).

Research has generally found that transformational leaders motivate and inspire followers to perform at higher levels and exert greater levels of commitment and effort (Popper, Mayseless, & Castelnovo, 2000). In fact, there is a large body of research that portrays leaders with a transformational style as different from, and somewhat superior to, other types of leadership styles (Popper, Mayseless, & Castelnovo, 2000). Therefore, the importance of understanding the personality characteristics of transformational leaders is apparent (Popper, Mayseless, & Castelnovo, 2000). Yet, one of the key questions that continues to plague researchers is what predisposes a person to become a transformational leader (Popper, Mayseless, Castelnovo, 2000)? Are there personal characteristics, or gender differences, that distinguish managers who are perceived to employ transformational leadership practices from those who do not (Dubinsky, Yammarion, Jolson, 1995; Northouse, 2010)? Of crucial importance in this line of research is understanding how stable qualities, like personality and gender, predict leader performance and impact leader development (Smith & Canger, 2004). In essence, researchers and practitioners need to know more than what the leader does, they also need to know who he or she is (Popper, Mayseless, Castelnovo, 2000). Answers to these questions may have direct implications for the recruitment, selection, training and development of future leaders. Therefore, examining the relationship between gender, personality and transformational leadership remains important in both the academic and leadership development practitioner communities (Smith & Canger, 2004).
Leadership Theory

Trait theory. Leadership theorists have been searching to find traits associated with effective leadership for at least a century (Smith & Canger, 2004; Judge, Bono, Ilies & Gerhardt, 2002). The trait theories of leadership assumed that leadership depended upon the personal qualities of the leader and were based on the assumption that leaders are born, not made (Judge, Bono, Ilies, & Gerhardt, 2002). These studies examined physical and psychological traits of leaders, including personality, in an attempt to identify a set of traits that all successful leaders possessed (Lussier & Achua, 2010). Although hundreds of trait studies were conducted during the 1930s and 1940s, no one uncovered a list of traits that guarantees leadership success (Lussier & Achua, 2010). However, according to House and Aditya (1997), "One problem with early trait research was that there was little empirically substantiated personality theory to guide the search for leadership traits" (p. 410). In fact, according to Bass (1990), leadership researchers have historically ignored personality despite evidence that personality has a direct effect on leadership. Another problem with the research was how leadership was defined. Earlier studies defined leadership as either in terms of emergence - the person in a group of strangers who exerts the most influence - or as occupying a senior position in an organization (Hogan & Kaiser, 2005). Therefore, despite the fact that the search for non-cognitive traits associated with effective leadership led to dismal results, researchers persisted and uncovered some traits that appeared to be related to leadership emergence or effectiveness. For example, Stodgill (1948), Kirkpatrick and Locke (1991), Yukl and Van Fleet (1992), House and Aditya (1997), Northouse (2007) and Daft (1999) all found "self-confidence" as a correlate of effective leadership, and Judge, Ilies, Bono, and Gerhardt (2002) found the Big Five model of personality had a multiple correlation of .48 with leadership indicating strong support for the leader trait perspective. Smith
and Canger (2004) also used the Big Five model as the construct for studying the relationship between personality and leadership and found that supervisor personality including high levels of Agreeableness, Emotional Stability, and Extraversion, plus low levels of Conscientiousness are related to subordinate ratings of satisfaction with their supervisor. Therefore, consensus began emerging that the Big Five model of personality can be used to describe the most salient aspects of personality (Judge, Ilies, Bono, & Gerhardt, 2002). However, when Judge and Bono examined the relationship between the Big Five personality factors and the eight dimensions of transformational leadership in 2004, they concluded that the Big Five may not be the best way to discover personality antecedents of transformational leadership behaviors and suggested that future research should focus on specific traits relevant for each type of leadership behavior (p. 908).

**Behavioral leadership theory.** The frustrating results of trait theory research spurred researchers to begin focusing on leader behavior, or what leaders actually did on the job (Lussier & Achua, 2010). Therefore, researchers began examining the differences in behavior between effective and ineffective leaders. Hundreds of studies, examining the relationship between leader behavior and leader effectiveness, were conducted including studies from the University of Iowa identifying differences between autocratic and democratic leadership styles, the University of Michigan identifying differences between job-centered and employee centered leadership styles, and the Ohio State University examining four leadership styles based on two dimensions of consideration and initiating structure (Lussier & Achua, 2010). Yet, no leadership behaviors were found to be consistently related to leadership effectiveness (Lussier & Achua, 2010). Also included in the behavioral studies were motivation theories that focus on explaining and predicting behavior based on people's needs including Maslow's hierarchy of needs theory,
Herzberg's two-factor theory, McClelland's acquired needs theory, Vroom's expectancy theory, and Locke's goal-setting theory (Lussier & Achua, 2010). Although the focus of all these theories is on behavior, it is important to realize that a leader's behavior is based on his or her traits and skills (Lussier & Achua, 2010). Undoubtedly, a leader's personality traits directly affect his or her behavior because who we are determines how we lead (Hogan & Kaiser, 2005). Effective leaders are defined through the eyes of the led, and there are specific characteristics that people look for in their leaders including integrity, decisiveness, competence and vision (Kouzes & Posner, 2002; Peterson & Seligman, 2004). Therefore, because personality predicts leadership style, leadership style predicts employee attitudes and team functioning, and attitudes and team functioning predict organizational performance, leader personality cannot be artificially separated from performance and effectiveness (Hogan & Kaiser, 2005).

**Contingency and situational leadership theory.** After the trait and behavioral research failed to identify a leadership style that worked best in all situations, contingency leadership theories arose to explain the appropriate leadership style based on the leader, the follower, and the situation (Hersey, Blanchard, & Johnson, 2001). The essence of these theories is that leaders need to adopt different leadership styles to meet the needs of the situation. Because different individuals and groups prefer different leadership styles, leaders need to change their style depending upon contextual factors that set the boundaries for the interaction (Hersey, Blanchard, & Johnson, 2001). Fiedler was the first to develop a situational leadership theory, called contingency theory, based upon his belief that leadership style is a reflection of personality (trait theory-oriented) and behavior (behavioral theory-oriented) and that leadership styles are basically constant (Lussier & Achua, 2010). His belief was that leaders do not change styles, they are either task or relationship motivated, and therefore, if they want to be successful they
change the situation. According to Fiedler, if the leadership style does not match the situation the leader may be viewed as being ineffective.

According to Situational Leadership theory (Hersey, 1985), there is not a best way to influence people. Rather the leadership style that a person should use with individuals depends on the readiness level of the people the leader is attempting to influence (Hersey, Blanchard, & Johnson, 2001). An individual's leadership style is a combination of task and relationship behavior that is dependent upon the readiness level of the followers (Hersey, Blanchard, & Johnson, 2001). The readiness level of the followers is defined as the extent to which a follower demonstrates the ability and willingness to accomplish a specific task. The relationship between leaders and followers is the crucial variable in the leadership situation because there is not leadership without someone following (Hersey, Blanchard, & Johnson, 2001). Contingency theory started to subside in the 1990s as leadership theory morphed into a newer versions of the charismatic leader, referred to as the transformational leader (Walck, 1997).

Integrative leadership theory. Leadership theory has come full circle, starting with and returning to charismatic or transformational theories of leadership, in which effective leadership is a result of the exceptional qualities embedded in the leader (Walck, 1997). Integrative leadership theory, also known as the neo-charismatic theory, attempts to combine the trait, behavioral, and contingency theories to explain successful, influencing leader-follower relationships (Lussier & Achua, 2010). Through these theories, researchers attempt to explain why followers of some leaders are willing to work hard and make personal sacrifices to achieve the group and organizational goals, or how effective leaders influence the behavior of their followers (Lussier & Achua, 2010). These theories examine behaviors and traits that contribute
to leadership effectiveness, and explore why the same behavior by the leader may have a different effect on followers (Lussier & Achua, 2010).

For the past two decades, the literature on leadership has extensively focused on charismatic and transformational leadership (Bono & Judge, 2004; Carless, 2001; Popper, Mayseless, & Catelnovo, 2000). Transformational leaders are seen as visionary, creative, and flexible. They have the unique ability to integrate complexity, which enables them to garner substantial commitment from followers in order to transform organizations and thus manage change (Walck, 1997). Not surprisingly, the growth in the interest in transformational leadership has coincided with significant changes in the geopolitical, social, and economic environments that have forced institutions to continually cope with new situations in order to survive and prosper (Lussier & Achua, 2010). Transformational leadership describes a process of positive influence that impacts individuals, organizations and communities in remarkable ways. Because research studies have consistently revealed the positive correlation between transformational leadership and individual, group and organizational performance, there is a renewed interest in studying the traits and behaviors, as well as the gender, of transformational leaders (Bono & Judge, 2004; Northouse, 2007; Roush & Atwater; 1992; Schyns & Sanders, 2007; Smith & Canger, 2004).

The concept of transformational leadership was introduced by Burns (1978) and Bass (1985) as a distinct type of leadership. Transformational leaders empower their followers and encourage them to "do more than they originally expected to do" (Bass, 1985, p. 20). According to the theory, transformational leaders have a positive vision of the future and inspire trust and respect in their followers. They are able to align the goals set by followers with those set by the organization and they can influence followers by making them proud to be working for him or
her (Schyns & Sansers, 2007). A meta-analysis conducted by Lowe, Kroek, and Sivasubramaniam (1996) showed that transformational leadership is very effective in organizations and increased levels in employee service performance, organizational commitment, and job satisfaction have all been positively correlated with transformational leadership (Lussier & Achua, 2010).

Although there is still plenty to learn about transformational leadership, there is consensus from the many years of research to suggest there are common behaviors and personality traits associated with transformational leaders (Lussier & Achua, 2010). For example, Bass and Avilio (1994) proposed that transformational leadership is composed of four behavioral dimensions - idealized influence, inspirational motivation, individual consideration and intellectual stimulation - while Kouzes and Posner (2007) found that the five behavioral dimensions of modeling the way, inspiring a shared vision, challenging the process, enabling others to act and encouraging the heart were viewed as transformational in nature. Perhaps even more importantly, initial research on personality traits of transformational leaders conducted by Judge, Bono, Ilies, and Gerhardt (2002), utilizing the Five Factor model of personality, has linked the factors of Extraversion, Openness to Experience, Agreeableness and Conscientiousness with effective leadership. A 1995 study conducted by Roush and Atwater found that leaders who were evaluated as Sensing (S) and Feeling (F) types by the MBTI were the most transformational and used the most positive reinforcement with followers. Other research conducted by Van Eron (1991), Sanchez (1988), and Fleenor (1997) found that leaders who preferred Intuition (N), Feeling (F), and Perceiving (P) were associated with various measures of transformational leadership. Moreover, research conducted by Eagly and Carli (2003), found that women engage in most transformational leadership behaviors to a greater
extent than men, however the personality of these women was not examined as a factor in the research. Therefore, additional research is needed to further explore the relationship between gender, leader personality and transformational leadership behaviors (Roush & Atwater 1992; Smith & Canger, 2004; Walck 1997).

**Myers-Briggs Personality Type and Cognitive Leadership Styles**

**Introduction to the Myers-Briggs Type Indicator.** The Myers-Briggs Type Indicator (MBTI) is the most widely used and studied psychological test and personality inventory used in leadership training today (Wagner, 2003). It has successfully been used in leadership and management development programs; in team building, communications training, and career enhancement programs; and in organizational development training in the United States and around the world (Kirby, 1997). Moreover, it is frequently used as a means of increasing the self-insight of participants in leadership development programs (Fleenor, 1997). The growing popularity of the typological approach to understanding leadership attests to its usefulness in defining the consistencies found among individuals of the same type (Quenk, 2002). In fact, in a study evaluating a number of personality instruments that was conducted by Druckman and Bjork (1991), people identified the MBTI personality inventory as providing the most insights and having the greatest impact on their behaviors and decisions (Quenk, 2002).

However, some scholars have advocated that despite its popular use in leadership development the MBTI must be applied with caution (Michael, 2003). These concerns primarily focus around conceptual, reliability, and validity issues of the MBTI (Harvey, Murry, Stamoulis, 1995; Michael 2003). Decades of studies conducted by various researchers have resulted in mixed findings. For example, in 1996 Gardner and Martinko conducted an extensive review of the instrument's conceptual properties and found both supportive and non-supportive findings,
but nevertheless concluded that type scores are relatively stable over time (Michael, 2003). The conflicting evidence surrounding the reliability issue may be a result of the dichotomous scores used to measure type (Michael, 2006). Most psychological measures examine quantitative traits, or the amount of a characteristic a person possesses rather than MBTI type preference which is categorical (Myers, McCaulley, Quenk, & Hammer, 2003). Personality type theory views personality as a process involving the tension of opposites and the MBTI's goal is to sort rather than measure (Fitzgerald & Kirby, 1997). Therefore, the intent of the MBTI must be considered when analyzing the construction of the instrument, the interpretation of results and the type of evidence sought to establish its validity (Myers, McCaulley, Quenk, & Hammer, 2003).

Research on the validity of the MBTI has also been conducted with mixed results. In 1995, Harvey, Murray and Stamoulis performed an exploratory factor analysis of the four-factor view of the MBTI and found strong support for its validity, although they identified a number of additional secondary factor loadings that should be tested. These researchers concluded that the divergence in the research may simply be the result of methodological differences between studies rather than a result of validity problems (Harvey, Murry, & Stamoulis, 1995).

In order to understand these criticisms of the MBTI, it is also important to examine its developmental history. Since its beginning, the Indicator has undergone constant scrutiny to determine ways to improve psychometric properties and theoretical congruence (Myers, McCaulley, Quenk, & Hammer, 1998, 2003). Development of the MBTI began in 1942 and has been revised several times including the publication of Form G in 1977, Form J in 1987, and Form M in 1988 (Myers, McCaulley, Quenk & Hammer, 1998, 2003). The studies cited earlier were conducted on Form G of the MBTI. There has been a marked improvement in both
reliability and validity with the 93-item Form M, the instrument used in this research, which will be discussed further in Chapter 3.

Nevertheless, because of concerns with the MBTI as a reliable and valid instrument for the study of personality, many personality researchers favor the five-factor model as the most notable taxonomy of "normal" personality and a viable framework for the study of leadership (McCormick & Burch, 2008). However, most practitioners utilize the MBTI for leadership development (Michael, 2003). This gap between scholarly research on the link between personality and perceived leadership effectiveness is problematic (Hogan, Curphy, & Hogan, 1994). Psychological research focuses on narrowly defined issues and result in publications that are primarily read by other psychologists, not the lay public (Hogan, Curphy, & Hogan, 1994). Therefore, more research is needed on the relationship between MBTI personality preferences and leadership to help guide practitioners and educators involved in leader development (Fitzgerald, 1997; Roush & Atwater, 1992; Walck, 1997).

The MBTI is based on Jungian theory of personality and recognizes that behaviors, including leadership behaviors, are a result of a combination of attitudes or orientations. In essence, the MBTI is a holistic approach to the study of personality and the authors of the MBTI, Myers and Briggs, studied and applied Jung's theory of personality types to better understand and predict patterns of behavior (Myers & Kirby, 1994). Other instruments used in leadership development and training are based on empirical evidence gathered about specific values and behaviors, however the MBTI instrument sees specific values and behaviors as habits that tend to develop as people exercise their type preferences (Kirby, 1997). Therefore, it is designed to sort people into presumed preexisting categories or types, rather than to measure how much or how
little of a particular leadership characteristic or trait a respondent possess or uses and is helpful in understanding normal differences among people.

**Myers-Briggs theory of personality.** Jung's (1921) work on psychological types was a base on which the Myers-Briggs theory and the Myers-Briggs type indicator were built. The indicator includes eight different preferences, which describe a person's source of energy (Extraversion (E), Introversion (I)), the way an individual gathers information (Sensing (S), Intuition (N)), the way people prefer to make decisions (Thinking (T), Feeling (F)), and the way people live their lives (Judging (J), Perceiving (P)). In each dimension, according to Jung, a person has one preference that is stronger than another and the stronger preferences emerge as a person's personality type. The four dichotomies create sixteen personality types (e.g. ESTJ, ISTP, ENFP…) that are very distinct from each other. The personality types are much more than a simple combination of preferences, even if most MBTI research focuses on preferences rather than types. The dominance order of personality types adds further understanding to type theory, and explains the wide possibilities of MBTI in research and leadership development (Myers & Myers, 1990; Fitzgerald & Kirby, 1997).

**Functions and preferences.** In order to understand personality type, it is essential to understand personality preference and how these preferences develop over the life span. According to the theory, individuals habitually favor one of a pair of opposites over the other, which results in a preference (Quenk, 2002). As noted earlier, combinations of preferences for these functions constitute type.

**Extraversion and Introversion.** The primary questions to answer in determining if an individual prefers Extraversion or Introversion is "Where do you prefer to focus your attention?" and "Where do you get energy?" (Myers, 1998). People who prefer Extraversion (E) direct and
receive their energy from the outer world of people and activity. They are more likely to prefer action over reflection and prefer to talk things over in order to understand them. Extraverts typically like to be in contact with other people and are often seen as energetic. According to Myers (1998), they have broad interests, are sociable and expressive and readily take initiative in work and relationships.

On the other hand, people who prefer Introversion (I) direct and receive their energy from the inner world of thoughts and ideas (Myers, 1998). They are more likely to prefer reflection over action and like to think things through in order to understand them. Introverts prefer to communicate in writing and learn best by reflection, mental "practice". Often viewed as private and contained, they focus in depth on their interests and take initiative when the situation or issue is important to them (Myers, 1998).

**Sensing and Intuition.** The primary question in determining whether an individual prefers Sensing or Intuition is "How do you prefer to take in information?" (Myers, 1998). Sensing (S) types gather information through their five senses and in a precise and exact manner. They like hearing facts and details first and prefer the tried and true because they desire predictability. They trust their experience and build carefully and thoroughly toward conclusions (Myers, 1998).

Conversely, people who prefer Intuition (N) take in information by examining the big picture and focusing on the relationships and connections between the facts (Myers, 1998). They desire change, like hearing general concepts first, and focus on the future of possibilities. Often seen as imaginative and verbally creative, they move quickly to conclusions, follow hunches, and trust their inspiration (Myers, 1998).
**Thinking and Feeling.** The primary question to address in determining whether an individual prefers Thinking or Feeling is "How do you make decisions?" (Myers, 1998). Individuals who prefer to make decisions through their Thinking (T) function seek general truths and objectivity when making decisions, and like to look at the logical consequences of a choice or action. They seek logical clarity, have an interest in data, and prefer things to be objective. They receive energy from critiquing and analyzing situations and information, in order to identify what is wrong with something, so they can solve the problem (Myers, 1998). They strive for objective standards of truth and can be "tough-minded". Their goal is to find a standard or principle that will apply in all similar situations (Myers, 1998).

People with a preference for Feeling (F) in decision making primarily consider what is important to them and to others involved in the situation (Myers, 1998). Their decisions focus on their value of honoring people and they typically are energized by appreciating and supporting others. The goal of Feelers, who are guided by personal values, is to create individual and interpersonal harmony when making decisions (Myers, 1998). They prefer things to be personal, seek emotional clarity, have a strong interest in people, and may appear "tender-hearted".

**Judging and Perceiving.** "How do you deal with the outer world?" is the primary question to ask to determine if an individual prefers Judging or Perceiving (Myers, 1998). Individuals with a preference for Judging (J) like to live in a structured, planned, and orderly way so that they can regulate and manage their lives (Myers, 1998). Judging types are more likely to want things to be settled and ordered; they finish tasks before the deadline, prefer goals and results, and are quick to draw conclusions. Sticking to a plan and schedule is very important to individuals with Judging preferences, and they draw energy from getting things done (Myers, 1998).
Individuals with a preference for Perceiving (P) like to live in a flexible, spontaneous way (Myers, 1998). They seek to experience and understand life rather than control it. Perceiving (P) types like to remain open and adapt to new information, so detailed plans and final decision feel confining to them (Myers, 1998). They are more likely to want things to be open and flexible, finish tasks at the deadline, like to see what turns up, and see routines as limiting because they are energized by their resourcefulness in adapting to the demands of the moment (Myers, 1998).

As we use our preferences in each of these areas, we develop an underlying pattern of personality type (Myers, 1998). It is the compellation and interaction of the four preferences that comprises the sixteen different personality types or profiles. According to Myers (1988), an individual's behaviors, skills, and attitudes are associated with their type and those with different types will be opposite in many ways. Although this dissertation research is focusing on MBTI preferences rather than type, the interplay of the functions is important to understand for several reasons. First, according to the theory although we have a natural preference for one of the two opposites on each of the four dichotomies, we can use both poles at different times, but not at once and not with equal confidence (Myers, 1998). Since we do not use both preferences of a pair at the same time, we get into the habit of using our favorite preference and therefore the non-preference tends to be less developed and trusted (Martin, 1997). Therefore, when we use our preferred methods, we are generally feel most competent, natural and energetic (Myers, 1998).

On the other hand, when individuals engage in behaviors that call on their non-preferences, they tend to feel unnatural, uncomfortable, and less competent and confident (Martin, 1997). Often in work situations, individuals may use their least preferred function as a
requirement of the job, thereby impacting perceived effectiveness by both self and followers.

Secondly, although everyone has and uses what Jung referred to as the four mental functions, Sensing, Intuition, Thinking and Feeling, people differ in the order in which they prefer to use them and the order in which they develop and grow (Martin, 1997). For example, although two individuals may both prefer intuition or feeling, they may demonstrate these in different ways depending upon the dominance of the function (Myers, 1998). These differences are important to keep in mind when evaluating data that focuses on the preference scales rather than on type.

**Understanding the interplay of the functions.** Jung saw the human psyche as having everything necessary to grow, adapt, heal and balance itself (Quenk, 2002). According to psychological type theory, the four basic mental or cognitive functions - Sensing, Intuition, Thinking and Feeling - are part of every human being, and are used regularly by everyone (Fitzgerald & Kirby, 1997). However, not everyone uses the four functions in the same way, gets the same energy from them, or uses them equally (Fitzgerald & Kirby, 1997). Instead, there is an order in which people typically prefer, develop and use the four preferences and it is this order that in turn comprises the differences between personality profiles. The dominant function is the most preferred, first developed, most relied upon and trusted. The auxiliary function is the second most preferred and provides balance to the dominant function. The tertiary function is the third to develop and be used, while the inferior function is normally the least used and developed of the four and may remain in an individual's sub-conscious (Quenk, 2002). The two middle letters of each type are the dominant and auxiliary functions for that type (Fitzgerald & Kirby, 1997). For every type, one of the two functions will be used primarily in the external world, the other in the internal world. According to the theory, people use their preferred process (the
dominant function) in their preferred world (extraverted or introverted) and use their second favorite function in their non-preferred world.

Although types may share the same functions and attitudes, their dominant and auxiliary functions differ and impact observable behaviors. An individual's dominant function is the focus of energy and attention, and therefore is usually seen in a stronger more pronounced form than an auxiliary function. This difference in energy is easier to see in extraverted functions than in introverted ones. Moreover, for introverted functions, a similar relationship exists between dominant and auxiliary functions, but is more difficult to see because the introverted functions focus on the inner world. For example, although ISTJs and ESTJs have in common a sensing, thinking, judging preference, the ISTJs dominant function is Introverted Sensing while ESTJs dominant function is Extraverted Thinking. Introverted Sensors first process information internally and tend to be quite confident about the accuracy of their sensing perception. What people see when they meet this type is an impressive ability to absorb and remember facts as well as thoroughness and precision. On the other hand, Extroverted Thinkers make judgments about the outside world quickly and with great certainty. What people see when they meet this type is logical analysis and decisive action.

The dominant function is overriding and remains the center of people's identity and functioning throughout their lives (Fitzgerald & Kirby, 1997). Although other parts of themselves develop over time, the dominant function remains the most trusted and familiar part of themselves and therefore the focus and concerns of the dominant function come first. As a result, a person's overall goals in life, including career preferences, tend to be strongly influenced by their dominant function (Fitzgerald & Kirby, 1997). The tertiary and inferior functions are generally less developed and less conscious than the dominant and auxiliary functions, and
therefore if individuals are in an environment that requires skills related to these functions they can be developed although they will remain the least preferred.

The inferior function can play a particularly important role in understanding oneself and others (Fitzgerald & Kirby, 1997). For most people, the inferior function is the area where they feel most inadequate and where they make mistakes. It may also be the area where they react defensively or with inappropriate emotion. Therefore, in leadership development an awareness of dominant and inferior functions helps individuals with their leadership identity, with skill development including communication and team building, and with strategies to leverage dominant functions and overcome or compensate for perceived weaknesses.

Understanding MBTI function pairs. Psychological type is complicated. As mentioned in the previous section, not only do the eight preferences combine to form sixteen types, but the least preferred preference, type development, and interaction of preferences all have an impact on an individual's behavior (Walck, 1997). Therefore, research seeking relationship between type and management or leadership style often reduces psychological type to function pairs (ST, NT, SF, NF) and single preferences (E vs. I, S vs. N, T vs. F, J vs. P) rather than entire type (Walck, 1997). Utilizing function pairs is less complex than utilizing entire type because there are fewer variables with which to compare management concepts (Walck, 1997). Another advantage is that the function pairs, defined as preferences for information gathering (S-N) and information evaluating (T-F) can be linked to cognition and strategic decision making (Walck, 1997). Dependent upon the research being conducted, the function pairs have been called problem-solving styles, decision-making styles, choice styles, leadership styles and cognitive styles (Walck, 1997).
**Function pairs in the workplace.** According to research there is a clear correlation between career choice and natural type preference (Martin, 1997). Though all four letters of type can affect the kind of career that interests an individual, the two middle letters, called function pairs (ST, SF, NF, NT), have a particular importance for career choice (Martin, 1997). This is an important consideration in this study because the predominant function pairs in health care environments, which are overwhelmingly female, will vastly differ from studies conducted in business environments where the studies are skewed toward an overrepresentation of men (Northouse, 2007, p. 251).

**Sensing plus Thinking (ST).** According to Martin (1997), STs focus on realities and practical applications in their work. They approach life in work in an objective and analytical manner. Often found in careers that require a technical approach to things, ideas or people, they are less interested in careers that require nurturing or attending to the growth and development of others (Martin, 1997).

**Sensing plus Feeling (SF).** SFs prefer hands-on kinds of careers and approach life and work in a warm and people-oriented manner (Martin, 1997). They have a sympathetic approach to people and like to focus on the reality of the situation. Often they are found in careers involving health care.

**Intuition plus Feeling (NF).** NFs approach work and life in a warm and enthusiastic manner (Martin, 1997). They like to focus on ideas and possibilities, particularly possibilities for people. Less interested in careers that require an impersonal and technical approach to things and factual data, they are often found in careers like health care that require communication skills, a focus on the abstract, and an understanding of others (Martin, 1997).
**Intuition plus Thinking (NT).** NTs like to make use of their ingenuity in their work by focusing on possibilities that have technical applications (Martin, 1997). They approach life in a logical and objective manner and are often found in careers that require an impersonal and analytical approach to ideas, information, and people. They are less interested in careers that require them to take an warm and sympathetic approach to helping people (Martin, 1997).

Although utilizing function pairs does not account for the implementation preferences in Jungian theory, they do add some light on how preferences for gathering information (S-N) and action (T-F) influence how managers perform in organizations (Walck, 1997). Because many management researchers are seeking reliable predictors of managerial performance they often hypothesize relationships between type and problem-solving, decision-making, and outcomes (Walck, 1997). There is evidence that managers with preferences for Sensing and Feeling (SFs) prefer a more participative leadership style than those who prefer Intuition and Thinking (NTs), and managers with a preference for Extraversion, Intuition, and Feeling (ENFs) are facilitative interactive leaders, while those who prefer Sensing, Thinking, and Judgment (STJs) are administrative leaders (Walck, 1997). A 1992 study conducted by Anderson using the Leadership Practices Inventory found that Intuition (N) was significantly related to Challenging, Extraversion (E) to Encouraging, and Introversion combined with Judging (IJ) and Thinking combined with Judging (TJ) to Modeling. The interview data from the Anderson study also supported the survey findings.

Although a multitude of studies utilizing the MBTI to understand leadership have been conducted there are only a few that are significant to this study. The first was conducted in 1997 by Sundstrom and Busby. They concluded that subordinates do tend to rate managers in ways that are consistent with the managers' MBTI personality preferences (Sundstrom & Busby,
Individuals who prefer Extraversion were associated with dominance, Intuitives with creativity, Feelers with friendliness, and Judgers with conventional practice and efficiency (Sundstrom & Busby, 1997). A 1991 study conducted by Van Eron found Intuitives and Perceivers more likely than Sensors and Introverts to self-report a disposition for transformational leadership. Moreover, the Van Eron (1991) study found that the more strongly a leader held a transformational disposition the more likely subordinates were to rate the leader positively. From this study, the authors concluded that individual type differences were associated with leadership disposition (transformational leadership), and that leadership disposition was significantly associated with leadership practices related to transformation leadership, as measured by subordinates. Nevertheless, the mixed results of the research, often due to small sample sizes and samples that consist of students with minimal management experience, indicates the need to conduct more research in actual management settings (Walck, 1997). Examining the relationship between the cognitive or leadership styles of female hospital leaders and their perceived transformational leadership behaviors will contribute to the postmodern era of management and leadership practice.

The relationship between the MBTI and the big five. The personality traits comprising the five-factor or Big Five model of personality are Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness (Judge, Bono, Ilies, & Gerhardt 2002; Nettle, 2007). A trait is a continuum along which individuals vary and the level of a person's trait is observed through their behavior, rather than observed directly (Nettle, 2007). Therefore, the definitions of the Big Five focus on behaviors of individuals who exhibit the traits.

The Big Five model defines Neuroticism as the tendency to exhibit poor emotional adjustment and experience negative effects, such as anxiety, insecurity, and hostility. People high
in Neuroticism are prone to stress and worry, while individuals with low levels of the trait are emotionally stable (Nettle, 2007). Extraversion is defined as the tendency to be sociable, assertive, active and to experience positive effects, like energy and zeal. Individuals with high levels of Extraversion are outgoing and enthusiastic while those low in the trait are aloof and quiet (Nettle, 2007). Individuals with high levels of Openness to Experience are imaginative, nonconforming, unconventional, creative, and autonomous, while those with a low level of this disposition are practical and conventional (Nettle, 2007). Agreeableness is the tendency to be trusting, compliant, caring, gentle, and empathetic. Those with low levels of Agreeableness are uncooperative and hostile (Nettle, 2007). Lastly, Conscientiousness is comprised of two related factors for achievement and dependability and high scorers are organized and self-directed while low scorers are spontaneous and careless (Judge et al., 2002; Nettle 2007). According to the theory, we all possess the five traits albeit in varying levels (Nettle, 2007).

The Big Five has provided a valuable taxonomy for the study of job performance and leadership and has found to be relevant to many aspects of life, such as subjective well-being (Judge et al., 2002; Nettle, 2007). Similar to the MBTI, it is based on people's self-reported ratings of what they are like and fortunately for personality researchers these kinds of data have turned out to be quite reliable and stable over time (Nettle, 2007). In fact, according the Nettle (2007), the Big Five personality traits are meaningful, stable, partly genetically inherited consistencies in classes of behavior that can be measured using ratings. They do have predictive power and affect our responses to live events and affect which life events we are going to have (Nettle, 2007). For example, individuals low in the trait of Agreeableness will have more fights than individuals high in the trait, and individuals low in Conscientiousness increase their probability of death by 30 per cent in any given year (Nettle, 2007). On the other hand, people
high in Extraversion tend to be ambitious and enjoy gaining social status and receiving social attention. They have a lot of positive emotion and consistently report more states of joy, desire, enthusiasm and excitement than low scorers (Nettle, 2007).

Most researchers and practitioners are unaware of the relationship between the MBTI and the Big Five and do not understand the implications behind the differing philosophies that underlie the MBTI versus the more traditional five-factor instrument (Fitzgerald, 1997). Although the MBTI may appear to be a simple instrument, the theory behind it, the theory of psychological type, is one of the most coherent and comprehensive theories of individual difference and individual development (Fitzgerald, 1997). Although there is more than 50 years of research on the MBTI (Myers & McCaulley, 1985), and the MBTI is widely used in leadership development programs because of its reliability and validity, until recently is was virtually unknown to most academic researchers (Fitzgerald, 1997).

In 1989, McCrea and Costa researched the relationship between the NEO-PI (The Big Five) and the MBTI. There were very high correlations between the two instruments on four of the five NEO-PI factors, including extraversion, openness, agreeableness, and conscientiousness. Although researchers were shocked that there was such strong agreement between instruments, given their different developmental histories and philosophies, the similarities provide additional support that both instruments capture basic human differences (Fitzgerald, 1997). Moreover, research on both instruments found that personality is remarkably stable over time (McCrea & Costa, 1990; Myers & McCaulley, 1985). The identification of these differences provides a wonderful opportunity to bring coherence to the understanding of the relationship between personality and many areas of human functioning including leadership (Fitzgerald, 1997).
There are five major reasons that the MBTI is used more frequently for leadership development application and field research than the Big Five (Fitzgerald & Kirby, 1997). First, the MBTI describes all personality "preferences" as "normal" and each personality preference makes a valuable contribution to any organization. Second, the MBTI allows the individual to be the final judge of his or her type rather than the indicator preference. The third factor is the approach MBTI uses by examining each dimension dialectically and giving individual's alternative constructs or preferences from which to choose. The fourth factor is based on the fact that the theory is based upon a predictable interplay among the preferences resulting in 16 distinct types whose characteristics have differential implications for leadership development. Finally, it is a theory of development that provides developmental paths and guidance for each of type throughout the life span. Because the first stage in leadership identity development is self-awareness, according to Komives et al. (2005), it becomes apparent that the MBTI may offer invaluable insights into leadership identity even over the lifespan.

According to Hogan and Kaiser (2005), in order to understand personality, researchers need to look at two perspectives: (1) how a person thinks about him or herself (a person's identity) and (2) how other's think about that person (ie a person's reputation). Although identity is difficult to research, the MBTI is designed to give everyday people information about personality preferences, and encourage them to see the inherent value in each preference and type, thus impacting perceptions of self and others (Fitzgerald & Kirby, 1997). Therefore, practitioners use the MBTI as a tool in leadership development for several reasons. First, the MBTI helps a leader understand his or her preferences and behaviors and identifies the strategies and tools for interacting and building relationships with those whose preferences differ from their own (Fitzgerald & Kirby, 1997). Additionally, the MBTI encourages individuals to take
responsibility for understanding and dealing with personality differences, and helps individuals learn to interact with diverse personalities in increasingly skillful ways (Fitzgerald, 1997). Finally, according to Hirsh & Kummerow (1990) the MBTI helps managers in organizations increase their own self-insight, it also helps them understand individual differences, improve teamwork, and solve organizational problems.

**Personality and Transformational Leadership Theory**

A number of quantitative reviews have investigated the relationship between leadership and personality (Bono & Judge, 2004; Judge et al., 2002; Lord et al., 1986), yet little consensus has emerged regarding acts or behaviors that may influence others to serve the goals of the organization (de Vries, 2008). Complicating the problem are the hundreds of various definitions of leadership that have been used in these studies. This absence of a broad and common theoretical framework for guiding and interpreting empirical findings has created confusion and dissention among leadership scholars and has provided little guidance in leader development initiatives. Nevertheless, organizations continue to seek leaders with the ability to transform organizations in a competitive and shrinking global economy and invest millions of dollars annually in leader development initiatives. In part this is due to empirical evidence that transformational leadership is very effective (see the meta-analysis by Lowe, Kroek, & Sivasubramaniam, 1996), transformational leadership behavior can be learned, and that life experiences, including education, play a role in the development of transformational leadership behaviors (Bono & Judge, 2004).

Although leadership has been defined in a number of ways, organizational leadership development typically focuses on developing transformational leaders (Brown & Posner, 2001). Originally conceptualized by Burns (1978), transformational leaders distinguish themselves from
Transactional leaders based upon their ability to have a clear vision, stimulate and motivate their followers, and align the goals set by followers with those set by the organization (Schyns & Sanders, 2007). Transactional leaders motivate subordinates through tangible rewards which can be quite effective for the short term, but in a long-term perspective transformational leadership is more efficient (Bass, 1985). Transformational leaders influence their followers by making them proud to be working for him or her, by setting the example, by sending out a vision, and by stimulating his or her followers to think further than usual solutions (Schyns & Sanders, 2007).

In contrast to transactional leaders that focus on the task and specification of contingent rewards, transformational leaders have the ability to develop relationships and effectively influence followers. They lift followers beyond their personal goals and self-interests in order to focus on goals which contribute to the greater good (Bass, 1990; Cacioppe, 1997; Hater & Bass, 1988; Kouzes & Posner, 1995, 2002). Transformational leadership reflects follower's strong personal identification with the leader and a shared vision of the future, resulting in a positive change in follower's attitudes and behaviors (Hater & Bass, 1988). Moreover, with a unique ability to activate the higher order needs of followers, transformational leaders communicate a vision that inspires and motivates people to achieve something extraordinary, while paying attention to the developmental needs of the followers and helping them look at old problems in new ways (Cacioppe, 1997; Kouzes & Posner, 1988). Transformational leaders, through the process of influence, excite, arouse, and inspire followers to achieve group goals.

In 2002, Yukl defined leadership as, "the process of influencing others to understand and agree about what needs to be done…., and the process of facilitating individual and collective efforts to accomplish the shared objectives" (de Vries, 2008), and in 2002, Kouzes and Posner defined leadership as 'a relationship between those who aspire to lead and those who choose to
The concepts of influence and relationships are crucial to any definition of transformation leadership, because without the ability to build effective relationships, leaders will have difficulty influencing others to accomplish shared objectives. Therefore, transformational leadership theories attempt to explain how leaders motivate and inspire subordinates to transcend their own interests and become committed to achieving the leaders' vision for the organization (Carless, 2001). Of keen interest to leadership scholars is how transformational leadership can be equated with effective leadership behaviors (Carless, 2001).

In 1995, Kouzes and Posner identified the five practices of exemplary leaders and developed an assessment tool called the Leadership Practices Inventory (LPI) (Kouzes & Posner, 1995). This tool has been used extensively by business organizations for leader development and according to the authors over its 20-year history, has become the most popular off-the-shelf 360-degree leadership assessment instrument in the world (Kouzes & Posner, 2002). Therefore, the operationalization of the construct of leadership for this study is based on Kouzes and Posner's transformational leadership model. Their research, which was conducted over almost 20 years, suggests that leadership is a collection of practices and behaviors (Kouzes & Posner, 1995). These practices serve as guidance for leaders to accomplish their achievements and get extraordinary things done (Kouzes & Posner, 1995, p. 9). The practices, or behaviors, were developed through intensive research based upon what people are doing when they are leading, and have been recognized by many researchers as representative of highly effective leadership practices (Abu-Tineh, Khasawneh, & Omary, 2009; Brown & Posner, 2001; Taylor, 2002). The practices identified in their research, and measured by the LPI, include: (a) modeling the way; (b) inspiring a shared vision; (c) challenging the process; (d) enabling others to act; (e) encouraging the heart. Moreover, according to Kouzes and Posner anyone can learn to lead, and
leadership is an identifiable set of skills and practices available to all regardless of personality (Kouzes & Posner, 2002).

Although there is an inherent truth to the statement that anyone can learn to lead, it is important to recognize that other researchers have shown that personality is an important correlate of transformational leadership behavior and therefore should not be ignored in leader development (de Vries, 2008). Charismatic transformational leaders, in comparison to non-charismatic transactional leaders, tend to be more self-assured, dynamic, creative and visionary (de Vries, 2008). They also are more open to change, demonstrate self-efficacy, and have a stronger propensity to take risks. Interestingly, they also score higher on feminine attributes, such as nurturance and pragmatism, and lower on masculine traits such as dominance, aggressiveness and being critical (Nystedt, 1997).

Moreover, a number of quantitative reviews that have investigated the relationship between leadership and personality have found that extraversion, together with agreeableness, conscientiousness, and openness to experience as measured by the "Big Five" personality traits, are important correlates of transformational leadership (Judge & Bono, 2000; Bono & Judge, 2004; de Vries, 2008). In 2000, Judge and Bono conducted a study utilizing the Five-factor Model of Personality to examine transformational leadership behaviors. They found that personality traits of extraversion and agreeableness were the most important predictors of transformational leadership (Bono & Judge, 2000). In 2002, Judge, Bono, Ilies and Gerhardt showed that the 'Big Five' traits of extraversion and openness to experience are consistently related to leadership effectiveness, while extraversion, openness to experience conscientiousness, and disagreeableness were significantly related to leadership emergence. Then in 2004, Bono and Judge conducted a meta-analysis of the relationship between the Multifactor Leadership
Questionnaire (MLQ) scales and personality to examine the effect of personality on transformational and transactional leadership behaviors. They used the 5-factor model of personality as an organizing framework and accumulated 384 correlations from 26 independent studies (Bono & Judge, 2004). They found that charismatic leadership (a combination of idealized influence and inspirational motivation) was most strongly related to extraversion, openness, and agreeableness, while individualized consideration was most strongly related to extraversion and agreeableness (Bono & Judge, 2004). In this study, the Big Five explained 12% of the variability in charisma and only 5% and 6% of the variability in ratings of intellectual stimulation and individualized consideration (Bono & Judge, 2004). Therefore, they concluded that although results provided some support for the dispositional basis of transformational leadership the weak associations indicate the need for future research that utilizes narrower personality traits and non-dispositional determinants of transformational leadership (Bono & Judge, 2004).

Other researchers have concluded that charismatic leadership and leader consideration can almost entirely be captured in terms of leader personality (de Vries, 2008). In this study, de Vries used the Multifactor Leadership Questionnaire, the Leader Behaviour Description Questionnaire and both the interpersonal and HEXACO personality scales to find the relationship between leadership and the main interpersonal and non-interpersonal dimensions of personality of 152 students with work-related experience in a subordinate role (de Vries, 2008). The main conclusion of the study was that both charismatic leadership as well as the level of leader consideration can almost entirely be captured in terms of the leader's personality (de Vries, 2008). It also found that each of the leadership styles investigated had a remarkably different personality profile (de Vries, 2008). This research led him to concluded that from an
interpersonal perspective, there is little doubt that charismatic and considerate leaders have strong positive interpersonal characteristics and are seen as warm and agreeable in their interactions (de Vries).

Undoubtedly, leadership is a multifaceted and complex phenomenon, but according to Black (1995) it is the personality structure of an individual, that when energized by motivation, dynamically organizes perception, cognition, and behavior in order to achieve organizational goals. From a Myers-Briggs perspective, an individual's personality type preferences describe the core of the individual, and the interaction between the preferences is how type is expressed including perception, cognition, and behavior (Fitzgerald & Kirby, 1997). Therefore there are specific characteristics or behaviors associated with each type that will undoubtedly impact leadership behaviors. For example, some research has found that although Sensing and Thinking and Sensing and Judging managers dominate most organizations, Intuitive and Feeling and Intuitive and Perceiving managers are seen as more transformational because of their ability to develop a vision of the future and arouse the excitement of organizational members to pursue it (Walck, 1997). The obvious, yet untested, hypothesis of this observation is that although through type development individuals can increase their ability to use their less preferred functions well, will it be more difficult for some individuals to develop as transformational leaders than others? For example, Introverted Sensor Thinker types, who prefer structure, order, and tried-and-true paths to success may have more difficulty inspiring a shared vision than Extroverted Intuitive Feeling types, that lead by inspiration and example, can sense what a group needs to stay focused and on track, and are passionate about organization's purposes. Thinking and Judging types characterized as frank, decisive, logical, and practical may struggle more with encouraging the heart than Extroverted Feeling types whom are characterized as warm,
empathic, enthusiastic, outgoing and cooperative. Complicating the matter is that most views of type development suggest that it progresses across an individual's life span, and development as a leader parallels the development of personality type (Richmond, 2005). Therefore, although individuals with a dominant Sensing function can develop their inferior Intuition, and individuals with a dominant Thinking function can develop their inferior Feeling function, they will continue to remain the least preferred function and typically will not develop until midlife. Who we are, is how we lead, and personality cannot be separated from who we are (Strang & Kuhnert, 2009).

**Leadership Practices Inventory as a Measure of Transformational Leadership**

The Leadership Practices Inventory (LPI), developed by Kouzes and Posner based upon their transformational leadership model, is a widely used 360-degree assessment tool designed to obtain feedback about the transformational leadership practices of individuals learning to lead (Kouzes & Posner, 2002). 360-degree feedback tools, also known as multi-source feedback, refers to evaluations gathered from a "full circle" of rating sources, usually including self, supervisors, peers, subordinates and others (Strang & Kuhnert, 2009). They are commonly used in leadership development programs, and the LPI is one of the most popular leadership development assessment tools (Kouzes & Posner, 2002). The purpose of collecting ratings from multiple perspectives is to provide participants with a more comprehensive and reliable picture of leadership behaviors because effective leaders are defined through the eyes of the led (Hogan & Kaiser). Individuals then have the opportunity to compare their self scores to their reporter scores in order to see the differences between self perception and the perceptions of the led. Because perception is reality from a rater perspective, it is crucially important for anyone undergoing leadership development to be aware of how their behaviors are perceived by others. It is worth noting that in the literature on employee satisfaction, how employees view their
supervisors is the primary determinant in overall job satisfaction (Hogan & Kaiser, 2005). To complicate matters further, survey after survey shows that 65%-75% of the employees in organizations report their immediate boss as the worst aspect of their job (Hogan & Kaiser, 2005). Therefore, understanding employee perception of leadership behaviors through the LPI is a critical component in leadership development.

The LPI was developed by Kouzes and Posner, in 1995, from qualitative research that included over 1,000 case studies of individuals in leadership positions followed by 38 in-depth interviews. The authors examined the LPI's psychometric properties for reliability and validity when they developed the Likert scale that assess the transformational leadership practices. They reported that 1) the LPI is internally reliable, 2) the six statements pertaining to each leadership practice are highly correlated with one another; 3) test-retest reliability is high; 4) the five scales are generally independent; and 5) the LPI has both face and predictive validity. Face validity means that the results make sense to people because the words and phrases look like they are describing leadership practices. Predictive validity means that the results are significantly correlated with various performance measures and can be used to make predictions about leadership effectiveness.

The LPI categorizes leadership behaviors into five dimensions or practices of leadership including: (a) Model the way (e.g., I set a personal example), (b) Challenge the process (e.g., I seek out new and challenging opportunities that test my skills and abilities), (c) Inspire a shared vision (e.g., I set a compelling image of what our future could be like), (d) Enable other to act (e.g., I develop cooperative relationships among the people I work with), (e) Encourage the heart (e.g., I praise people for a job well done) (Kouzes & Posner, 2002). It consists of six behavioral statements per practice, 30 items in total, and utilizes a ten-point Likert scale, with 1 indicating "I
almost never engage in this behavior" to ten indicating that "I almost always engage in this behavior (Kouzes & Posner, 2002). Individuals are asked to rate themselves on the behaviors and solicit the anonymous input of others including, managers, colleagues, direct reports, and others, thereby making it a 360 degree assessment tool. The feedback is then given to participants in the program. In the following sections, these elements will be defined using Kouzes and Posner's work.

**Modeling the way.** Modeling the way means that leaders set the example for others to follow. The modeling behavior builds follower commitment through daily acts that create progress and momentum. To model the way effectively, leaders need to know their values, principles, and leadership philosophy and then match their behaviors to them. They demonstrate consistency between words and deeds which builds their credibility as transformational leaders (Kouzes & Posner, 1995, 2002).

**Inspiring the shared vision.** Leaders are possibility thinkers, not probability thinkers (Kouzes & Posner, 1995, 2002). Inspiring a shared vision requires leaders who are forward-looking and have a sense of direction, as well as the ability to enlist others in following that vision. Forward-looking leaders imagine the possibilities by gazing across the horizon of time and imagining greater opportunities to come. Their focus is on making life better in the long run, and this is the key ingredient in getting extraordinary things done. One of the most important practices of leadership is giving follower a sense of meaning and purpose by offering an optimistic and exciting vision of the future.

**Challenging the process.** Leaders proactively challenge the business as usual environment. They seize the initiative, make the challenge meaningful, innovate and create and look outward for fresh ideas (Kouzes & Posner, 1995, 2002). Perhaps even more importantly,
they take charge of change and consciously and proactively seek ways to challenge the status quo and search for opportunities to do things in new ways. Leaders not only seize the initiative themselves, they encourage others to take initiative as well.

**Enabling others to act.** Collaboration is an essential ingredient in enabling others to act. To foster collaboration, leaders must create a climate of trust, facilitate positive interdependence, and support face-to-face interactions. The central issue in all human relationships is trust, and without it you cannot lead. Therefore, transformational leaders emphasize cooperation rather than competition, and develop a team in which the members trust each other. When leaders create a climate of trust, they have shared goals that provide a specific reason for being together, and then take away controls and allow people to innovate and contribute freely. In order to do this, leaders must be socially competent and have high levels of emotional intelligence (Kouzes & Posner, 1995, 2002). Research conducted by Goleman (2002), found that emotional intelligence, which consists of self-awareness, self-management, social awareness and social skill, is more important to leadership success than IQ. Enabling others to act occurs only when leaders have appropriate levels of social awareness and social skills in order to build the collective ability of the team.

**Encouraging the heart.** Encouraging the heart focuses on shaping a collaborative environment where everyone's contributions are noticed and appreciated. Because a leader's primary job is to create an organization where people enjoy coming to work, transformational leaders are adept kindling the heart through attention, awareness, recognition and reward. They focus on clear standards, expect the best from all team members, pay attention to people, to what they are doing, and to how they are feeling, and they personalize recognition (Kouzes & Posner, 1995, 2002). When leaders encourage their employees through recognition and celebration,
people feel that they are part of the group and part of something significant which increases their sense of belonging and inspires them to perform better.

**Using the MBTI and LPI to Understand Transformational Leadership and Self Perception Accuracy**

Self-awareness, or the ability to see and assess one's own behavior as it is perceived and assessed by others, is important to success as a leader (Ashford, 1989; Komives, Longerbeam, Owen, Mainella, & Osteen, 2006; Roush & Atwater, 1992; Van Velso & Fleenor, 2007). The MBTI and the LPI when used in conjunction with each other provide a meaningful framework for examining transformational leadership. Although the MBTI instrument and 360-degree instruments such as the LPI were constructed with quite different goals, they provide valuable complementary stets of information about workplace performance (Schullery, Knudstrup, Schullery, & Pfaff, 2009). The MBTI assesses an individual's innate preferences based upon personality, while the LPI characterizes the individual's observed transformational leadership behaviors. Because personality type preferences are to some extent responsible for observed leadership behaviors, these instruments bring to the consciousness of participants an enhanced understanding of self through the eyes of others. Moreover, leader development initiatives that use these instruments in conjunction with each other, and offer the opportunity for self-reflection and meaningful dialogue, provide a framework for the beginning of the transformative process of leader development. As individuals begin to understand their own personality preferences, in the context of the transformational leadership behaviors measured in the LPI, they can target opportunities for growth and improvement.

The use of 360-degree feedback instruments, like the LPI, in leadership development programs has grown in popularity over the last decade and has proved to be a valuable method of
assessment-for-development (Van Velsor & Fleenor, 1997). Because these type of instruments
give leaders the opportunity to rate themselves and to be rated by their supervisors, direct
reports, and peers on multiple domains of leadership practices, they are often used in
management and leadership development (Schullery, Knudstrup, Schullery, & Pfaff, 2009; Van
Velsor & Fleenor, 1997). In the early 1990s, after the introduction and adoption of 360-degree
assessments, researchers began exploring the congruence of self-assessment and other-rater
agreement (Atwater & Yammarino, 1992; Bass & Yammarino, 1991). Individuals determined to
be self-aware, in these studies, were defined as leaders whose self-ratings of their leadership
were in agreement with the ratings of other observers. Research has shown that individuals
whose perceptions of their own transformational leadership were similar to the perceptions that
others had of them were more successful as leaders and were rated as more transformational
(Atwater & Yammarion, 1992; Roush & Atwater, 1992). Although these early studies found that
the study participants typically rated themselves higher than both the direct reports' and
superiors' ratings, the research subjects for these studies were predominately male, and all were
military officers. In 1980, Webber found that supervisors who perceived they had more
interaction with followers than they actually did were poorer performers, and Williams and
Leavitt (1974) concluded that less successful leaders were more likely to overrate themselves
than their more successful colleagues. Likewise, Bass and Yammarino (1989) found that leaders
who were rated by subordinates as less transformational had bigger differences between their self
ratings and observer ratings than their more transformational counterparts.

In 1992, Roush and Atwater conducted a study utilizing the MBTI to understand
transformational leadership and self-perception accuracy. In this study, self-perception accuracy
was defined as the degree of similarity between self-ratings and follower ratings (Rouse &
Atwater, 1992). The sample consisted of 90, predominately male, student leaders at the U.S. Naval Academy and the study was designed to assess, among other things, the degree to which the MBTI could be used to identify leaders who were rated as transformational and the degree to which the MBTI could help identify individuals who would have more accurate self-perceptions of leadership (Roush & Atwater, 1992). Results of the study indicated that the MBTI can be used to understand transformational leadership behaviors as well as the leader's self perception accuracy. Interestingly though, the leaders who were categorized as sensing and feeling types (SFs) were perceived as the most transformational and used the most positive reinforcement with followers. These results seem to be inconsistent with MBTI theory that would suggest individuals with a preference for intuition and feeling (NFs) would be more transformational in nature because individuals who prefer intuition (N) like change, they rely heavily on symbols and images, and they prefer to experiment with new ways of doing things, while individuals who prefer sensing (S) focus on the reality of the present moment, attend to what has practical application, and like to emphasize details. NFs usually focus on people more globally and to find ways to improve the long-range well-being of all. They also have a tendency to be insightful, enthusiastic, and they are typically effective communicators (Kirby, 1997). These NF qualities, rather than the SF qualities, appear to be the hallmark characteristics of transformational leaders. Perhaps, according to Roush and Atwater (1992), the perplexing results of this study are indicative of the structure inherent in a military context that involves highly constrained routine, rather than in circumstances that called for ascertaining the big picture and determining creative solutions to problems in rapidly changing scenarios.

In regards to self-perception accuracy, leaders who preferred introversion and sensing (ISs) had the most accurate self-perceptions in the Roush and Atwater study. The accuracy
categories were created on the basis of the degree to which self-assessments were in agreement with follower assessments (Roush & Atwater, 1992). The authors noted the magnitude of the differences in the self-ratings provided by the leaders, compared with the followers' ratings of the leaders, was consistent with the trend in which the extraverted leaders overestimated their transformational leadership practices. This research mirrors research conducted by Van Velson and Fleenor (1994), Fitzgerald (1994) and Wilson and Wilson (1994) who found that leaders with a preference for extraversion, on the MBTI, rated themselves higher than introverts on a majority of leadership skills (Van Velsor & Flenor, 1997). Interestingly, Hogan, Curphy, and Hogan (1994) concluded after examining research by Atwater and Yammarion (1992), Nilsen and Campbell (1993) and Van Velsor, Taylor, and Leslie (1992), that there is a kind of manager who routinely over evaluates his or her performance, and that tendency is associated with poor leadership.

In 2008, Hautala studied TJ managers because of their predominance in organizations. Although TJ leaders are not the most transformational leaders of all types (Church & Waclawski, 1998; Rouse, 1992; Roush & Atwater, 1992) they do represent the type preference of 60 percent of people in leader/manager positions. The study examined how typical leaders, defined by personality, appraised themselves and how they were rated by followers. Interestingly, the ENTJs and ESTJs both regarded themselves as most transformational, but the subordinates regarded ESTJs as the most transformational and ENTJs as among the least transformational in their leadership (Hautala, 2008). Nevertheless, according to Hautala (2008), the leader's personality had a significant impact on their self-ratings of their transformational behavior in all five dimensions (Visioning, Challenging, Enabling, Modeling, and Rewarding) and in Overall Transformational Profile as well. Moreover, each type, according to subordinate's opinions, has
strengths and weaknesses concerning transformational leadership behavior (Hautala, 2008). The practical implications of this knowledge are very useful for leadership training and development, yet, additional research that includes subordinates' view of leaders other than TJ-types needs to be conducted (Hautala, 2008).

There is a limited amount of research on the self-perception accuracy of female leaders regardless of personality type (Turkel, 2008). However, despite the lack of specific data several reports from the 1980's suggested that women underrate their own performance as leaders and managers (Turkel, 2008). From these studies, conclusions were drawn that perhaps female leaders are not advancing to more senior positions because they have poor self-awareness and therefore are not as effective as their male counterparts (Turkel, 2008). However, Turkel (2008) found contradictory results in an Ex Post Facto study of 862 female leaders. In that study, which utilized the Leadership Assessment Instrument ™, 86.1% of the females in the study were categorized as accurate raters. These results led the researcher to conclude that most female leaders have good self-awareness of their overall leadership competency and skills (Turkel, 2008). However, the context of the relationship between the leader and the rater was unknown to the researcher and personality differences were not examined. Therefore, the current study which is examining female leaders based upon personality type preference will contribute greatly to the understanding of the leadership effectiveness and self-perception accuracy of females based on personality type.

**Concluding Remarks**

Who we are is how we lead, and there are significant research opportunities for exploring the relationship between transformational leadership practices and personality using the Myers Briggs Type Indicator (MBTI) and the Leadership Practices Inventory (LPI).
Although Bono and Judge (2004) concluded that the results linking personality ratings with transformational leadership behaviors were weak, other studies have shown strong ties between leadership ratings and personality (de Vries, 2008). Moreover, despite the absence of a broad and common theoretical framework for the understanding of the relationship between personality and leader effectiveness, many theorists and researchers increasingly recognize that personality preferences, and gender, may help explain transformational leader behaviors (Hautala, 2008; Northouse, 2007; Nystedt, 1997; Ross & Offermann, 1997; Walck, 1997). There is little research on personality and leader development that can be used by leadership educators and leadership development practitioners, especially research that focuses on developing females as leaders. Using the MBTI as a framework for understanding personality, along with the LPI as a leadership development instrument, will help leadership educators and leadership development practitioners obtain a more differentiated view of the natural strengths and weaknesses of various personality types and will contribute to a growing body of research.
CHAPTER III. METHODOLOGY

This chapter describes the research methods used for this study, and is divided into seven sections: (a) the purpose and overview of the study (b) research design (c) context (d) participants (e) instrumentation and measures (f) data collection, and (g) data analysis.

Purpose and Overview of the Study

The purpose of this study was to explore the relationship between personality type preferences and transformational leadership practices among an identified population of female hospital leaders. The female leaders hailed from a variety of positions in the hospital including: Directors, Administrators, Supervisors, and Nurse Educators. The females in the study were enrolled in a hospital sponsored leadership development program at a small independent Midwestern hospital. Prior to participating in the leadership development program, the participants were asked to complete the two instruments used in this study. The first instrument completed by the participants was the Myers-Briggs Type Indicator (MBTI), Form M, used to assess their self-reported personality type preferences. The second was the Leadership Practices Inventory (LPI) used to assess their perceived transformational leadership practices. The study participants completed a self-assessment of their leadership practices, and were also required to ask their manager, as well as their co-workers to provide 360-degree feedback on their perceived effectiveness as transformational leaders by completing the LPI ONLINE. The five leadership practices assessed by the LPI are: Challenging the Process, Inspiring a Shared Vision, Enabling Others to Act, Modeling the Way, and Encouraging the Heart. Both instruments measured the participants' perceived frequency of behaviors associated with either personality or transformational leadership practices respectfully.
Research Design

This quantitative study utilized a causal-comparative research design to explore differences between Myers-Briggs personality type preferences and perceived effectiveness as a transformational leader as measured by 360-degree feedback on the Leadership Practices Inventory (LPI). The female leaders in the sample were categorized by personality type preference, a categorical variable. The research sought to establish if there were significant differences in the mean LPI scores of the female hospital leaders because of type preferences. Therefore, a causal-comparative research design was appropriate because the research examined whether the cause of differences that existed between groups of individuals was type preference (Fraenkel & Wallen, 2006).

Context

In this purposive sample, all of the 91 participants in the sample, and their 630 LPI observers work for a small, full-service community hospital, in the mid-west that was in the process of merger discussions with a larger regional hospital. The hospital was regularly recognized by third-party quality ratings within the top 10% of hospitals nationally, based on outcomes, cost, and patient satisfaction, yet began struggling financially in 2007. According to hospital sources, the hospital's ongoing losses from operations were not because of high cost or poor quality, but rather because it had been shut out of lucrative insurance contracts by other healthcare networks in its service area and therefore needed to join a financially stable system. Nationwide, health-care reform along with less access to capital to make improvements are driving hospital consolidation. The majority of the female leaders, 64%, were registered nurses with at least an associate's degree. The dataset was collected in 2009, by the Human Resources department in the hospital, prior to the commencement of a leadership development program.
The data set is available for this dissertation study, per the permission of the Vice President of Human Resources at the hospital, and has been coded to protect the anonymity of the participants.

**Participants**

This study involved the participation of 91 female hospital leaders, enrolled in a hospital sponsored leadership development program, and 630 hospital employee observers who were asked to evaluate the participant's leadership effectiveness by completing the Leadership Practices Inventory ONLINE. Although 20 males also participated in the program, the researcher decided not to include their results in the study in order to have a more homogenous sample and focus the study specifically on the relationship between personality type and perceived transformational leadership effectiveness of female hospital leaders as evaluated by predominately female hospital employees. This is important because women compose 78 percent of the healthcare industry's workforce, yet remain underrepresented in top management and executive leadership positions (Lantz, 2006). Interestingly, research has shown that although some gender differences in leadership style may exist, "there is no justification for claims that female leaders are underrepresented in leadership roles because they lack appropriate leadership styles" (Van Engen & Willemsen, 2004, p. 13). Nevertheless, several experimental studies have determined that both males and females prefer male leaders, suggesting that leadership ideals and perceptions are gendered (Lantz, 2006). Therefore, this study attempts to reduce gender biases by focusing this research on female leaders in the healthcare industry, many of whom have had similar training and educational experiences.
Instrumentation and Measures

The two survey instruments used in this study were the Myers Briggs Type Indicator (MBTI), Form M, and Kouzes and Posner's Leadership Practices Inventory ONLINE (2003). Both have been tested for reliability and validity. The MBTI was distributed to participants, with appropriate instructions, and hand scored. The LPI ONLINE was completed by participants and their observers through a neutral third party administrator, www.lpionline.com. Participants and observers were sent a notification e-mail with instructions and a deadline for completing the LPI survey. An LPI administrator, from the HR department in the hospital, generated the feedback reports for each participant. Each instrument has been tested for validity and reliability in a multitude of academic studies and descriptions of the instruments along with test results are given below.

The Myers-Briggs Type Indicator (MBTI). After more than 50 years of research, the MBTI personality inventory is the most widely used personality instrument in the world with 3 million administrations given each year (Michale, 2003). The MBTI is used in a variety or organizational and individual settings, including: leadership training, executive coaching career counseling, team building, management development, and decision making (Michael, 2003). It is predicated on C. G. Jung's theory of psychological type and was developed by Isabel Briggs Myers and her mother, Katharine Briggs, to make the insights of type theory accessible to individuals and groups (Lawrence & Martin, 2001). Jung believed that individuals have different ways of perceiving and judging. When these ways of perceiving and judging are combined with different attitudes, the end results are the descriptions of different types of people. The MBTI reliably measures personality characteristics, decision making styles, and lifestyle preferences. The instrument uses a questionnaire style, consisting of items arranged in a forced-choice format
that measures personality preferences through four scales of opposite poles. The four scales of opposite poles are: Introversion (I) vs. Extraversion (E), Sensing (S) vs. Intuition (N), Thinking (T) vs. Feeling (F), Judging (J) vs. Perceiving (P). Personality types result from interactions among the four MBTI dichotomies that result in 16 distinctive personality types (Myers, McCaulley, Quenk, & Hammer, 2003).

To assess the personalities of the study participants, the MBTI Form M was used. Form M is the most recent revision of the MBTI. The indicator contains 93 questions, presented in a forced-choice format, that determine preferences on the four scales mentioned above. All questions offer choices between the poles of the same dichotomy (Extroversion vs. Introversion, Sensing vs. Intuition, Thinking vs. Feeling, and Judging vs. Perceiving) (Myers, McCaulley, Quenk, & Hammer, 2003). The various combinations of these four preferences result in 16 distinct personality types. Written at a seventh grade reading level, the MBTI can be given to individuals age 14 and older. It is a self-administered device that takes an individual 15-20 minutes to complete. Throughout its 50 year history it has been revised many times to improve its reliability and validity, and the revised MBTI®: Form M has no scales with different weights for men and women (Myers et al., 2003).

Researchers have noted the enhancement in Form M reliabilities over those of Form G, as denoted by the samples that have been collected thus far (Myers, McCaulley, Quenk, & Hammer, 2003). The internal consistency reliability on the MBTI is concerned with how consistently individuals taking the indicator answer the items on the given scales. In currently available samples, the internal consistency of the four MBTI® scales is quite high whether computed using logical split-half, consecutive item split-half, or coefficient alpha (Myers et al., 2003, p. 165). Test-retest reliabilities of the MBTI have been consistent over time, with levels of
agreement much greater than by chance. If participants do report a change in type it is most likely to occur in only one preference on a scale where there was a low clarity preference.

Comprehensive information on split-half and test-retest reliabilities may be found in the *MBTI® Manual* (Myers et al., 2003). For the educated U.S. adult population, the reliability coefficients of the samples are consistently +.80 (Myers et al., 2003), an indication of excellent reliability. Michael (2003) also reported on a 1997 study conducted by Carlyn and a 1996 study conducted by Gardner and Martinko on the conceptual properties of the MBTI and concluded that type scores are relatively stable.

In terms of validity of the instrument, there are two broad issues that researchers have taken into consideration. The first category includes evidence for the validity of the four separate preference scales (Extraversion vs. Introversion, Sensing vs. Intuition, Thinking vs. Feeling, Judging vs. Perceiving) that appear on the indicator. Because this is the level where measurement occurs with the MBTI it is important to establish the validity of the separate scales. Researchers have conducted factor analysis of the MBTI item pools, correlated MBTI continuous scores with scores from scales of other instruments, and conducted categorical analysis of behaviors believed to be associated with people of different preferences (Myers, McCaulley, Quenk, & Hammer, 2003). The second category of evidence concerns the validity of whole types of particular combinations of preferences. The *MBTI® Manual* (2003) provides various evidences of validity including the following: correlations of the MBTI® preferences with other reliable instruments which are in the direction that psychological type theory would predict (Myers et al., 2003); observer reports of behavior by type that have been consistent with the foundational theory (Gardner & Martinko, 1996; Myers et al., 2003); research reporting type dissemination in occupations, in specializations within occupations, and in major fields of study, all of which are
aligned with that which is predicted by psychological type theory (chi-square [self-selection ratio] distributions that were used in these studies to reveal significant differences from comparative populations (Myers et al., 2003); and research indicating that participants repeatedly tend to select their own type descriptions, rather than alternative type descriptions, at a statistically highly significant rate (Myers et al., 2003).

The reliability and validity of this instrument have been clearly demonstrated through extensive research (Myers et al., 2003). Although there have been some studies, e.g., Walck (1992), Pittinger (1993), Johnson, Mauzey, Johnson, Murphy, & Zimmerman (2001), that have found some reliability and validity weaknesses with the MBTI there are also numerous studies, e.g., Tzeng, Outcalt, Boyer, Ware, & Landis (1984) and Gardner & Martinko (1996) that counteract those findings. Because Form M, was developed in 1998 in order to address the psychometric weaknesses noted in these studies on the earlier versions of the MBTI, the form M data base necessary for research on reliability and validity is limited (Quenk, 2000). A complete review of this literature is beyond the scope of this endeavor; however, additional studies that are relevant to the validity and reliability of the instrument can be found in the MBTI® Manual (Myers et al., 2003) or MBTI® Applications: A Decade of Research on the Myers-Briggs Type Indicator (Hammer, 1996b). Readers requiring more information in these areas are asked to consult either of these references.

**The Leadership Practices Inventory (LPI).** The Leadership Practices Inventory (LPI) is a survey designed to measure an individual's transformational leadership effectiveness based on five practices or behaviors researched by Kouzes and Posner (1997). These elements include: modeling the way, challenging the process, inspiring a shared vision, enabling others to act, and encouraging the heart. The LPI is a commonly used survey instrument in all subject areas of
academic research today, including business, secondary and post-secondary education, government and non-profit agencies, health care organizations, and religious organizations (Klein, 2007), and has been heavily tested for reliability and validity.

Using qualitative findings, Kouzes and Posner (1995) developed the LPI survey and scale items. The LPI survey itself consists of thirty statements that address the essential behaviors found when people report being at their personal best as leaders (Kouzes & Posner, 2003). On the survey, there are six statements to measure each of the five practices listed above (Kouzes & Posner, 2003). The survey also contains a robust Likert scale. For each of the 30 statements, respondents indicate the frequency with which the particular behavior is engaged in by the individual. The responses range from (1) "Almost Never" to (10) "Almost Always".

Computerized scoring provides feedback to the participants along a number of dimensions, including comparisons by respondent category or relationship with the normative database, rankings by frequency, and variances between "Self" and "Observer" scores (Kouzes & Posner, 2003). The instrument consists of two components, a self-measure and an observer measure, which can be used together or as stand-alone instruments. The self-evaluation is designed for a leader to evaluate his or her own transformational leadership behaviors, while the observer version allows for 360-degree feedback from constituents, managers, and colleagues to provide a balanced picture of leadership behaviors and constructive discussion of ways to improve (Kouzes & Posner, 2003).

With data from over 200,000 respondents the LPI has demonstrated sound psychometric properties (Kouzes & Posner, 1998, 1993, 2003). This conclusion was also reached in a 1997 study conducted by Fields and Herod (1997) and Carless (2001) who validated the construct validity of the LPI by using confirmatory factor analysis to test alternate conceptual models.
According to Fraenkel and Wallen (2006), validity is the most important idea to consider when selecting an instrument to be used in research because it measures the appropriateness, meaningfulness, and usefulness of the inferences a researcher makes. The content and criterion-related validity of the LPI has been extensively tested. The content-validity of the LPI is strong, based upon research data provided to Kouzes and Posner by academic researchers, and the instrument itself has gone through revisions since its initial form (Kouzes & Posner, 2003).

Criterion-related evidence of validity, the relationship between the scores obtained using the instrument and scores obtained using one or more other instruments, is also very strong. Criterion-related validity was empirically determined on the LPI by empirically examining how LPI scores correlate with other measures such as job satisfaction, employee commitment, work group productivity, credibility, sales-performance, and similar effectiveness measures (Kouzes & Posner, 2003). Responses from the LPI observers, rather than from the participants are used in examining validity to eliminate self-report bias. Although the outcomes of studies vary, in one study the LPI scores explained over 55% (p < .0001) of the variance in work group effectiveness, and in another study LPI scores were used to successfully predict performance levels of managers (p < .001) (Kouzes & Posner, 2003). According to the authors, leadership as measured by the LPI has consistently been found by researchers to be related to positive employee and organizational outcomes across industries and disciplines, despite possible individual demographic differences.

On the other hand, reliability is also important because it examines the consistency of scores or answers from one administration to another and from one set of items to another (Fraenkel & Wallen, 2006). Internal reliability, the extent to which items in a scale are associated with one another, is very strong. All five leadership practices have internal reliability
scores that are above .75 for the Self version. The scores on the Observer version are even higher and consistently test above the .85 level (Kouzes & Posner, 2003). The test-retest reliability also is very high, in the .90+ range, and showed no significant social desirability bias (Kouzes & Posner, 2003). Other researchers have also measured the internal reliability of the LPI using the Cronbach alpha coefficient and found similar reliability results. According to Klein (2007), a study of college presidents conducted by Bauer (1993) showed the internal reliability for the self-report to have a coefficient range between .71 and .84, while the coefficients of the observer responses were between .85 and .93. Klein (2007) also reported a 2001 study on healthcare managers conducted by Strack that found coefficients between .73 and .90. In addition, a 1999 study by Brightharp on nursing managers generated reliability coefficients between .93 and .97.

Data Collection

The MBTI was introduced to the participants at a pre-training meeting and the participants were asked to complete the instrument and return it to the Human Resources department within two weeks of the distribution date. The MBTI results were then tabulated by a coordinator in the Human Resources department and returned to the participants in a Myers-Briggs Workshop. In the workshop, a certified Myers-Briggs interpreter allowed participants to verify their type to determine the best-fit type, and the best-fit type was then recorded for training purposes.

Upon the conclusion of the MBTI workshop the participants were invited to participate in the Leadership Practices Inventory (LPI). At the meeting the coordinator answered questions and explained the inventory utilizing the information from the Kouzes and Posner (2003) LPI Third Edition Facilitator's Guide. The participants were asked to select their Observers and told that the Observers must be only people who directly observe them in their leadership role. They were
also told to include all of their direct reports, except those who seldom or never interact with them face-to-face. They were also asked to include their immediate manager, co-workers (peers or colleagues) as Observers. The participants then contacted their selected Observers and asked them whether they would be willing and available to anonymously complete the survey on-line. The participants and observers were told that the LPI Online would calculate their observer scores by category (manager, direct report, co-worker) not by name. The purpose of this is to protect observer anonymity so that they could feel free to evaluate the participant's leadership behavior honestly. The only exception would be the immediate manager's observation.

After the meeting the participants received an e-mail that provided them with the URL, user name, and password so that they could access the LPI Online, complete the LPI-Self and record and notify people whom they chose as Observers. Once the participant leaders and Observers completed the online questionnaire, a report was run for each leader by the hospital administrator responsible for running the reports.

**Data Analysis**

The data gathered from the participants was coded with demographic data and MBTI type, and stored in the Human Resources Department in the hospital. The data set was made available to the researcher by the Vice President of Human Resources. The data were downloaded into the Statistical Package for the Social Sciences (SPSS) for quantitative analysis. Descriptive statistics were used to describe the population as it relates to the dichotomous personality type preferences, (E/I, S/N, T/F, J/P) and cognitive decision making style (ST, SF, NT, NF).

For research question one, do transformational leadership practices differ by personality type pair preference (Introversion (I) vs. Extroversion (E), Sensing (S) vs. Intuition (N),
Thinking (T) vs. Feeling (F), and Judging (J) vs. Perceiving (p)) among female hospital leaders?, the researcher used two methods. Two methods of analysis were used because the information reported in the LPI feedback report given to the female hospital leaders contained continuous scores on the LPI behaviors and categorical scores based upon percentile ranking as compared to a national sample . The first treated the dependent variables of LPI scores (Model, Inspire, Challenge, Enable, Encourage, Overall) as continuous; and therefore the researcher conducted four independent samples \( t \)-Tests to compare the LPI scores of the dichotomous personality type pairs being studied (E-I, S-N, T-F, J-P). These scores were analyzed according to self ratings, manager ratings, and other ratings to determine if there are significant differences in the perception of those giving the 360 degree feedback. The \( t \)-test computes the difference between the two variables for each type preference, and tests to see if the average difference is significantly different from zero. A .05 level of significance was utilized to determine whether a correlation exists.

This research question was also examined by categorizing the dependent variable of leadership performance as low, moderate, and high. As such, a Chi-square Test of Independence was conducted to examine personality differences in the frequencies of leadership performance groups. Leaders were divided into low, moderate, and high performing categories based upon their mean scores for the five leadership practices. The Percentile Rankings utilized were adopted from the research done by Kouzes and Posner on the Leadership Practices Inventory (LPI), Third Edition. Each participant in their feedback report was given assigned a percentile ranking of Low, Moderate, or High on each of the five practices. The percentile ranking compares the self scores, manager scores, and observer scores of the participant to several thousand people who have taken the same version of the LPI. In the Low percentile are
individuals in the bottom 30 percent, the Moderate individuals are between the 30th and 70th percentile, and the High performers are in the top 30 percentile. The percentile ranking was based upon the individuals’ raw scores for each of the five practices. Please see the table below for score requirements.

Table 1

<table>
<thead>
<tr>
<th>Percentile</th>
<th>Model</th>
<th>Inspire</th>
<th>Challenge</th>
<th>Enable</th>
<th>Encourage</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>51 - 60</td>
<td>50 - 60</td>
<td>50 - 60</td>
<td>53 - 60</td>
<td>52 - 60</td>
</tr>
<tr>
<td>Moderate</td>
<td>44 - 50</td>
<td>40 - 49</td>
<td>43 - 49</td>
<td>47 - 52</td>
<td>43 - 51</td>
</tr>
<tr>
<td>Low</td>
<td>22 - 43</td>
<td>18 - 39</td>
<td>24 - 42</td>
<td>24 - 46</td>
<td>22 - 42</td>
</tr>
</tbody>
</table>

Individuals whose scores were in the high percentile were categorized as 1, individuals whose scores were in the moderate percentile were categorized as 2, and individuals whose scores were in the low percentile were categorized as 3.

The second research question, do transformational leadership practices differ by Myers-Briggs function pairs or cognitive styles (ST, NT, SF, NF) among the female hospital leaders?, utilized one-way Analysis of Variance (ANOVA), or $F$ test to examine group differences in leadership practices (modeling, inspiring, challenging, enabling, and encouraging) by Myers-Briggs cognitive function pairs (ST, NT, SF, NF). Again, self score, manager score, and the observer score were all analyzed for any significant differences. A p-value <0.05 was considered to be significant. A Scheffe post hoc analysis was also conducted to identify which groups are significantly different from each other in regards to transformational leadership behaviors measured on the LPI.

Research question three was examined in two ways in an attempt to replicate the findings of the Roush and Atwater (1992) study that used the MBTI to understand transformational
leadership and self-perception accuracy, and the Turkel (2008) study examining female leaders'
360-degree self-perception accuracy for leadership competencies and skills. *t*-Tests for
independent means was used to determine differences in personality type preference
(Extraversion vs. Introversion, Sensing vs. Intuition, Thinking vs. Feeling, and Judging vs.
Perceiving) and self-perception accuracy by examining the mean score differences between self-
ratings, manager-ratings, observer ratings, on each of the leadership practices, by personality
type preference. A Chi-Square Test of Independence was conducted to examine the obtained
frequencies with the expected frequencies by analyzing the congruence with the manager and
congruence with observers based upon the dichotomous pair preference.

In addition, the leaders were categorized as being either an under-rater, an accurate-rater,
or an over-rater based upon mean score differences and standard deviation. As pointed out by
Van Velsor, Taylor and Leslie (1993) several previous researchers have found that the average of
the ratings is more reliable than comparing a single rating. Therefore, descriptive statistics were
conducted to determine the mean and standard deviation of the difference between self scores
and manager scores and self scores and observer scores. The average standard deviation for these
accuracy scores ranged between 6.3 and 9.5, with most clustered around 7. Therefore, the
researcher used the standard deviation of 7 to create the accuracy categories. If an individual’s
accuracy score for a leadership practice was less than -7.01 the leader was categorized as an
under rater. If the accuracy score fell between -7 to + 7, then the leader was categorized as an
accurate-rater. If the accuracy score was greater than 7.01 then the leader was categorized as an
over-rater. A Chi Square analysis was then conducted for personality preference and level of
accuracy (under rater, accurate rater, over rater) for each leadership behavior. A *p*-value < .05
was considered significant.
Table 2 presents the three research questions, along with the independent variables, the dependent variables and the statistical analysis that will be utilized for each research question.

Table 2

*Research Questions, Variables, and Data Analysis*

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Independent Variables</th>
<th>Dependent Variables</th>
<th>Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Do transformational leadership practices differ by Myers-Briggs personality type pair preference?</td>
<td>Personality Preference: Extraversion/Introversion Sensing/Intuition Thinking/Feeling Judging/Perceiving</td>
<td>LPI mean scores: modeling, inspiring, challenging, enabling, encouraging, overall score</td>
<td><em>t</em> Test of Ind. Samples</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Performance categories of Low, Moderate, High based upon LPI scores: modeling, inspiring, challenging, enabling, encouraging, overall score</td>
<td>Chi Square Test of Independence</td>
</tr>
<tr>
<td>2) Do transformational leadership practices differ by Myers-Briggs cognitive styles?</td>
<td>Cognitive Style: Sensing/Thinking (SJs) Intuition/Thinking (NTs) Sensing/Feeling (SFs) Intuition/Feeling (NFs)</td>
<td>LPI Mean Scores: modeling, inspiring, challenging, enabling, encouraging, overall score</td>
<td>Analysis of Variance</td>
</tr>
<tr>
<td>3) Does self-perception accuracy of overall transformational leadership practices differ by Myers Briggs personality type preference?</td>
<td>Self vs. Manager Self vs. Observers</td>
<td>LPI mean scores: modeling, inspiring, challenging, enabling, encouraging, overall score</td>
<td><em>t</em> Test of Paired Samples</td>
</tr>
<tr>
<td></td>
<td>Extraversion/ Introversion Sensing/Intuition Thinking/Feeling Judging/Perceiving</td>
<td>Level of Accuracy (High/Low) with Manager and Observers for Overall LPI scores</td>
<td>Chi Square Test of Independence</td>
</tr>
<tr>
<td>Research Question</td>
<td>Independent Variables</td>
<td>Dependent Variables</td>
<td>Data Analysis</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------</td>
<td>---------------------</td>
<td>---------------</td>
</tr>
<tr>
<td></td>
<td>Personality Preference: Extraversion/Introversion Sensing/Intuition Thinking/Feeling Judging/Perceiving</td>
<td>Level of Accuracy (Under, Accurate, Over) for LPI scores: modeling, inspiring, challenging, enabling, encouraging, overall score</td>
<td>Chi Square Test of Independence</td>
</tr>
</tbody>
</table>

**Summary**

Chapter III presented the methodology for this study, exploring the relationship between personality type preferences, transformational leadership practices, and self perception accuracy. The following areas were discussed: the purpose and overview of the study, the research design, the context in which the study was conducted, the participants in the study, the instrumentation and measures, and data collection and analysis. Research on the relationship between personality type preferences, transformational leadership practices and self-perception accuracy of female hospital leaders is valuable. The better understanding that leadership development practitioners and researchers have of the effect that personality type preferences have on transformational leadership behaviors, as perceived by self and others, the better equipped they will be to help women advance as leaders in the healthcare profession.
CHAPTER IV. ANALYSIS AND PRESENTATION OF THE FINDINGS

This chapter reports the results from the statistical analysis of the data in this study, beginning with descriptive statistics and Myers-Briggs frequency and percentages for the sample, and then presenting the results of the three research questions addressed in this study.

The mean scores and standard deviations of each leadership practice for all the leaders based upon their self perceptions or self identity, as well as their reputation as a transformational leader as measured by manager and observer perceptions are presented in Table 3. It is important to note that the mean scores based upon the self ratings for all five of the leadership practices are lower than either the manager or observer ratings, indicating that the nurse leaders do not identify themselves as being as transformational as either the managers or the observers do, regardless of personality preferences.

Table 3

<table>
<thead>
<tr>
<th>LPI Practice</th>
<th>Self (n = 90)</th>
<th>Manager (n = 76)</th>
<th>Observer (n = 90)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (n = 90)</td>
<td>SD (n = 90)</td>
<td>M (n = 76)</td>
</tr>
<tr>
<td>Model</td>
<td>45.61</td>
<td>5.64</td>
<td>51.78</td>
</tr>
<tr>
<td>Inspire</td>
<td>40.04</td>
<td>8.01</td>
<td>49.04</td>
</tr>
<tr>
<td>Challenge</td>
<td>41.63</td>
<td>7.05</td>
<td>50.36</td>
</tr>
<tr>
<td>Enable</td>
<td>49.26</td>
<td>5.34</td>
<td>52.54</td>
</tr>
<tr>
<td>Encourage</td>
<td>44.76</td>
<td>7.22</td>
<td>50.92</td>
</tr>
<tr>
<td>Overall</td>
<td>44.26</td>
<td>5.23</td>
<td>50.93</td>
</tr>
</tbody>
</table>

The sample frequency and percentages of the MBTI dichotomous preferences (Extraversion (E) vs. Introversion (I), Sensing (S) vs. Intuition (N), Thinking (T) vs. Feeling (F), Judging (J) vs. Perceiving (P)) as well as the four temperaments (ST, SF, NT, NF) are presented in Table 4.
Table 4

Frequency and Percentages of MBTI Preferences and Temperaments

<table>
<thead>
<tr>
<th>MBTI Preferences</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraversion (E)</td>
<td>47</td>
<td>51.1</td>
</tr>
<tr>
<td>Introversion (I)</td>
<td>45</td>
<td>48.9</td>
</tr>
<tr>
<td>Sensing (S)</td>
<td>49</td>
<td>53.3</td>
</tr>
<tr>
<td>Intuitive (N)</td>
<td>43</td>
<td>46.7</td>
</tr>
<tr>
<td>Thinking (T)</td>
<td>36</td>
<td>39.1</td>
</tr>
<tr>
<td>Feeling (F)</td>
<td>56</td>
<td>60.9</td>
</tr>
<tr>
<td>Judging (J)</td>
<td>54</td>
<td>58.7</td>
</tr>
<tr>
<td>Perceiving (P)</td>
<td>38</td>
<td>41.3</td>
</tr>
<tr>
<td>Sensing/Thinking (ST)</td>
<td>20</td>
<td>21.7</td>
</tr>
<tr>
<td>Sensing/Feeling (SF)</td>
<td>29</td>
<td>31.5</td>
</tr>
<tr>
<td>Intuition/Thinking (NT)</td>
<td>16</td>
<td>17.4</td>
</tr>
<tr>
<td>Intuition/Feeling (NF)</td>
<td>25</td>
<td>27.2</td>
</tr>
</tbody>
</table>

The Effect of Personality Type Preferences on Self-Identity and Reputation as a Transformational Leader

The first research question was to ascertain whether transformational leadership practices (Model, Inspire, Challenge, Encourage, Enable) as measured by composite scores on the five practices of exemplary leaders on the Leadership Practices Inventory (LPI), differ by personality type preferences (Extraversion (E) vs. Introversion (I), Sensing (S) vs. Intuition (I), Thinking (T) vs. Feeling (F), Judging (J) vs. Perceiving (P). Table 5 reveals the differences in perceived transformational leadership behaviors, including self identity and reputation as a transformational leader as measured by manager and observer perceptions, on the Extraversion (E) and Introversion (I) dichotomy. In terms of self identity as a leader, individuals who preferred Extraversion (E) were significantly more likely to rate themselves as transformational on Modeling behaviors, \( t(91) = 2.23, p < .05 \), Challenging behaviors, \( t(91) = 2.77, p < .01 \), and Overall transformational leadership behaviors, \( t(91) = 2.28, p < .05 \), than individuals who...
preferred Introversion (I). From the manager's perspectives, the female leaders who preferred Extraversion (E) were significantly more likely to be perceived as transformational on Encouraging behaviors, \( t(76) = 2.08, p < .05 \).

Table 5

**Differences in Leadership Practices by Extraversion-Introversion**

<table>
<thead>
<tr>
<th></th>
<th>Extraversion</th>
<th></th>
<th></th>
<th>Introversion</th>
<th></th>
<th>( t )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( n )</td>
<td>( M )</td>
<td>( SD )</td>
<td>( n )</td>
<td>( M )</td>
<td>( SD )</td>
<td></td>
</tr>
<tr>
<td>Self</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>47</td>
<td>46.85</td>
<td>5.80</td>
<td>43</td>
<td>44.26</td>
<td>5.18</td>
<td>2.23</td>
</tr>
<tr>
<td>Inspire</td>
<td>47</td>
<td>41.15</td>
<td>8.74</td>
<td>43</td>
<td>38.84</td>
<td>7.02</td>
<td>1.38</td>
</tr>
<tr>
<td>Challenge</td>
<td>47</td>
<td>43.53</td>
<td>6.62</td>
<td>43</td>
<td>39.56</td>
<td>7.00</td>
<td>2.77</td>
</tr>
<tr>
<td>Enable</td>
<td>47</td>
<td>49.62</td>
<td>5.20</td>
<td>43</td>
<td>48.86</td>
<td>5.52</td>
<td>0.67</td>
</tr>
<tr>
<td>Encourage</td>
<td>47</td>
<td>46.09</td>
<td>7.19</td>
<td>43</td>
<td>43.30</td>
<td>7.06</td>
<td>1.85</td>
</tr>
<tr>
<td>Overall</td>
<td>47</td>
<td>45.45</td>
<td>5.48</td>
<td>43</td>
<td>43.00</td>
<td>4.78</td>
<td>2.28</td>
</tr>
<tr>
<td>Manager</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>38</td>
<td>53.08</td>
<td>6.56</td>
<td>38</td>
<td>50.47</td>
<td>7.56</td>
<td>1.60</td>
</tr>
<tr>
<td>Inspire</td>
<td>38</td>
<td>50.74</td>
<td>8.03</td>
<td>38</td>
<td>47.34</td>
<td>9.23</td>
<td>1.71</td>
</tr>
<tr>
<td>Challenge</td>
<td>38</td>
<td>51.66</td>
<td>7.82</td>
<td>38</td>
<td>49.05</td>
<td>8.88</td>
<td>1.36</td>
</tr>
<tr>
<td>Enable</td>
<td>38</td>
<td>53.05</td>
<td>6.99</td>
<td>38</td>
<td>52.03</td>
<td>7.63</td>
<td>0.61</td>
</tr>
<tr>
<td>Encourage</td>
<td>38</td>
<td>52.89</td>
<td>7.85</td>
<td>38</td>
<td>49.95</td>
<td>8.61</td>
<td>2.08</td>
</tr>
<tr>
<td>Overall</td>
<td>38</td>
<td>52.28</td>
<td>6.92</td>
<td>38</td>
<td>49.57</td>
<td>7.76</td>
<td>1.61</td>
</tr>
<tr>
<td>Observers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>47</td>
<td>49.27</td>
<td>4.73</td>
<td>43</td>
<td>49.50</td>
<td>4.78</td>
<td>-0.23</td>
</tr>
<tr>
<td>Inspire</td>
<td>47</td>
<td>47.00</td>
<td>6.00</td>
<td>43</td>
<td>46.00</td>
<td>6.08</td>
<td>0.80</td>
</tr>
<tr>
<td>Challenge</td>
<td>47</td>
<td>47.00</td>
<td>6.01</td>
<td>43</td>
<td>46.08</td>
<td>5.77</td>
<td>0.65</td>
</tr>
<tr>
<td>Enable</td>
<td>47</td>
<td>50.00</td>
<td>5.07</td>
<td>43</td>
<td>50.49</td>
<td>4.66</td>
<td>-0.51</td>
</tr>
<tr>
<td>Encourage</td>
<td>47</td>
<td>47.76</td>
<td>6.43</td>
<td>43</td>
<td>47.92</td>
<td>5.57</td>
<td>-0.13</td>
</tr>
<tr>
<td>Overall</td>
<td>47</td>
<td>48.18</td>
<td>5.40</td>
<td>43</td>
<td>48.00</td>
<td>4.98</td>
<td>0.17</td>
</tr>
</tbody>
</table>

The transformational leadership practices for the female hospital leaders on the Sensing (S) and Intuition (N) dichotomy are shown in Table 6. There was a significant effect for the female leaders who preferred Intuition (N). In terms of self-identify, the female leaders who preferred to take in information Intuitively, viewed themselves as more transformational than did those who preferred Sensing (S) on the Inspiring behaviors, \( t(91) = -2.48, p < .05 \), Challenging
behaviors, \( t(91) = -3.91, p < .01 \), Enabling behaviors, \( t(91) = -2.12, p < .05 \), and Overall transformational behaviors \( t(91) = -2.88, p < .01 \). No significant differences were found between Sensing (S) and Intuition (N) in either the perceptions of the managers or observers.

Table 6

<table>
<thead>
<tr>
<th>Differences in Leadership Practices by Sensing-Intuition</th>
</tr>
</thead>
<tbody>
<tr>
<td>( n )</td>
</tr>
<tr>
<td>Self</td>
</tr>
<tr>
<td>Model</td>
</tr>
<tr>
<td>Inspire</td>
</tr>
<tr>
<td>Challenge</td>
</tr>
<tr>
<td>Enable</td>
</tr>
<tr>
<td>Encourage</td>
</tr>
<tr>
<td>Overall</td>
</tr>
<tr>
<td>Manager</td>
</tr>
<tr>
<td>Model</td>
</tr>
<tr>
<td>Inspire</td>
</tr>
<tr>
<td>Challenge</td>
</tr>
<tr>
<td>Enable</td>
</tr>
<tr>
<td>Encourage</td>
</tr>
<tr>
<td>Overall</td>
</tr>
<tr>
<td>Observers</td>
</tr>
<tr>
<td>Model</td>
</tr>
<tr>
<td>Inspire</td>
</tr>
<tr>
<td>Challenge</td>
</tr>
<tr>
<td>Enable</td>
</tr>
<tr>
<td>Encourage</td>
</tr>
<tr>
<td>Overall</td>
</tr>
</tbody>
</table>

Table 7 examines the differences in transformational leadership practices based upon the Thinking (T) and Feeling (F) dichotomy. In terms of self-identity, the female leaders who preferred making decisions through their Feeling (F) preference, rather than their Thinking (T) preference, were significantly more likely to view themselves as transformational on the Modeling, \( t(91) = -1.98, p < .05 \), and Encouraging, \( t(91) = -2.65, p < .01 \), behaviors. However,
neither the managers nor observers indicated any significant differences on transformational leadership behaviors on the Thinking (T) and Feeling (F) dichotomy.

Table 7

Differences in Leadership Practices by Thinking-Feeling

<table>
<thead>
<tr>
<th></th>
<th>Thinking</th>
<th></th>
<th></th>
<th>Feeling</th>
<th></th>
<th></th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td></td>
<td>36</td>
<td>44.19</td>
<td>5.52</td>
<td>54</td>
<td>46.56</td>
<td>5.57</td>
<td>-1.98</td>
</tr>
<tr>
<td>Inspire</td>
<td></td>
<td>36</td>
<td>39.39</td>
<td>6.45</td>
<td>54</td>
<td>40.48</td>
<td>8.92</td>
<td>-0.63</td>
</tr>
<tr>
<td>Challenge</td>
<td></td>
<td>36</td>
<td>41.64</td>
<td>5.59</td>
<td>54</td>
<td>41.63</td>
<td>7.93</td>
<td>0.01</td>
</tr>
<tr>
<td>Enable</td>
<td></td>
<td>36</td>
<td>48.17</td>
<td>4.31</td>
<td>54</td>
<td>49.98</td>
<td>5.85</td>
<td>-1.59</td>
</tr>
<tr>
<td>Encourage</td>
<td></td>
<td>36</td>
<td>42.36</td>
<td>5.30</td>
<td>54</td>
<td>46.35</td>
<td>7.93</td>
<td>-2.65</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>36</td>
<td>43.15</td>
<td>3.60</td>
<td>54</td>
<td>46.35</td>
<td>7.91</td>
<td>-1.65</td>
</tr>
<tr>
<td>Manager</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td></td>
<td>32</td>
<td>52.50</td>
<td>6.48</td>
<td>44</td>
<td>51.25</td>
<td>7.66</td>
<td>0.75</td>
</tr>
<tr>
<td>Inspire</td>
<td></td>
<td>32</td>
<td>49.34</td>
<td>8.23</td>
<td>44</td>
<td>48.82</td>
<td>9.17</td>
<td>0.26</td>
</tr>
<tr>
<td>Challenge</td>
<td></td>
<td>32</td>
<td>51.19</td>
<td>7.59</td>
<td>44</td>
<td>49.75</td>
<td>9.00</td>
<td>0.73</td>
</tr>
<tr>
<td>Enable</td>
<td></td>
<td>32</td>
<td>52.59</td>
<td>7.12</td>
<td>44</td>
<td>52.50</td>
<td>7.49</td>
<td>0.06</td>
</tr>
<tr>
<td>Encourage</td>
<td></td>
<td>32</td>
<td>50.41</td>
<td>8.65</td>
<td>44</td>
<td>51.30</td>
<td>8.33</td>
<td>-0.45</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>32</td>
<td>51.21</td>
<td>7.12</td>
<td>44</td>
<td>50.72</td>
<td>7.71</td>
<td>0.28</td>
</tr>
<tr>
<td>Observers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td></td>
<td>36</td>
<td>49.09</td>
<td>4.36</td>
<td>54</td>
<td>49.58</td>
<td>4.99</td>
<td>-0.47</td>
</tr>
<tr>
<td>Inspire</td>
<td></td>
<td>36</td>
<td>46.18</td>
<td>6.08</td>
<td>54</td>
<td>46.71</td>
<td>6.02</td>
<td>-0.40</td>
</tr>
<tr>
<td>Challenge</td>
<td></td>
<td>36</td>
<td>46.36</td>
<td>5.97</td>
<td>54</td>
<td>46.60</td>
<td>5.87</td>
<td>-0.19</td>
</tr>
<tr>
<td>Enable</td>
<td></td>
<td>36</td>
<td>49.55</td>
<td>4.54</td>
<td>54</td>
<td>50.63</td>
<td>5.05</td>
<td>-1.05</td>
</tr>
<tr>
<td>Encourage</td>
<td></td>
<td>36</td>
<td>46.86</td>
<td>6.04</td>
<td>54</td>
<td>48.48</td>
<td>5.94</td>
<td>-1.26</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>36</td>
<td>47.61</td>
<td>5.03</td>
<td>54</td>
<td>48.40</td>
<td>5.29</td>
<td>-0.71</td>
</tr>
</tbody>
</table>

The perceived transformational leadership practices on the Judging (J) and Perceiving (P) dichotomy are reported in Table 8. The female leaders who preferred to utilize the Perceiving (P) preference viewed themselves as significantly more transformational on their Overall leadership behaviors than those who preferred the Judging (J) preference \( t(91) = -1.98, p < .05 \). Managers also evaluated the leaders who preferred Perceiving (P) as being significantly more
transformational than those who preferred Judging (J) on Challenging leadership behaviors $t(76) = -2.30, p < .05$.

Table 8

**Differences in Leadership Practices by Judging-Perceiving**

<table>
<thead>
<tr>
<th></th>
<th>Judging</th>
<th></th>
<th>Perceiving</th>
<th></th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$n$</td>
<td>$M$</td>
<td>$SD$</td>
<td>$n$</td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td><strong>Self</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>54</td>
<td>45.07</td>
<td>5.13</td>
<td>36</td>
<td>46.42</td>
<td>6.32</td>
</tr>
<tr>
<td>Inspire</td>
<td>54</td>
<td>39.20</td>
<td>7.24</td>
<td>36</td>
<td>41.31</td>
<td>8.99</td>
</tr>
<tr>
<td>Challenge</td>
<td>54</td>
<td>40.50</td>
<td>6.67</td>
<td>36</td>
<td>43.33</td>
<td>7.36</td>
</tr>
<tr>
<td>Enable</td>
<td>54</td>
<td>48.48</td>
<td>4.98</td>
<td>36</td>
<td>50.42</td>
<td>5.71</td>
</tr>
<tr>
<td>Encourage</td>
<td>54</td>
<td>43.61</td>
<td>6.80</td>
<td>36</td>
<td>46.47</td>
<td>7.60</td>
</tr>
<tr>
<td>Overall</td>
<td>54</td>
<td>43.37</td>
<td>4.26</td>
<td>36</td>
<td>45.58</td>
<td>6.35</td>
</tr>
<tr>
<td><strong>Manager</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>48</td>
<td>50.60</td>
<td>6.95</td>
<td>28</td>
<td>53.79</td>
<td>7.22</td>
</tr>
<tr>
<td>Inspire</td>
<td>48</td>
<td>47.71</td>
<td>9.00</td>
<td>28</td>
<td>51.32</td>
<td>7.98</td>
</tr>
<tr>
<td>Challenge</td>
<td>48</td>
<td>48.71</td>
<td>8.64</td>
<td>28</td>
<td>53.18</td>
<td>7.31</td>
</tr>
<tr>
<td>Enable</td>
<td>48</td>
<td>51.63</td>
<td>7.31</td>
<td>28</td>
<td>54.11</td>
<td>7.10</td>
</tr>
<tr>
<td>Encourage</td>
<td>48</td>
<td>49.88</td>
<td>8.32</td>
<td>28</td>
<td>52.71</td>
<td>8.45</td>
</tr>
<tr>
<td>Overall</td>
<td>48</td>
<td>49.70</td>
<td>7.35</td>
<td>28</td>
<td>53.02</td>
<td>7.15</td>
</tr>
<tr>
<td><strong>Observers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>54</td>
<td>49.33</td>
<td>4.55</td>
<td>36</td>
<td>49.45</td>
<td>5.05</td>
</tr>
<tr>
<td>Inspire</td>
<td>54</td>
<td>46.08</td>
<td>6.15</td>
<td>36</td>
<td>47.12</td>
<td>5.83</td>
</tr>
<tr>
<td>Challenge</td>
<td>54</td>
<td>45.97</td>
<td>6.19</td>
<td>36</td>
<td>47.30</td>
<td>5.34</td>
</tr>
<tr>
<td>Enable</td>
<td>54</td>
<td>49.89</td>
<td>4.67</td>
<td>36</td>
<td>50.69</td>
<td>5.14</td>
</tr>
<tr>
<td>Encourage</td>
<td>54</td>
<td>47.72</td>
<td>5.94</td>
<td>36</td>
<td>48.05</td>
<td>6.16</td>
</tr>
<tr>
<td>Overall</td>
<td>54</td>
<td>47.80</td>
<td>5.13</td>
<td>36</td>
<td>48.51</td>
<td>5.29</td>
</tr>
</tbody>
</table>

Differences in transformational leadership behaviors by type preference were also analyzed by categorizing the mean scores of the transformational leadership behaviors as low, moderate or high based upon percentile rankings reported in the leader's LPI feedback report.

Table 9 reports Chi Square results comparing personality preference and level of transformational leadership behaviors (Low, Moderate, High) from the self, manager, and observer perspectives. The leaders were divided into the low, moderate, and high performing
categories based upon their mean scores for the five transformational leadership practices (Modeling, Inspiring, Challenging, Encouraging, Enabling). The percentile rankings utilized were adopted from the research done by Kouzes and Posner on the Leadership Practices Inventory (LPI), Third Edition. This percentile ranking compares the self scores, manager scores, and observer scores of the participant to several thousand people who have taken the same version of the LPI. The low percentile category is comprised of the individuals with scores in the bottom 30 percent, the moderate category are the individuals with scores between the 30th and 70th percentile, and the high performing category are the individuals with scores in the top 30 percentile. The percentile ranking was based upon the individual raw scores for each of the five practices.

From the self perspective, there were significant differences in transformational leadership behaviors between those who preferred Extraversion (E) to Introversion (I), with Extraverts (E) rating themselves in the high category on both Modeling behaviors, $\chi^2(1, N = 91) = 7.16, p < .05$, and Challenging behaviors $\chi^2(1, N = 91) = 6.74, p < .05$. The female leaders who preferred to use Intuition (N) rather than Sensing (S) were significantly more likely to rate themselves in the high category on Inspiring behaviors, $\chi^2(1, N = 91) = 7.05, p < .05$, and Challenging behaviors $\chi^2(1, N = 91) = 18.08, p < .01$, while the female leaders who preferred Feeling (F) rather than Thinking (T) were significantly more likely to rate themselves in the high category on Modeling behaviors, $\chi^2(1, N = 91) = 6.45, p < .05$, Enabling behaviors $\chi^2(1, N = 91) = 7.45, p < .05$, and Encouraging behaviors $\chi^2(1, N = 91) = 11.12, p < .01$. On the final dichotomy, the leaders who preferred Perceiving (P) rather than Judging (J) were significantly more likely to
rate themselves in the high category on Modeling, $\chi^2(1, N = 91) = 5.73, p < .05$, and Encouraging, $\chi^2(1, N = 91) = 6.85, p < .05$.

Interestingly, there was also a significant effect from the manager's perspective between the leaders who preferred Extraversion (E) rather than Introversion (I) on their Encouraging behaviors, $\chi^2(1, N = 76) = 8.27, p < .05$, with Extraverts receiving higher scores than Introverts. There was also a significant effect from the manager's perspective between the leaders who preferred Intuition rather than Sensing $\chi^2(1, N = 76) = 9.05, p < .01$, with those who prefer Intuition (N) receiving significantly higher scores than the Sensors (S) in the transformational leadership behaviors of Modeling the Way.

Table 9

*Chi Square Results Comparing Personality Preference and Level of Leadership Behavior (Low, Moderate, High) for Self, Manager, and Observer Scores*

<table>
<thead>
<tr>
<th></th>
<th>E/I</th>
<th>S/N</th>
<th>T/F</th>
<th>J/P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>7.16*</td>
<td>5.15</td>
<td>6.45*</td>
<td>5.73*</td>
</tr>
<tr>
<td>Inspire</td>
<td>5.50</td>
<td>7.05*</td>
<td>3.58</td>
<td>2.11</td>
</tr>
<tr>
<td>Challenge</td>
<td>6.74*</td>
<td>18.08**</td>
<td>3.19</td>
<td>4.73</td>
</tr>
<tr>
<td>Enable</td>
<td>1.24</td>
<td>3.21</td>
<td>7.45*</td>
<td>3.92</td>
</tr>
<tr>
<td>Encourage</td>
<td>4.05</td>
<td>1.05</td>
<td>11.12**</td>
<td>6.85*</td>
</tr>
<tr>
<td><strong>Manager</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>2.71</td>
<td>9.05**</td>
<td>0.95</td>
<td>4.74</td>
</tr>
<tr>
<td>Inspire</td>
<td>1.60</td>
<td>2.04</td>
<td>1.61</td>
<td>3.84</td>
</tr>
<tr>
<td>Challenge</td>
<td>1.95</td>
<td>2.84</td>
<td>0.66</td>
<td>4.98</td>
</tr>
<tr>
<td>Enable</td>
<td>0.42</td>
<td>3.97</td>
<td>0.47</td>
<td>5.40</td>
</tr>
<tr>
<td>Encourage</td>
<td>8.27*</td>
<td>5.26</td>
<td>3.08</td>
<td>4.16</td>
</tr>
<tr>
<td><strong>Observers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>0.37</td>
<td>2.89</td>
<td>1.09</td>
<td>0.04</td>
</tr>
<tr>
<td>Inspire</td>
<td>1.16</td>
<td>2.55</td>
<td>0.19</td>
<td>0.36</td>
</tr>
<tr>
<td>Challenge</td>
<td>0.26</td>
<td>1.72</td>
<td>0.19</td>
<td>0.73</td>
</tr>
<tr>
<td>Enable</td>
<td>0.16</td>
<td>2.62</td>
<td>4.58</td>
<td>3.71</td>
</tr>
<tr>
<td>Encourage</td>
<td>0.29</td>
<td>0.73</td>
<td>2.76</td>
<td>1.01</td>
</tr>
</tbody>
</table>

* * p < .05, ** p < .01
The Relationship Between Transformational Leadership Practices and Cognitive Function Pairs

A one-way analysis of variance (ANOVA) was used to determine whether the transformational leadership practices of the female hospital leaders differed by Myers-Briggs function pars or cognitive styles. Table 10 reports the results of the ANOVAs examining significant differences in transformational leadership behaviors based upon the female leader's cognitive function pair (ST, SF, NT, NF). From the female leader's self perspective there were significant differences in the leadership behaviors of modeling, inspiring, challenging, encouraging, and overall transformational behaviors. Individual's with an NF or Intuition/Feeling cognitive function were significantly more likely to rate themselves higher on all these transformational leadership behaviors than the SFs, STs, or NTs - Modeling, $F(3, 89) = 2.71, p = .05$, Inspiring, $F(3, 89) = 3.02, p = .03$, Challenging, $F(3, 89) = 7.65, p = .00$, Encouraging, $F(3, 89) = 2.86, p = .04$, Overall transformational profile $F (3, 89) = 4.62, p = .01$.

Table 10

*Differences in Leadership Practices by Cognitive Function*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>ST</th>
<th>SF</th>
<th>NT</th>
<th>NF</th>
<th>$F$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Manager</td>
<td>N = 20</td>
<td>N = 29</td>
<td>N = 16</td>
<td>N = 25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self Observer</td>
<td>N = 17</td>
<td>N = 22</td>
<td>N = 15</td>
<td>N = 22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self Manager</td>
<td>43.90 (6.48)</td>
<td>45.17 (4.86)</td>
<td>44.56 (4.21)</td>
<td>48.16 (5.99)</td>
<td>2.71</td>
<td>.05</td>
</tr>
<tr>
<td>Self Observer</td>
<td>50.59 (5.86)</td>
<td>50.59 (7.11)</td>
<td>54.67 (6.65)</td>
<td>51.91 (8.29)</td>
<td>1.18</td>
<td>.32</td>
</tr>
<tr>
<td>Challenge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self Manager</td>
<td>39.00 (5.89)</td>
<td>37.62 (8.30)</td>
<td>39.88 (7.26)</td>
<td>43.80 (8.61)</td>
<td>3.02</td>
<td>.03</td>
</tr>
<tr>
<td>Self Observer</td>
<td>48.06 (8.07)</td>
<td>46.86 (9.56)</td>
<td>50.80 (8.60)</td>
<td>50.77 (8.54)</td>
<td>1.01</td>
<td>.39</td>
</tr>
<tr>
<td>Self Observer</td>
<td>45.33 (6.40)</td>
<td>45.95 (5.78)</td>
<td>47.26 (5.68)</td>
<td>47.58 (6.27)</td>
<td>0.68</td>
<td>.57</td>
</tr>
</tbody>
</table>
**Self Perception Accuracy of Female Hospital Leaders by Type Preference**

The third research question sought to ascertain whether the self-perception accuracy of transformational leadership practices differed by Myers-Briggs personality type preference among female hospital leaders?

This question was examined in two ways. Table 11 reports the $t$-test of Paired Samples results examining the differences between the self-reported mean scores on the transformational leadership behaviors, (Modeling, Inspiring, Challenging, Enabling, Encouraging) with the mean scores given by both the manager group and the observer group, regardless of personality type preference, in order to examine the sample groups' self perception accuracy. In general, the female leaders in the sample viewed themselves significantly differently than either the manager or the observer group on all of the transformational leadership behaviors. In examining Table 11, all of the $t$-values are negative and the $p$ values are all < .001 indicating that the female leaders rated themselves significantly lower than either the managers or the observers on every transformational leadership behavior, except Enabling $t(91) = -1.42, p = .16$, as compared with the observer group.

<table>
<thead>
<tr>
<th></th>
<th>Manager Observers</th>
<th>Observers</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>49.41 (7.69)</td>
<td>48.36 (8.78)</td>
<td>53.20 (7.19)</td>
<td>51.14 (9.21)</td>
<td>1.12</td>
<td>0.37</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>45.74 (6.73)</td>
<td>46.03 (5.33)</td>
<td>47.13 (4.95)</td>
<td>47.26 (6.48)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enable Self Manager Observers</td>
<td>47.05 (3.52)</td>
<td>48.97 (6.04)</td>
<td>49.56 (4.90)</td>
<td>51.16 (5.51)</td>
<td>2.35</td>
<td>.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>52.12 (5.17)</td>
<td>51.50 (8.17)</td>
<td>53.13 (9.01)</td>
<td>53.50 (6.77)</td>
<td>0.32</td>
<td>.81</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>49.75 (4.03)</td>
<td>50.43 (5.04)</td>
<td>49.32 (5.24)</td>
<td>50.91 (5.14)</td>
<td>0.43</td>
<td>.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encourage Self Manager Observers</td>
<td>42.40 (5.25)</td>
<td>45.24 (8.65)</td>
<td>42.31 (5.52)</td>
<td>47.64 (6.90)</td>
<td>2.86</td>
<td>.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>48.94 (6.88)</td>
<td>49.50 (9.74)</td>
<td>52.07 (10.29)</td>
<td>53.09 (6.37)</td>
<td>1.11</td>
<td>.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>46.86 (5.87)</td>
<td>48.16 (5.50)</td>
<td>46.86 (6.43)</td>
<td>48.86 (6.51)</td>
<td>0.58</td>
<td>.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Self Manager Observers</td>
<td>42.70 (3.04)</td>
<td>42.96 (5.73)</td>
<td>43.71 (4.25)</td>
<td>47.37 (5.66)</td>
<td>4.62</td>
<td>.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>49.82 (6.39)</td>
<td>49.36 (7.87)</td>
<td>52.77 (7.79)</td>
<td>52.08 (7.49)</td>
<td>0.93</td>
<td>.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>47.34 (5.14)</td>
<td>48.03 (4.99)</td>
<td>47.95 (5.06)</td>
<td>48.84 (5.69)</td>
<td>0.31</td>
<td>.82</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 11

*T-Test of Paired Samples: Accuracy of Self with Manager and Observers*

<table>
<thead>
<tr>
<th></th>
<th>Manager</th>
<th></th>
<th>Observers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(t)</td>
<td>(p)</td>
<td>(df)</td>
<td>(t)</td>
</tr>
<tr>
<td>Model</td>
<td>-6.0</td>
<td>.00</td>
<td>75</td>
<td>-4.94</td>
</tr>
<tr>
<td>Inspire</td>
<td>-6.66</td>
<td>.00</td>
<td>75</td>
<td>-6.41</td>
</tr>
<tr>
<td>Challenge</td>
<td>-7.23</td>
<td>.00</td>
<td>75</td>
<td>-5.56</td>
</tr>
<tr>
<td>Enable</td>
<td>-3.92</td>
<td>.00</td>
<td>75</td>
<td>-1.42</td>
</tr>
<tr>
<td>Encourage</td>
<td>-5.79</td>
<td>.00</td>
<td>75</td>
<td>-3.35</td>
</tr>
<tr>
<td>Overall</td>
<td>-6.90</td>
<td>.00</td>
<td>75</td>
<td>-5.17</td>
</tr>
</tbody>
</table>

Tables 12, 13, 14, and 15 examine the congruence between the leader's self perception and the leader's reputation for each personality type preference. First, the absolute difference between self and manager and then self and observers were calculated for the LPI overall score. A \(t\)-test of independent samples was conducted to compare the congruence scores by personality type preference. Table 12 presents the differences in self-perception accuracy on the Extraversion (E) - Introversion (I) dichotomy, Table 13 is based on the Sensing (S) - Intuition (N) dichotomy, Table 14 reports the differences on the Thinking (T) - Feeling (F) dichotomy, and Table 15 presents the Judging (J) - Perceiving (P) dichotomy. No significant differences in self perception accuracy were found based upon any of the personality type preferences of the female leaders. Finally, high-low congruence with Manager and Observers was also analyzed with respect to personality preference. Table 16 reports the Chi-Square values for Overall LPI scores by high-low congruence.

Table 12

*Self Perception Accuracy on Extraversion-Introversion Dichotomy*

<table>
<thead>
<tr>
<th></th>
<th>Extraversion</th>
<th></th>
<th>Introversion</th>
<th></th>
<th>(t)</th>
<th>(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n)</td>
<td>(M)</td>
<td>(SD)</td>
<td>(n)</td>
<td>(M)</td>
<td>(SD)</td>
</tr>
<tr>
<td>Congruence w/Manager</td>
<td>38</td>
<td>8.97</td>
<td>6.57</td>
<td>38</td>
<td>8.56</td>
<td>6.21</td>
</tr>
<tr>
<td>Congruence w/Observers</td>
<td>47</td>
<td>6.04</td>
<td>4.76</td>
<td>43</td>
<td>7.02</td>
<td>4.47</td>
</tr>
</tbody>
</table>
Table 13

*Self Perception Accuracy on Sensing-Intuition Dichotomy*

<table>
<thead>
<tr>
<th></th>
<th>Sensing</th>
<th></th>
<th>Intuition</th>
<th></th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Congruence w/ Manager</td>
<td>39</td>
<td>8.26</td>
<td>6.50</td>
<td>37</td>
<td>9.3</td>
<td>6.23</td>
</tr>
<tr>
<td>Congruence w/Observers</td>
<td>49</td>
<td>6.92</td>
<td>4.85</td>
<td>41</td>
<td>6.01</td>
<td>4.33</td>
</tr>
</tbody>
</table>

Table 14

*Self Perception Accuracy on Thinking-Feeling Dichotomy*

<table>
<thead>
<tr>
<th></th>
<th>Thinking</th>
<th></th>
<th>Feeling</th>
<th></th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Congruence w/ Manager</td>
<td>32</td>
<td>9.04</td>
<td>6.59</td>
<td>44</td>
<td>8.57</td>
<td>6.25</td>
</tr>
<tr>
<td>Congruence w/Observers</td>
<td>36</td>
<td>6.68</td>
<td>4.00</td>
<td>54</td>
<td>6.39</td>
<td>5.03</td>
</tr>
</tbody>
</table>

Table 15

*Self Perception Accuracy on Judging-Perceiving Dichotomy*

<table>
<thead>
<tr>
<th></th>
<th>Judging</th>
<th></th>
<th>Perceiving</th>
<th></th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Congruence w/ Manager</td>
<td>48</td>
<td>7.85</td>
<td>6.06</td>
<td>28</td>
<td>10.34</td>
<td>6.66</td>
</tr>
<tr>
<td>Congruence w/Observers</td>
<td>54</td>
<td>6.68</td>
<td>4.19</td>
<td>36</td>
<td>6.25</td>
<td>5.25</td>
</tr>
</tbody>
</table>

Table 16

*Chi-Square Values for Overall LPI Scores by High-Low Congruence*

<table>
<thead>
<tr>
<th></th>
<th>E/I</th>
<th>S/N</th>
<th>T/F</th>
<th>J/P</th>
</tr>
</thead>
<tbody>
<tr>
<td>High/Low Congruence w/Manager</td>
<td>0.06</td>
<td>3.29</td>
<td>0.01</td>
<td>0.32</td>
</tr>
<tr>
<td>High/Low Congruence w/Observers</td>
<td>0.65</td>
<td>1.12</td>
<td>0.85</td>
<td>1.35</td>
</tr>
</tbody>
</table>

Good self-awareness, for purposes of this research, is agreement between the leader and the other raters on the transformational leadership practices examined by the Leadership
Practices Inventory. Table 17 examines self-perception accuracy for the sample group of female leaders based upon categorization as an under-rater, accurate-rater, or over-rater regardless of personality type preference. Accuracy scores were categorized as follows: under-rater had a difference of less than -7.01; an accurate individual had a difference falling between -7 to +7; and an over-rater had a difference score that was greater than 7.01. When self-perception accuracy was analyzed using three categories, most of the female leaders, 58% were accurate raters on their overall transformational leadership profile. However, over one-third, or 36% of all the female leaders were under raters, while less than 7% of the female leaders over-rated themselves on their overall transformational leadership behaviors. Perhaps of even greater interest is that 49% of the female leaders under-rated their ability to Inspire a Shared Vision and 40% under-rated their ability to Challenge the Process. Yet, over 73% were accurate raters in their ability to Enable Others to Act suggesting that female leaders were far more congruent with manager and observer perspectives in enabling leadership behaviors.

Table 17

<table>
<thead>
<tr>
<th></th>
<th>Difference</th>
<th>Level of Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Under</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Model</td>
<td>-3.77</td>
<td>7.24</td>
</tr>
<tr>
<td>Inspire</td>
<td>-6.45</td>
<td>9.55</td>
</tr>
<tr>
<td>Challenge</td>
<td>-4.87</td>
<td>8.32</td>
</tr>
<tr>
<td>Enable</td>
<td>-0.96</td>
<td>6.38</td>
</tr>
<tr>
<td>Encourage</td>
<td>-3.08</td>
<td>8.72</td>
</tr>
<tr>
<td>Overall</td>
<td>-3.83</td>
<td>7.05</td>
</tr>
</tbody>
</table>

Chi Square Test of Independence was conducted to examine differences in personality type preference and level of accuracy (Under, Accurate, Over) for each transformational
leadership behavior. There were no significant differences between the personality type preferences and their self-perception accuracy indicating that personality preference is not likely to generate a certain level of accuracy with respect to the reporting of leadership behaviors.

Table 18

Chi Square Results for Personality Preference and Level of Accuracy (Under, Accurate, Over) for Each Leadership Behavior

<table>
<thead>
<tr>
<th></th>
<th>E/I</th>
<th>S/N</th>
<th>T/F</th>
<th>J/P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>3.33</td>
<td>1.28</td>
<td>2.50</td>
<td>0.40</td>
</tr>
<tr>
<td>Inspire</td>
<td>1.14</td>
<td>0.92</td>
<td>0.08</td>
<td>0.48</td>
</tr>
<tr>
<td>Challenge</td>
<td>4.23</td>
<td>5.63</td>
<td>0.08</td>
<td>2.53</td>
</tr>
<tr>
<td>Enable</td>
<td>0.24</td>
<td>0.55</td>
<td>0.39</td>
<td>0.09</td>
</tr>
<tr>
<td>Encourage</td>
<td>2.08</td>
<td>0.19</td>
<td>3.36</td>
<td>0.97</td>
</tr>
<tr>
<td>Overall</td>
<td>4.42</td>
<td>4.13</td>
<td>1.55</td>
<td>2.95</td>
</tr>
</tbody>
</table>

* p < .05

Summary

The purpose of this research was to examine the relationship between Myers-Briggs personality type preferences, transformational leadership behaviors, and self-perception accuracy of female hospital leaders. This chapter offered an analysis and detailed presentation of the data and answered the three research questions. Chapter V summarizes the research and its findings and states the conclusions and implications as well as recommendations for further research.
CHAPTER V. SUMMARY AND CONCLUSIONS

This chapter contains a brief summary of the research questions investigated, the procedures employed, and the results obtained. Following the summary, is a discussion of the implications of the findings including their meaning and significance. The limitations of the study, including unresolved problems and weaknesses, is also provided. The chapter then ends with suggestions for further research and general conclusions.

Summary of the Research

The objective of this study was to empirically ascertain if there was a relationship between female hospital leaders' Myers-Briggs personality type preferences, transformational leadership behaviors and self-perception accuracy.

The effect of personality type preferences on self-identity, and reputation as a transformational leader, was examined by ascertaining whether the transformational leadership practices (Model, Inspire, Challenge, Encourage, Enable) differed by Myers-Briggs personality type preference (Extraversion (E) vs. Introversion (I), Sensing (S) vs. Intuition (I), Thinking (T) vs. Feeling (F), Judging (J) vs. Perceiving (P)). Self-identity was examined through the leader's self report scores, while reputation as a transformational leader was measured by manager and observer perceptions. The question was studied in two ways. The first, was a series of t-Tests that compared the LPI scores of the dichotomous personality type pairs being studied (E-I, S-N, T-F, J-P) and then analyzed self, manager, and other ratings to determine if there were significant differences in the perception of those giving the 360 degree feedback. The research question was then also examined by categorizing the dependent leadership variable of leadership performance as low, moderate, and high and then using a Chi-Square Test of Independence to examine personality differences in the frequency of leadership performance groups. The question was
analyzed in two ways because the LPI feedback report given to the female hospital leaders presents the results as both a raw score, and a percentile ranking score. The percentile ranking score compares an individual's scores to a national data base of several thousand people who have also taken the LPI. Significant differences in self-identity and reputation as a transformational leader, based upon personality type preference, were found.

In terms of self-identity as a leader, those who preferred Extraversion (E), Intuition (N), Feeling (F), and Perceiving (P) were significantly more likely to view themselves as transformational leaders. The individuals who preferred Extraversion (E) rated themselves as more transformational than did those who prefer Introversion (I) on Modeling, Challenging, and Overall transformational leadership behaviors. The female leaders who preferred Intuition (N) viewed themselves as being significantly more transformational on Overall transformational leadership practices, as well as on Inspiring, Challenging, and Enabling behaviors, than those who preferred Sensing (S). Those who preferred making decisions through their Feeling (F) preference, rather than their Thinking (T) preference, were significantly more likely to view themselves as transformational on Modeling and Encouraging behaviors, while those who preferred Perceiving (P) rather than Judging (J) were significantly more likely to perceive themselves as more transformational on their Overall leadership behaviors.

In terms of their reputation as a transformational leader, the Extraverts (Es) and Perceivers (Ps), in the sample, were significantly more likely to be viewed as transformational by their managers. The managers rated the female hospital leaders with a preference for Extraversion (E) as significantly more transformational on their Encouraging leadership behaviors than the Introverts. They also rated those with a preference for Perceiving (P) as more
transformational on the Challenging leadership behaviors than those with a preference for Judging (J).

The Chi Square Results comparing personality preference and level of transformational leadership behaviors (Low, Moderate, High) from the self, manager, and observer perspectives also showed some significant differences. From the self identity perspective, the Extraverts (Es), Intuitives (Ns), Feelers (Fs), and Perceivers (Ps) once again rated themselves significantly higher on the transformational leadership practices than their counterparts. The Extraverts (Es) rated themselves in the high category on Modeling and Challenging. The Intuitives were more likely to rate themselves in the high category on Inspiring and Challenging, while the Feelers (Fs) rated themselves more highly than the Thinkers (Ts) on Modeling, Enabling, and Encouraging. On the final dichotomy, the leaders with a preference for Perceiving (P) were significantly more likely to rate themselves in the high category on Modeling and Encouraging than those who preferred Judging (J).

Interesting and significant differences also appeared in the female hospital leaders’ reputations as transformational leaders, with the Extraverts (Es) and Intuitives (Ns) being rated in the high category significantly more often than their Introverted (I) and Sensing (S) colleagues. The managers were significantly more likely to rate the Extraverts (Es), rather than the Introverts (Is), in the high category on their Encouraging behaviors and the Intuitives (Ns) more highly than the Sensors (Ss) on their Modeling leadership practices.

In examining research question two, the relationship between transformational leadership practices and cognitive function pairs (ST, SF, NT, NF), significant differences were also found in the sample group's self identity as a transformational leader. Results of a one-way analysis of variance (ANOVA) determined that the female hospital leaders with an NF or Intuition/Feeling
cognitive function were significantly more likely to rate themselves higher on Modeling, Inspiring, Challenging, Encouraging, and Overall transformational leadership behaviors than the SFs, STs, or NTs.

The third research question sought to ascertain whether the self-perception accuracy of transformational leadership practices differed by Myers-Briggs personality type preference (Extraversion (E) vs. Introversion (I), Sensing (S) vs. Intuition (I), Thinking (T) vs. Feeling (F), Judging (J) vs. Perceiving (P)). Although the question was examined in two ways, congruence with manager and observers, and level of self perception accuracy (under-raters, accurate-raters, and over-raters), and used a combination of t-Tests of Paired Samples and Chi Square Tests of Independence, no significant differences were found based upon personality type preference. Although there were no significant differences based upon personality type preference, the overall accuracy level of the female hospital leaders is noteworthy. When examining the sample as a whole, 35.6% of the female hospital leaders under-rated their overall transformational leadership behaviors, 57.8% of the leaders were accurate-raters, and only 6.7% of the sample group over-rated their transformational leadership abilities. Perhaps even more interesting is that almost 49% of the sample under-rated their ability to Inspire and 40% under-rated their ability to Challenge.

Implications of the Findings

When examining the findings and looking at the implications, it is important to keep in mind the general nature of transformational leaders. Transformational leaders have the ability to articulate and focus attention on a clear vision of the future and derive charisma, or energy, from interacting with followers while attending to their individualized needs (Walck, 1997). Furthermore, they are able to transform followers to transcend their own self-interests for the
sake of collective purpose, while managing change, complexity, and teams (Walck, 1997). The findings of the present research offer evidence of at least five important points regarding the relationship between personality, self-perception accuracy, and transformational leadership:

1) Self-ratings and manager ratings of transformational leadership practices are related to MBTI personality type preference.

2) MBTI type preference and cognitive decision making style are related to self-identity on domains of transformational leadership capacity. The way an individual sees one’s preferences is related to the way one sees one's skills.

3) There is a relationship between MBTI personality type and perceived effectiveness as a transformational leader.

4) MBTI preferences do not rule out effectiveness as a leader, but the strengths and developmental needs of the leaders may differ in ways that relate to personality.

5) Self-perception accuracy is not related to MBTI type preferences.

The first striking note of this study is that personality is significantly related to self-ratings and manager ratings of transformational leadership behaviors. The women with preferences for Extraversion (E), Intuition (N), Feeling (F), and Perceiving (P) were significantly more likely to see themselves as transformational on a wide range of leadership practices than those who preferred Introversion (I), Sensing (S), Thinking (T), and Judging (J), indicating a stronger sense of self-identity as a transformational leader. Moreover, in terms of reputation as a transformational leader, the women with preferences for Extraversion (E), Intuition (N) and Perceiving (P) were also significantly more likely to be seen as transformational by their managers. The plausible explanations for these results are discussed below.
One of the most consistent findings from previous studies on leadership skills and the MBTI is that Extraverts (E) rated themselves higher than Introverts (I) on a wide variety of leadership skills and behaviors (Van Velsor & Fleenor, 1997), and the present study is no different. The Extraverted female hospital leaders were significantly more likely to rate themselves higher than their Introverted colleagues on their Overall transformational leadership practices as well as on their Modeling and Challenging behaviors. These results should not be surprising given the typically outgoing nature of individuals who prefer Extraversion (E) and the LPI behavioral statements for Modeling and Challenging. Es focus their attention and direct their energy toward the external world of people and activity (Richmond, 2008). They like variety and action and enjoy interacting with people. Moreover, they develop their ideas through discussion and learn new tasks by talking and doing (Myers, 1998). Extraverts also prefer spoken communication, share their thoughts freely, act and respond quickly, extend themselves into the environment, enjoy working in groups and are comfortable putting themselves in the foreground (Hirsh, Hirsh, & Hirsh, 2003). On the other hand, people with a preference for Introversion direct and receive their energy from their inner world. They are more likely to prefer reflection over action, guard their thoughts, defend against external demands and intrusions, are comfortable staying in the background, and enjoy working alone (Hirsh, Hirsh, & Hirsh, 2003).

The Modeling behaviors measured by the LPI (setting a personal example, making certain people adhere to agreed upon standards, following through on promises and commitment, building consensus around organizational values, asking for feedback on how his or her actions affect people's performance (Kouzes & Posner, 2003)), all require continual interaction with other people which is the source of energy for Extraverts. Likewise, the Challenging behaviors measured by the LPI (setting goals, plans, and milestones, seeking challenging opportunities to
test skills, challenging people to try new approaches, asking "What can we learn?", searching outside the organization for innovative ways to improve, and experimenting and taking risks (Kouzes & Posner, 2003)), also appear to be consistent with the Extraverted (E) way of interacting with the world. Therefore, it makes sense that because Extraverts are more comfortable with these types of leadership behaviors or skills they would rank themselves higher than Introverts on these behaviors.

Nevertheless, this study is noteworthy because in the previous studies, the Extraverts were typically not given significantly higher ratings by others on these same skills and behaviors and tended to overrate themselves relative to how they were seen by others (Van Velsor & Fleenor, 1997). Yet, in the current study, the Extraverts were rated significantly higher by their managers on their transformational leadership practices of Encouraging and underrated themselves relative to how they were seen by both the manager and observer group on all five leadership practices. The Encouraging behaviors on the LPI are: praising people for a job well done, expressing confidence in people's abilities, creatively rewarding people for their contributions, recognizing people for commitment to shared values, giving team members appreciation and support, and finding ways to celebrate accomplishments (Kouzes & Posner, 2003). Again, it seems quite logical that these behaviors are more comfortable, or natural, for the Extraverted way of interacting with the world. Talking things over, sharing thoughts freely, enjoying working with others, and extending themselves into the environment, are all domains of an Extravert.

The female leaders who preferred to use Intuition (N), rather than Sensing (S), had a significantly higher sense of self-identity for their Overall transformational leadership behaviors as well as those of Inspiring, Challenging, and Enabling. The Sensing-Intuition dichotomy
measures how individuals prefer to take in information (Hirsh, Hirsh, & Hirsh, 2003). While Sensors prefer to take in information in a precise and exact manner, people with a preference for Intuition like to take in information in an ad hoc, innovative manner (Hirsh, Hirsh, & Hirsh, 2003). Sensors prefer the tried and true, they desire predictability, like hearing facts and details first, and are pragmatic. Intuitives, on the other hand, desire change, focus on future possibilities, prefer the new and untried, value imagination, and want to know what could be. Therefore, Intuitives will logically be more comfortable with the LPI behaviors associated with Inspiring a shared vision, Challenging the process, and Enabling others to act. All of these leadership practices revolve around the concepts of creativity, innovation, and change. For example, according to the LPI behavioral statements, Inspiring behaviors are talking about future trends influencing work, speaking with conviction about the meaning of work, painting a "big picture" of group aspirations, describing a compelling image of the future, and showing others how their interests can be realized (Kouzes & Posner, 2003). The LPI behavioral statements for Challenging behaviors also focus on creativity, innovation, and change, and include such behaviors as seeking challenging opportunities, searching outside the organization for ways to improve and experimenting and taking risks. The LPI behaviors associated with Enabling also involve openness to change, including listening to diverse points of view, giving people a choice about how to do their work, supporting decisions that other people make and ensuring that people grow in their jobs (Kouzes & Posner, 2003).

Interestingly, the manager group also viewed the Intuitives (Ns) as significantly more transformational than the Sensors (Ss), but on a different set of leadership behaviors. In this case, the managers rated the Intuitive leaders significantly higher than the Sensors in the Modeling behaviors. As discussed earlier, the Modeling behaviors include setting a personal example of
what it expected, making certain that people adhere to agreed upon standards, following through on promises and commitments, clarity of leadership philosophy, and asking for feedback on how his or her actions affect people's performance (Kouzes & Posner, 2003). The results of the current study give credence to previous studies that have also found a relationship between Intuition and a self-report of a disposition for transformational leadership (Walck, 1997). Intuitives, in other studies, have also been positively associated with creativity, managing change, and transformational leadership (Walck, 1997). In fact, some studies report a statistically significant increase in preferences for Intuition at higher leadership levels in organizations (Kirby, 1997). According to Kirby (1997), this phenomenon may be a result of the natural skills of Intuitives, such as future vision and long-range planning, which are important at higher levels in organizations.

Female leaders in the present study, with a preference for Feeling (F), were significantly more likely to rate themselves as transformational on Modeling and Encouraging behaviors, than their Thinking (T) colleagues. Individuals with a preference for Feeling in decision making like to consider what is important to them and to the others involved with or impacted by the decision. They are energized by appreciating and supporting others and they look for qualities to praise (Myers, 1998). Feelers have a keen interest in people and prefer things to be personal (Hirsh, Hirsh, & Hirsh, 2003). Conversely, individuals with a preference for Thinking in decision making like to look at the logical consequences of their choice or action. They question first, search for flaws in arguments, and are energized by critiquing and analyzing to identify what is wrong with something so they can solve the problem (Hirsh, Hirsh, & Hirsh, 2003). Preferring to find an objective standard of truth, Thinkers look for principles that will apply in all similar situations (Myers, 1998). The LPI Encouraging behaviors include praising people for a
job well done, creatively rewarding people for their contributions and giving team members appreciation. Not surprisingly then, when it comes to the transformational leadership behaviors of Encouraging the heart, the Feelers are significantly more likely to have a strong sense of self-efficacy and support than the Thinkers because all of their decisions focus around honoring people.

Surprisingly, neither the manager group nor the observer group found significant differences between the Feelers and the Thinkers in regards to transformational leadership behaviors. These results are contradictory to a study conducted by Roush and Atwater (1992) that found leaders with a preference for Feeling were rated as the most effective leaders, by their subordinates, on three of the four transformational leadership scales. Perhaps this is due to the nature of the sample and the context of the study. In the Roush and Atwater study the sample consisted of 90 midshipmen (83 men and 7 women) at the U.S. Naval Academy who were assigned as squad leaders for the incoming freshman class. The midshipmen who prefer Feeling (25%) over Thinking (75%) are in the distinct minority at the Naval Academy. Therefore, perhaps the distinction between the two preferences was much clearer for the followers to discern in the evaluation process. This may be especially true because in the United States 65% of all males report a preference for Thinking (Kirby, 1997). Moreover, Thinking and Judging appear to be the most common type preference of those in management and leadership positions and the military is no different (Kirby, 1997). However, in the current study, 61% of the women in the sample exhibit a Feeling rather than a Thinking preference. This is not surprising because 65% of all women, regardless of profession, report a preference for Feeling (Kirby, 1997). Perhaps this blurs the differences between the two types in the minds of the raters, especially if those who prefer Thinking mask their natural preferences. Research has demonstrated that those
who do not share the dominant type may unconsciously adapt their style to match the majority (Kirby, 1997). Therefore, because the Feeling preference is so dominant among females in general, and this sample in particular, the women in the sample who naturally prefer thinking may have modified the behaviors associated with the preference thereby resulting in unobservable differences.

On the final dichotomy, the Perceivers were significantly more likely than the Judgers to view themselves as transformational on their Overall LPI score, while the managers were also significantly more likely to view them as transformational on the LPI practice of Challenging the process. Perceivers like to live in a flexible and spontaneous manner and seek to experience and understand life rather than control it. They stay open to new information and last minute options, and are energized by last-minute pressures (Myers, 1998). Perceivers see routines as limiting and reserve the right to change plans or decisions (Hirsh, Hirsh, & Hirsh, 2003). In essence, the LPI Challenging behaviors of experimenting and taking risks, seeking innovative ways to improve, and challenging people to try new approaches, come more naturally for Perceivers than Judgers. Judgers like to live in a planned and orderly way. Their lives tend to be structured and organized and they are systematic and methodical (Myers, 1998). For Judgers, routines are important as is closure so they quickly commit to plans or decisions. Previous research has reached similar conclusions positively associating Perceivers with creativity, managing change, and transformational leadership (Walck, 1997).

Another major finding in the study demonstrates that MBTI cognitive functions are significantly related to self-efficacy as a transformational leader. In examining research question two, the relationship between transformational leadership practices and cognitive function pairs (ST, SF, NT, NF), the NFs were significantly more likely to rate themselves higher on
transformational leadership behaviors than the STs, SFs, and NTs. NFs use their judgment, experience, and intuitions to make decisions, and focus on broad themes rather than specifics (Haley, 1997). They enjoy working on ill-defined problems and are very interested in change that creates new institutional forms and fresh, human possibilities (Haley, 1997). Therefore, it seems logical that the NFs' scores on the LPI were significantly greater on four of the five leadership practices measured by the LPI including Modeling, Inspiring, Challenging, Encouraging, and Overall transformational leadership behaviors. Undoubtedly, the female leaders who preferred to use their Intuition (N) in combination with Feeling (F) preference had a much stronger self-identity, or self efficacy, as transformational leaders than any of the other cognitive function pairs. This is consistent with other research that compared the relationship of preference scores on the MBTI to leadership skills as measured by various instruments. In these studies, it is clear that leaders with a preference for Sensing, Thinking, and/or Judging tend to see themselves, and tend to be seen by others, as more skilled in typical domains of administration or task management, while those with a preference for Intuition, Feeling, and/or Perceiving have strengths related to people management and team leadership (Van Velsor & Fleenor, 1997).

On the other hand, neither the manager group nor the observer group perceived significant differences in transformational leadership behaviors based upon cognitive function. This may be because different personality types develop different decision-making styles by displaying discrete preferences for methods of gathering data, generating options, and analyzing alternatives (Haley, 1997). For example, Sensing Thinking types (STs) want all decisions to be systematic and data driven. They take fewer risks than other types because they need order, control and certainty (Haley, 1997). Intuitive Thinking types (NTs) prefer general information, rather than specific detailed information, and they enjoy long-range plans and new possibilities
(Haley, 1997). Individuals who are Sensing Feeling types (SFs) stress people's opinions in decision making and enjoy focusing on current, rather than future, problems. For SFs, all the problems have human implications (Haley, 1997). Finally, the individuals who are Intuitive Feeling Types (NFs) stress their judgment and experience, and maintain few decision making rules. They are very interested in structuring their problems around new, institutional forms and innovative possibilities for the people involved (Haley, 1997). In most U.S. organizations over 70% of all U.S. managers and leaders prefer either the ST or NT cognitive function. This ST and NT preference typically biases the organizational decision making process because of the absence of the Feeling preference (Haley, 1997). Therefore, organizations with ST and NT preferences will be very focused on hard data, and its logical analysis in the decision making process, rather than on people, relationships, and possibilities. When organizations are imbalanced like this, the dominant types have a great deal of influence on how "reality" is defined (Kirby, 1997). Moreover, those who do not share the dominant type may unconsciously mask their true preferences and adapt their style to match the majority (Kirby, 1997).

Yet, in the present study there is a balance of cognitive styles. Of the female leaders 21.7% exhibited the ST cognitive function, 17.4% the NT decision making preferences, 31.5 % of the sample preferred the SF cognitive function, and 27.2% utilized the NF decision making style. Perhaps this balance of cognitive styles among the female hospital leaders blurs the discrete distinctions between them and demonstrates that the managers and observers value diverse types of decision making within the organization. If so, the differences in decision making styles were not as noticeable to the raters. Another plausible explanation are the environmental factors influencing the type of decision making style predominately used in the organization (Haley, 1997). There is currently a tremendous amount of volatility in health care
in general, and is this hospital in particular, because of social, economic, political and technological changes impacting healthcare. Moreover, the present study was conducted in a regional independent hospital in the mid-west, in the process of merger negotiations creating even greater amounts of uncertainty. Typically NFs excel as leaders in these environments because they can provide creative solutions to old problems, see analogies from dissimilar situations, and seize opportunities (Haley, 1997). Furthermore, NFs typically strongly support positive change and see opportunities and positive possibilities opening up for them and the organization (Barger & Kirby, 2004). Because their decision making preference is Feeling, they consider the impact of the change on the people involved, and provide support for others by keeping people informed and involved (Barger & Kirby, 2004). Perhaps the NFs, as one of the dominate types in this organization, are the one's defining reality and influencing minority types to be open to change.

This study indicates is that MBTI personality preferences do not rule out effectiveness as a transformational leader, but the strengths and developmental needs of the leaders may differ in ways that relate to personality. The female leaders, regardless of personality type preference, received LPI mean scores from their managers and observers in the 46 - 53 point range (see Tables 5-8). The range is indicative of the points assigned for each leadership practice. Each practice is rated on a Likert scale from 1-10, with 1 = "Almost Never" and 10 = "Almost Always". There are six behavioral statements for each practice for a maximum score of 60 points. A score of 46 indicates that the average score per behavior is 7.6 while a score of 53 indicates that the average score per behavior is 8.8. According to the LPI rating scales these scores indicate that the female leaders "fairly often" or "usually" engage in transformational leadership practices thereby indicating that the female hospital leaders are viewed as
transformational leaders. In comparing the female hospital leader's mean scores on the LPI behaviors to a national sample of 250,000 people who have taken the same version of the LPI, the mean scores fell within the moderate to high categories again indicating that the female hospital leaders in this sample are perceived as being transformational regardless of MBTI type preferences. Hence, although Extraverts, Intuitives, and Perceivers are perceived as being more transformational than their counterparts, the female leaders in general all exhibit transformational leadership behaviors.

Another major finding is that there is no relationship between Myers-Briggs personality type preference and self-perception accuracy of the female hospital leaders. Unlike the Roush and Atwater (1992) study that concluded leaders with preferences for Introversion and Sensing had the most accurate self-perceptions, this study did not find any significant differences based upon personality type. Perhaps this is because the female leaders in the study scored themselves significantly lower on all aspects of the LPI than either the manager group or the observer group (see Table 11).

In this study, self-perception accuracy was measured in two different ways. The first was through a series of paired sample t-Tests looking for congruence with manager and observer perceptions. Table 11, provides evidence that the female leaders, regardless of MTBI type preferences, have poor self-awareness of their transformational leadership behaviors because they rated themselves significantly lower than either the managers or the observers on every category but Enabling. However, when self-perception accuracy was calculated categorizing the leaders as under-raters, accurate-raters, and over-raters (Table 17), the majority of female leaders (57.8%) were accurate raters, 35.6 % were under-raters, and only 6.7% were over-raters on their Overall transformational leadership profile. These findings were consistent with Turkel's (2008)
research which found that 76.7% of the women in her study were accurate raters, while 15.9% were under-raters, and 7.4% were over-raters, leading Turkel to conclude that "most female leaders have good self-awareness of their overall leadership skills".

Nevertheless, in the current study, 48.9% of the women did under-rate their ability to Inspire and 40% under-rated their ability to Challenge, two of the hallmarks of transformational leadership. Although there were no significant differences by personality type preference, one implication of this research is that some of the female leaders in this study may lack self-confidence or self-awareness of their transformational leadership abilities. These results, in conjunction with the results of the t-Tests that examined congruence between self-scores, manager-scores, and observer-scores indicate that further research needs to be conducted of self-perception accuracy of female leaders.

Research has shown that individuals with perceptions of their own leadership that were similar to the perceptions that others had of them were more successful as leaders (Roush & Atwater, 1992). Consequently, the female leaders in the sample group who did under-rate their own transformational leadership competencies, may be viewed as less effective leaders because under-rating oneself may suggest weakness, meekness, cautiousness, and lack of confidence rather than those traits valued in leaders such as strength and confidence (Turkel, 2008). The results are also interesting because many self-concept theorists assume that people are motivated to maintain and enhance their self-esteem and therefore have unrealistically positive self-perceptions (John & Robbins, 1994), yet this was certainly not true with the female leaders in this study. In previous MBTI personality research, three of five studies found that Extraverts tended to overrate themselves relative to how they were seen by others (Van Velsor & Fleenor, 1997). However, none of the previous studies utilized the LPI as a measure of transformational
leadership nor were the samples comprised of females in leadership positions. Therefore, in the present study it is unclear at this point whether the divergent results are related to the domains measured by the LPI or to characteristics of the female leader sample.

Implications of the Findings for Organizations and Leadership Development Practitioners

The present study indicates that MBTI personality preference is related to various transformational leadership strengths and developmental needs of the female hospital leaders. Although leaders with a preference for Extraversion, Intuition, Feeling, and Perceiving were significantly more likely to have stronger self-identities and reputations as transformational leaders than their counterparts, all of the females in the study exhibited various aspects of the transformational leadership behaviors measured on the LPI. Moreover, they all had areas in which they could show improvement.

Development as a leader typically parallels the development of personality type (Richmond, 2005). Frequently leadership development initiatives are focused on the areas that need the most improvement which are often related to the most underdeveloped part of one's personality (Van Velsor & Fleenor, 1997). Therefore, making a change in behavior can be particularly difficult because these areas for development may involve behaviors that the leader does not enjoy or value (Van Velsor & Fleenor). For example, leaders who prefer Thinking frequently discover that career advancement requires "soft" skill development, such as effectively influencing others and working well with a wide range of people (Richmond, 2005). Hence, helping participants understand the value of engaging in transformational leadership behaviors and then coaching them in how to develop these practices, based upon their own personality type preferences, may have substantial benefits to both the individual and the organization.
These findings also suggest that the female hospital leaders in this study, as evaluated by self and others, are transformational in nature. Nevertheless, they did underestimate their perceived effectiveness as transformational leaders, regardless of personality type preference, and therefore appear to be lacking self-confidence. Self-confidence has been identified, in numerous other studies, as having a key role in transformational leadership practices (Ross & Offerman, 1997). The MBTI can assist those engaged in leadership development gain clarity about the leadership strengths of their type and learn how to avoid potential blind spots (Pearman, 1999). When used in conjunction with the LPI, the MBTI may also boost self-confidence, build self-identity, and ultimately assist leaders in stepping forward toward greater performance and satisfaction.

**Study Limitations**

There are several limitations of this study. The first major limitation is that the LPI data analyzed is 360-degree feedback, a form of subjective information and is subject to bias. The information was gathered at a single point in time from anonymous respondents who were expressing their opinions, attitudes, experiences, expectations, and observations about the leadership behaviors of the person being evaluated on a 10 point Likert scale. The rating scale runs from 1-10, with a score of 1 indicating that the leader "Almost Never" engages in the leadership practice and a score of 10 indicating that the leader "Almost Always" engages in the leadership practice (Kouzes & Posner, 2003). According to the authors, if an observer felt that a statement did not apply a score of three or lower should be assigned indicating that it's probably because the observer did not see or experience the behavior. There was much room for subjective interpretation on the part of the raters and the ratees.
A second limitation of the study was that the leader, as well as her manager, direct reports, peers, managers and non-designated others were asked to report on the leader's behavior. However, the leader was allowed to solicit the feedback from the raters of her choice. Therefore, the number of raters per leader varied. The number of raters per leader ranged from 3 to 20, which thereby impacted the quality and depth of the feedback. Furthermore, for purposes of this research the manager was separated into a distinct category, but the other raters were grouped together into an observer category. This may partially explain the lack of significant results from an observer perspective.

A small sample size was another major limitation of the study. Because the number of subjects in this study was not large, the analyses were done in terms of the dichotomous MBTI preferences, and cognitive function pairs, rather than MBTI types. This procedure provided appropriate cell sizes for computations, and therefore permitted meaningful behavioral considerations, but it did not allow for analysis of full type. The distribution of preferences for the subjects of the study was as follows: E/I index = 47/45, S/N index = 49/43, T/F index = 36/56, J/P index = 54/38, ST = 20, SF = 29, NT = 16, NF = 25.

Self-perception bias may be another limiting factor of this study. Because the MBTI is a self-report instrument, and the leaders had the opportunity to verify their type according to Myers-Briggs procedures, there may be some self-perception bias in type choices. Often in organizations, the environment of the organization or the dominant type of the organization, interferes with the natural inclinations and preferred processes of an individual (Fitzgerald, 1997). There is some evidence that managers of all types value the organizational culture, characterized in type terms as STJ, and may modify their behaviors accordingly (Walck, 1997).
Lack of demographic information and personality type preferences of the raters, as well as the type distribution of all hospital employees, is the final limitation of the study. The information was not collected or available to the researcher. Research demonstrates that perceptions of leadership are influenced by follower characteristics, including personality (Northouse, 2007; Schyns & Sanders, 2007). Individuals who perceive themselves to be similar to their leaders are more attracted to the leaders than those who do not (Schyns & Sanders, 2007).

**Ideas for Future Research**

Further studies are needed to find out the effect of personality, gender, and organizational level on the raters’ appraisals of female leaders, by personality type preference, as well as the type distribution of the organization in which the study is conducted. Although studies utilizing both the MBTI and the LPI are expensive undertakings for large sample groups, the research generated could advance the study of the effect of personality on transformational leadership as well as contribute to the understanding of female leadership. This current research should be replicated on female leaders in other hospitals, or in other predominately female allied health professions like social work or occupational therapy, to confirm the research results.

More research on application and intervention using type theory in management and leadership settings is needed. In order to advance the field of leadership development, a follow-up study on this sample should be conducted to determine if people have a differential propensity to change as a function of their MBTI type. The study should examine the behavioral changes that occurred as a result of the feedback by re-administering the LPI to the female hospital leaders. This stream of research could determine if MBTI type differences play an important part in willingness to change as well as examine the effectiveness of the leadership development program.
A qualitative study conducted in a natural setting, such as a hospital workplace, to examine how each type shows leadership and what strategies can be used to enhance leadership in each type would be beneficial to the study of the relationship between personality and transformational leadership behaviors as well as to leadership development.

To close the gender gap in health care leadership a mixed-method study should be conducted to examine the effect of personality on career attainment in health care. It would be interesting to know why women are not advancing in their careers despite the fact that they comprise 78% of the health care industry's workforce. Are there career barriers, gender barriers, and educational barriers that are negatively impacting advancement, or perhaps is career advancement a function of personality type preference?

**Conclusion**

The objective of this study was to examine the relationship between personality type, self-perception accuracy, and transformational leadership practices of female hospital leaders. This preliminary study shows that a female leader's preferences for Extraversion (E), Intuition (I), and Perceiving (P) contribute to their self-identity and reputation as a transformational leader in a hospital environment. Moreover, the Feeling (F) preference and the Intuition/Feeling (NF) cognitive function also contribute to self-identity as a transformational leader. However, the findings did not find a significant relationship between personality type preference and self-perception accuracy which contradict propositions put forth by other theorists on the topic. This discrepancy may stem from differences between the situations studied, the context of the research, and demographic differences such as gender, age, and educational attainment. Future research may succeed in substantiating these claims. Although there were noted limitations in this study, the implications and conclusions drawn were derived from the researcher's
translations of current and previous research on the impact of personality on leadership effectiveness. On the basis of these findings, it is reasonable to conclude that in studying leadership effectiveness in a health care environment, personality does matter. Future research into the potential contribution of the Myers Briggs personality type approach to leadership effectiveness should explore the degree to which this may apply in other leadership situations.
REFERENCES


Demarest, L. (1997). *Looking at type in the workplace*. Gainesville, FL: Center for Applications of Psychological Type, Inc.


Lawrence, G., & Martin, C. (2001). *Building people, building programs*. Gainsville, FL: Center for Application of Psychological Type, Inc.


Roush, P. E. (1997). Type, leadership feedback, and willingness to change. In C. Fitzgerald & L. K. Kirby (Eds.), *Developing leaders: Research and applications in psychological type and leadership development*. Mountain View, CA: Davis-Black.


