

THE RELATIONSHIP BETWEEN LEADERSHIP STYLES OF DIRECTORS OF  
ACCREDITED HIGHER EDUCATION RESPIRATORY CARE PROGRAMS AND  
FACULTY SATISFACTION, WILLINGNESS TO EXERT EXTRA EFFORT,  
PERCEIVED DIRECTOR EFFECTIVENESS, AND PROGRAM OUTCOMES

by

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A Dissertation Submitted to the Faculty of the  
College of Education  
in Partial Fulfillment of the Requirements for the Degree of  
Doctor of Philosophy

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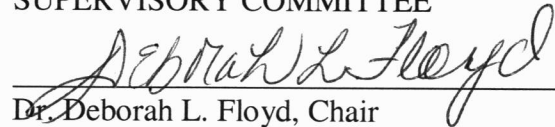
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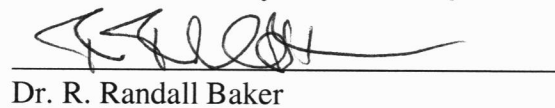
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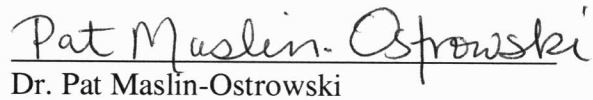
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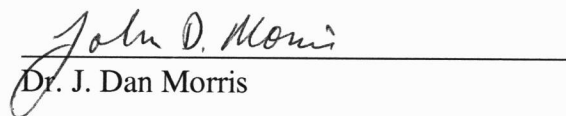
This dissertation was prepared under the direction of the candidate's dissertation advisor, Dr. Deborah L. Floyd, Department of Educational Leadership, and has been approved by the members of her supervisory committee. It was submitted to the faculty of the College of Education and was accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

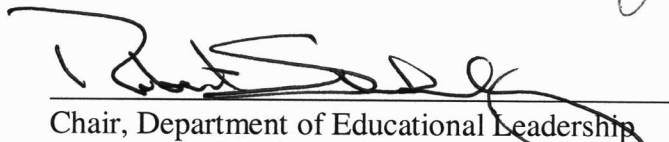
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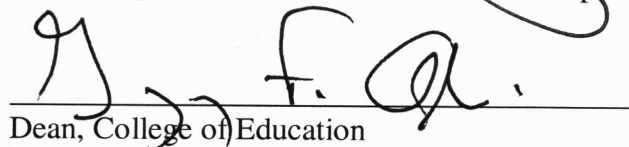
  
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## ABSTRACT

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Title: The Relationship Between Leadership Styles of Directors of Accredited Higher Education Respiratory Care Programs and Faculty Satisfaction, Willingness to Exert Extra Effort, Perceived Director Effectiveness, and Program Outcomes

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The purpose of this study was to examine the leadership characteristics of respiratory care program directors' and determine the relationship between the director's leadership style, effectiveness, faculty satisfaction, extra effort, and program outcomes. Differences between the directors' perceived leadership style and faculties' perception of the directors' leadership style were also examined. Directors' leadership styles were measured by the Multifactor Leadership Questionnaire (MLQ). Director, faculty and program information was measured with a researcher-designed questionnaire. CoARC accredited program directors (n=321) and their full and part-time faculty (n=172) received an e-mail and a web link to obtain demographic information. All participants received an e-mail from Mind Garden, Inc. with a web link to complete the MLQ.

Regression analysis and *t* tests were used to analyze the data. The results found a significant relationship between faculty satisfaction, extra effort, and perceived director effectiveness and each of the predictors transformational, transactional, and passive/avoidant leadership behaviors. There was no relationship between program director leadership style and program outcomes. This study found no difference between the directors' and the faculties' perception of the directors' transformational and transactional leadership behaviors. However, there was a significant difference between the directors' and the faculties' perception of the directors' passive/avoidant behavior.

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## Chapter 1

### Introduction

The future of higher education leaders in the field of respiratory care is precarious. According to a national respiratory care human resource survey, a critical shortage of educators is expected, as nearly half of all the respiratory care program directors report that they will retire within the next 10 years (Dubbs, 2006). To further complicate matters the Bureau of Labor Statistics (BLS) expects employment of respiratory therapists to increase faster than the average over all other occupations, increasing from 21 to 35 percent, while graduation rates have fallen 41 percent since 1999 (Ellwood, 2003). The combination of these variables will further exacerbate the shortage of respiratory care professionals. The leadership of the current and future program directors in respiratory care education will be essential in the transformation and the future of the respiratory care profession.

#### *The History of Respiratory Care Education*

The current profession began with the development of oxygen therapy devices circa 1907, and a need developed for “oxygen orderlies” to set up the appropriate equipment and to monitor patients (Burton, Hodgkin, & Ward, 1997). By the 1940s it was apparent that oxygen orderlies were the least educated medical professionals and frequently the most directly responsible for the patient’s life (Helmholz, 1989). The mainstay of training was self-education, oxygen orderlies received on-the job training and hospital in-service education as primary methods of instruction (Standridge, 1998).

According to Burton et al. (1997) the educational dilemma, was solved in the late 1940s by a group of “Cylinder Jockeys”, who got together in a Chicago hospital and formed the “Inhalation Therapy Association” (ITA) for the purpose of training, education, and to improve their image. ITA, now known as the American Association for Respiratory Care (AARC), was the forerunner of education in the respiratory care profession.

Professional education was advanced in 1956 by a group of New York doctors who developed plans for schools of inhalation therapy resulting in the guidelines “Essentials of an Acceptable School for Inhalation Therapy Technician.” This was the first attempt at designing a curriculum and specifying conditions of training and in 1960 was approved by the American Medical Association (AMA) (Helmholz, 1989).

According to Kacmarek and Gross (1983) in 1969 the registry-training programs were initially 1 year, then 18 months, and eventually 2-year programs. While technician-training programs were half as long or approximately one year, these programs collectively were called “one plus one” and were widely practiced until 2001. Kacmarek and Gross go on to further discuss the establishment of the first baccalaureate program in respiratory therapy in 1969 at the University of Missouri at Columbia, soon followed by the University of Central Florida, Georgia State University, and the University of New York at Stony Brook. In some of these programs, no additional respiratory therapy courses were required after the first two years, and the focus thereafter was on liberal arts, management, education, or research (Kacmarek & Gross). Currently, there are approximately 422 accredited respiratory care programs in the United States (Committee

of Accreditation for Respiratory Care [CoARC], n.d). As the number of respiratory care programs continues to grow, so does the need for program directors.

### *Respiratory Program Directors*

Future expectations require higher education programs in respiratory care to keep pace with the knowledge and skills needed for the advancement of the profession. The program director must possess the leadership qualities necessary to provide for the needs and expectations of the community in which they serve. According to the Standards and Guidelines for the Profession of Respiratory Care (Commission on Accreditation of Allied Health Education Programs [CAAHEP], 2003), the community consists of not only the public and the health care system, but of students, faculty, and college administration as well. In the leadership role, the program director is responsible for the implementation of the programs mission statement and providing the goals of the program. The ultimate responsibility for accountability rests on the respiratory care program director. Not only are they responsible for the program curriculum development but for the organization, administration, review, and accountability of program outcomes as established by the CoARC. According to CoARC, program outcomes include program and credentialing exam pass rates, graduate and employer satisfaction, and job placement rate (CoARC). These minimum thresholds must be reported annually by program directors to CoARC. It is clear that strong leadership is necessary for the future of respiratory care. However, we know little about it.

### *Rationale of the Study*

There is little research about the leadership styles in respiratory care. One dissertation was found regarding leadership styles of respiratory care hospital department managers (Parkman, 2001) and no research was found regarding leadership styles in respiratory care educational programs. The combination of the rise in the employment rates of respiratory therapists faster than the average over all other occupations and the decline in graduation rates further exacerbates the shortage of respiratory care professionals. Therefore, the leadership of the current and future program directors in respiratory care education will be essential in the transformation and the future of the respiratory care profession. Bass (1985) advised that transformational leaders will materialize in times of growth, change, or crisis.

In order to help fill the void in the literature, further research into the leadership styles of higher education program directors in respiratory care is warranted because in order for programs to grow, strong and effective leadership is imperative.

### *Conceptual Framework*

The conceptual framework utilized for this study was Bass and Avolio's (1994, 2004) transformational and transactional model of leadership. The *Full Range of Leadership Model* differentiates between transformational, transactional, and passive/avoidant leadership behaviors. The model consisted of nine factors that include five transformational behaviors: idealized influence (attributed), idealized influence (behavior), inspirational motivation, intellectual stimulation, and individualized consideration; two transactional behaviors (contingent reward and management-by-exception (active)), two passive/avoidant behaviors: management-by-exception (passive)

and laissez-faire. The above factors are identified and measured by Avolio and Bass's survey instrument the *Multifactor Leadership Questionnaire* (MLQ) (2006).

Additionally, the MLQ measured the following outcomes: follower's satisfaction with their leader, follower's willingness to exert extra effort, and perceived leader effectiveness.

Building upon the conceptual framework as established by Bass and Avolio, this theoretical model additionally used program outcomes as established by CoARC obtained through a researcher designed questionnaire that included the following program director reported outcomes: program completion rate, credentialing exam pass rate, and job placement rate (see Table 1).

Table 1

*Conceptual Framework*

Leadership Behaviors (MLQ) (Avolio & Bass, 2006)	Faculty Outcomes (MLQ) (Avolio & Bass, 2006)	Program Outcomes Researcher Survey
Transformational Leadership	Satisfaction	Program Completion
Idealized Influence (Attributed)	Extra Effort	Credentialing Exam
Idealized Influence (Behavior)	Effectiveness	Job Placement Rate
Inspirational Motivation		
Intellectual Stimulation		
Individualized Consideration		
Transactional Leadership		
Contingent Reward		
Management-By-Exception (Active)		
Passive/Avoidant		
Management-By-Exception (Passive)		
Laissez-Faire		

### *Purpose of the Study*

The purpose of this study was to investigate the leadership behaviors of program directors of all accredited higher education respiratory care programs located in the United States. Specifically, the aim of this research was to (a) establish the relationship between the directors' leadership style and faculty satisfaction with the leader, (b) determine the relationship between the directors' leadership style and faculty willingness to exert extra effort, (c) clarify the relationship between the directors' leadership style and perceived director effectiveness, (d) investigate the relationship between the directors' leadership style and program outcomes. Finally, this study explored the differences between the directors' perceived leadership style and faculties' perception of the directors' leadership style.

### *Research Questions*

The following research questions were the focus of this study:

1. What is the relationship between the directors' leadership style and faculty satisfaction with the leader?
2. What is the relationship between the directors' leadership style and faculty willingness to exert extra effort?
3. What is the relationship between the directors' leadership style and perceived director effectiveness?
4. What is the relationship between the directors' leadership style and program outcomes?
5. What is the difference between the directors' perceived leadership style and the faculties' perception of the directors' leadership style?



## *Hypotheses*

The researcher proposed the following null hypotheses related to the leadership styles of directors of accredited higher education respiratory care programs and faculty satisfaction, willingness to exert extra effort, perceived director effectiveness, and program outcomes.

1. There is no relationship between the directors' leadership style and faculty satisfaction with the leader.

2. There is no relationship between the directors' leadership style and faculty willingness to exert extra effort.

3. There is no relationship between the directors' leadership style and perceived director effectiveness.

4. There is no relationship between the directors' leadership style and program outcomes.

5. There is no difference between the directors' perceived leadership style and the faculties' perception of the directors' leadership style.

## *Definition of Terms*

*Respiratory Care Program Director* is the person responsible for the organization and administration of the program. Additionally they are responsible for curriculum development, program effectiveness, program evaluation, and program outcomes (CAAHEP, 2003).

*Respiratory Care Full-Time Faculty Member* any person that is employed by the educational institution or by a clinical affiliated institution classified as full-time,

whose responsibilities include instruction in the classroom, and/or laboratory and/or clinical setting (Shaver, 2003).

*Respiratory Care Part-Time Faculty Member* any person that is employed by the educational institution or by a clinical affiliated institution classified as part-time whose responsibilities include instruction in the classroom, and/or laboratory and/or clinical setting (Shaver, 2003).

*Committee of Accreditation for Respiratory Care (CoARC)* is an agency in conjunction with CAAHEP, whose mission is to provide quality educational services through accreditation (CoARC, n.d.).

*Commission on Accreditation of Allied Health Education Programs (CAAHEP)* is the largest programmatic accrediting agency in the health sciences field and is recognized by the Council for Higher Education Accreditation (CHEA) (CAAHEP, n.d.).

*Standards and Guidelines for the Profession of Respiratory Care* is the document established by CAAHEP (2003) and discusses the minimal requirements of quality in which programs are held accountable (CoARC, n.d.).

*Accredited Respiratory Care Program* is a program that is accredited by the CAAHEP in collaboration with CoARC where graduates are recommended to the National Board for Respiratory Care as eligible for credentialing exams (CoARC, n.d.).

*National Board for Respiratory Care* is a voluntary organization designed to evaluate the professional competence of respiratory care practitioners (NBRC, 2006).

*Passive/Avoidant Behavior* has negative an impact on followers and includes the following two factors: management-by-exception (passive) and Laissez-faire.

1. *Management-by-exception (passive)* (MBEP) refers to leaders who fail to become involved until things go wrong. These leaders are considered passive or “reactive” to situations (Avolio & Bass, 2006).
2. *Laissez-faire* (LF) is the absence of leadership which includes a lack of involvement, lack of decision making, and not responding to questions when needed (Avolio & Bass, 2006).

*Transactional Leadership* refers to a contingency leadership style where the leader will reward or discipline the follower based on their performance (Avolio & Bass, 2006). Contingent reward has been found to be less effective than transformational leadership. Transactional leadership includes the following two factors: contingent reward and management-by-exception (active) (Avolio & Bass, 2006).

1. *Contingent reward* (CR) refers to leaders who set clear goals and rewards followers for meeting or exceeding expectations (Avolio & Bass, 2006).
2. *Management-by-exception (active)* (MBEA) refers to leaders who set standards for compliance. Mistakes are tracked and followers may be punished for not being in compliance (Avolio & Bass, 2006).

*Transformational Leadership* is an extension of transactional leadership and the means by which leaders are able to motivate their followers to achieve high expectations and more than thought possible (Avolio & Bass, 2006). Avolio and Bass’s model of transformational leadership includes the following five factors: idealized influence (attributed and behavior), inspirational motivation, intellectual stimulation, and individualized consideration.

1. *Idealized influence (attributed)* (IA) refers to leaders whose followers are proud to be associated with them (Avolio & Bass, 2006).
2. *Idealized influence (behavior)* (IB) means when a leader exhibits both ethical and moral model behavior in which followers want to emulate. The leader places a priority of others needs over his own and displays consistent behavior (Avolio & Bass, 2006).
3. *Inspirational motivation* (IM) refers to leadership behaviors that inspire and motivate others around them. The leader has the ability to communicate a vision and exudes enthusiasm (Avolio & Bass, 2006).
4. *Intellectual stimulation* (IS) is a means by which the leader is able to solicit new innovative and creative ideas from followers (Avolio & Bass, 2006).
5. *Individualized consideration* (IC) refers to the leader in the role of a mentor with the ability to help develop follower's potential (Avolio & Bass, 2006).

*Program Outcomes* are the result of the educational process and can be demonstrated through the following:

1. *Program completion rate* is the number of students that complete the program compared to the number of students initially enrolled in the program (CoARC, n.d.).
2. *Credentialing exam pass rate* is the percentage of program graduates that pass the National Board for Respiratory Care (NBRC) Entry-Level examination, and the NBRC Written and Clinical Simulation Registry examination (CoARC, n.d.).

*Job placement rate* or “positive placement” is the percentage of program graduates that are employed full or part-time in a related field and/or continuing his/her

education and/or serving in the military after graduation from the program  
(CoARC, n.d.).

*Leadership Outcomes* as indicated by the three items measured by *MLQ* in order to assess the leaders' (directors') performance as perceived by followers (faculty).

1. *Faculty Satisfaction* is the degree to which followers (faculty) are satisfied with the leaders' (directors') method of leadership and ability to work with others (Avolio & Bass, 2006).

2. *Effectiveness* is the ability of the leader (director) to meet the followers (faculty) job related needs, represent the group at higher levels, and meet organizational requirements (Avolio & Bass, 2006).

3. *Extra Effort* refers to the leader (director) ability to influence the followers (faculty) to do more than expected, to try harder, and to increase their desire to want to succeed (Avolio & Bass, 2006).

### *Significance of the Study*

There is limited research that has been published about leadership styles in allied health programs. The majority of the studies are in the school of nursing (Archie, 1997; Chen, 2005; Chen, Beck, & Amos, 2005; King, 1994; Shieh, Mills, & Waltz, 2001).

There is one study on occupational therapy education leadership styles (Reiss, 2000) and three studies on radiography program director leadership styles (Aaron, 2005; Kistler, 1988; Shaver, 2003). The study of leadership styles in respiratory care is limited to one dissertation that utilizes Bass's model of transformational and transactional leadership theory as it applies to respiratory care management in the hospital setting which found a significant relationship between leadership style and department manager effectiveness as

perceived by staff respiratory therapists, satisfaction with their leader, and willingness to exert extra effort (Parkman, 2001). Research in respiratory care education has been limited to organizational effectiveness and quality outcome (Ari, 2005; Cisneros-Blagg, 1984; Riehl, 2002; Walker, 2004), national board exam performance outcomes (Kacmarek, 1984; O'Daniel, 1987), clinical performance (Collins, 1992; Horadan, 1984; Lee, 2002), and student retention (Watson, 2002). Extensive searches found no research on leadership styles in respiratory care programs. This study will help fill a void about leadership styles in respiratory care programs and will serve as a foundation for further research.

#### *Limitations and Delimitations*

The following limitations for the study included:

1. The program directors' leadership style, perceived program director effectiveness, facilities' satisfaction and willingness to exert extra effort, was limited by the accuracy of the directors' perception.
2. Faculty was selected by the program director for participation and their survey rating of the program directors' leadership style, perceived program director effectiveness, facilities' satisfaction, willingness to exert extra effort, was limited by the accuracy of the faculties' perceptions.
3. Program demographic information collected was self reported by the program director and was limited to the accuracy of the information provided.
4. The program directors' response rate (24%, n = 78) for the researcher-designed questionnaire was a limitation due to the small sample size.

5. The faculties' response rate (30.8%, n = 53) for the researcher-designed questionnaire was a limitation due to the small sample size.

6. The program directors' response rate (17%, n = 55) for the MLQ-S (5x-Short) was a limitation due to the small sample size.

7. The faculties' response rate (87.8%, n = 151) for the MLQ-R (5x-Short) was a limitation due to the small sample size.

8. The utilization of online survey was a limitation and may have resulted in a smaller sample size, thereby limiting the generalizability of the findings to the rest of the program director population.

The following delimitations for the study included:

9. This study only collected data for permanent full-time program directors of accredited higher education respiratory care programs within the United States. Interim program directors, program directors with less than six months experience and the researcher's program were excluded from this study.

10. Three year averages of program outcomes were obtained from the CoARC 2007 annual report. New programs that did not have the outcome data available in order to compile a three year average were also excluded from this study.

## Chapter 2

### Literature Review

The purpose of this study was to investigate the leadership behaviors of program directors of both public and private accredited respiratory care programs located in the United States. Specifically, the aim of this research is to (a) establish the relationship between the directors' leadership style and program outcomes, (b) clarify the relationship between the directors' leadership style and perceived director effectiveness, (c) to examine the relationship between leadership style and faculty satisfaction and faculty willingness to exert extra effort. Additionally, this study explored the differences between the directors' perceived leadership style and faculties' perception of the directors' leadership style.

Program directors in respiratory care higher education programs may also be the department chair, and much of the literature focuses on the department chair with minimal research available regarding program directors in respiratory care. Therefore, the variables of significance for this literature review include: transformational and transactional leadership behaviors, literature review of the MLQ and allied health educational programs, the role of the department chair, the role of department chair in allied health programs, the role of the program director in respiratory care programs, program accreditation and quality assurance, leadership effectiveness, faculty motivation and job satisfaction. A comprehensive literature review of all the subject matter applicable to these variables has been explored in the following sections of this chapter.



### *Transformational and Transactional Leadership*

The difference between transformational and transactional leadership was first noted by Downton (1973) in *Rebel Leadership: Commitment and Charisma in a Revolutionary Process*. Transformational leadership theory was taken to a higher level by Burns (1978) in his fundamental piece of work, *Leadership*. Although Burns did not coin the term transformational leadership, he moved the concept forward when he suggested that the leader's purpose should be aligned with their followers and where effective leaders are evaluated by their ability to make social changes. Burns defines transformational leadership as "The transforming leader looks for potential motives in followers, seeks to satisfy higher needs, and engages the full person of the follower" (p. 4). Furthermore, Burns believed that transformational leadership "occurs when one or more persons engage with others in such a way that leaders and followers raise one another to higher levels of motivation and morality" (Burns, p. 20). The ultimate result of this leadership style is a mutual relationship between the leader and the follower, which changes followers into leaders and leaders into moral change agents.

Meta-analysis research by DeGroot, Kiker, and Cross (2000); Lowe, Kroeck, and Sivasubramaniam (1996); Patterson, Fuller, Kester, and Stringer (1995) supports Burn's notion of transformational leadership when they suggest that transformational leadership behaviors and to a lesser degree transactional leadership behaviors primary focus is on follower development. The result of the above studies lends substantial support that transformational leadership has a positive correlation with follower development, performance, job satisfaction, and leader effectiveness.

However, Burns (1978) clearly makes a distinction between extraordinary transformational and ordinary transactional leaders and considered them to be at opposite ends of the spectrum (Bass, Avolio, Jung, & Berson, 2003). Extraordinary transformational leaders engage with their followers, focus on follower intrinsic needs, raise the follower's awareness about the significance of specific outcomes, and define new ways in which those outcomes can be achieved (Barnett, McCormick & Conners, 2001; Gellis, 2001; Judge & Piccolo, 2004).

Transactional leadership meanwhile is based on the assumption that people are motivated by reward and punishment. In general, transactional leadership meant that followers complied with the leader's expectations in exchange for a reward or to avoid a punishment (Podsakoff, Todor & Skov, 1982). Transactional leaders use the notion of bartering or contingent reward with their followers for work and loyalty. For example, if you come in and work overtime, I will pay you an additional five dollars an hour. Transactional leadership can also be based on punishment, if you do not meet your quota, you are fired. Punishments may not always be mentioned, but are generally understood (Barnett et al., 2001; Gellis, 2001; Judge & Piccolo, 2004).

Burns (1978) was not alone regarding his theory of transformational leadership and is considered synonymous with House's (1976) theory of charismatic leadership (Northouse, 1997). House surmised that charismatic leaders are able to influence their followers with their dominance, self-confidence, and strong moral values. Additionally, charismatic leaders behave in ways they wish their followers to emulate by acting as role models, displaying competence, articulating their goals and having high expectations of their followers (Northouse).

Bass (1985) furthered transformational/charismatic theory research based on, but not limited to both Burns (1978) and House (1976) theoretical models. Burns suggested that transformational leadership does not replace transactional leadership instead transformational leadership augments transactional leadership. Transactional leadership is often seen at lower levels of the leader's performance or change (Bass & Avolio, 1994).

In the "Full-Range" leadership model Bass and Avolio (1994) describe transformational leaders as those whose charismatic behavior exert additional influence over their followers by expanding the follower's goals, inspire and motivate followers, and provides the follower with the confidence to exceed expectations. The "Full Range" includes leadership behaviors that are highly transformational at one end and those that are highly avoidant at the other end of the spectrum (Bass & Avolio, 1994).

The transformational leader influences, motivates, and provides the follower with intellectual stimulation and individualized consideration. This concept is what Bass (1985) refers to as the "Four I's" and includes the following five leadership factors: idealize influence (attributed and behavior), inspirational motivation, intellectual stimulation, and individualized consideration. The first leadership factor, idealized influence includes the following two factors attributed and behavior. Idealized influence (attributed) refers to leaders whose followers are proud to be associated with them because they do what they are expected to do. The second factor, idealized influence (behavior) means when a leader exhibits both ethical and moral model behavior in which followers want to emulate. The leader places a priority of others needs over his/her own and displays consistent behavior. The third factor, inspirational motivation refers to leadership behaviors that inspire and motivate others around them. The leader has the

ability to communicate a vision and provide clear expectations. The leader exudes enthusiasm in which followers want to help perform the task and to get it done. The fourth factor, intellectual stimulation is a means by which the leader is able to solicit new innovative and creative ideas from followers. The fifth factor, individualized consideration refers to the leader in the role of a mentor with the ability to help develop follower's potential (Bass & Avolio, 1994).

Additionally, Avolio and Bass (1991) "Full-Range" leadership model describes transactional leaders as those who set goals, state and clarify desired outcomes, give feedback, and provide rewards for those who produce those outcomes. Transactional behaviors include: contingent reward and management-by-exception (active). The first contingent reward refers to leaders who set clear goals and rewards followers for meeting or exceeding expectations. The second management-by-exception (*active*) refers to leaders who set standards for compliance. Mistakes are tracked and followers may be punished for not being in compliance (Bass & Avolio, 1994).

Finally, Avolio and Bass (2006) "Full-Range" leadership model describes two passive/avoidant behaviors: management-by-exception (passive) and laissez-faire. The first management-by-exception (passive) refers to leaders who fail to become involved until things go wrong. These leaders are considered passive or "reactive" to situations. The second laissez-faire is the absence of leadership which includes a lack of involvement, lack of decision making, and not responding to questions when needed (Avolio & Bass, 2006).

Of great significance for the future of transformational leadership research, Bass (1985) developed the Multifactor Leadership Questionnaire (MLQ) survey instrument

that was designed to find new ways to recognize successful and effective leaders (Avolio, Bass & Jung, 1999). The MLQ consists of 45 items that are able to identify and measure effective leadership traits and behaviors that promote organizational success. More specifically, the MLQ measures leadership styles ranging from passive, to those who give followers contingent rewards, to those who transform their followers into leaders. The MLQ can assess the leadership style of the leader at any level within the organization. Leader's can use the MLQ to measure their own leadership style and it can be used by the follower's to rate their leader's (Bass & Avolio, 2004). The MLQ has been tested and revised numerous times over the past 20 years, and is considered the benchmark measure used in transformational leadership research (Avolio, Bass & Jung).

#### *Literature Review of the MLQ and Allied Health Education Programs*

There is limited research that has been published about leadership styles in allied health educational programs utilizing the MLQ. The majority of the studies are in the school of nursing (Archie, 1997; Chen, 2005; Chen et al., 2005; King, 1994; Shieh et al., 2001). There is one study on occupational therapy education leadership styles (Reiss, 2000) and two studies on radiography program director leadership styles (Aaron, 2005; Shaver, 2003).

Archie (1997) utilized the MLQ to survey 42 associate degree department heads and 189 full-time nursing faculties in order to assess transformational, transactional, laissez-faire behaviors and faculty satisfaction, willingness to exert extra effort, perceived department head effectiveness. Archie found that department heads are transformational and to a lesser extent transactional leaders. The transformational leadership model was a significant predictor for perceived department head effectiveness, faculty satisfaction and

extra effort. Archie did not find that the transactional model was a significant predictor for perceived department head effectiveness, faculty satisfaction and extra effort.

Chen (2005) utilized the MLQ and the Minnesota Satisfaction Questionnaire (MSQ) to survey 244 nursing school faculties from nine schools. Chen found that Taiwanese nursing directors were more transformational leaders than transactional or laissez-faire. Chen also found that nursing faculty in Taiwan were moderately satisfied with their jobs and they felt that demographic factors and heavy workloads as opposed to the director's leadership style were possible reasons for faculty dissatisfaction with their jobs.

Chen et al. (2005) expanded upon Chen (2005) study and surveyed 18 of Taiwan's higher education nursing schools that had a minimum of 20 full-time faculty members utilizing the MLQ and the MSQ. They found that the transformational leadership factor idealized consideration and the transactional leadership factor contingent reward were positively significant predictors of faculty job satisfaction. The passive management-by-exception leadership factor was a negatively significant predictor for faculty job satisfaction.

King (1994) utilized the MLQ to examine transformational leadership behaviors of deans in the school of nursing and their perceived effectiveness, faculty satisfaction, and willingness to exert extra effort. Two hundred and sixty-four faculty members participated and the results found that transformational leadership behaviors had a significant impact on perceived dean effectiveness, faculty satisfaction, and willingness to exert extra effort.

Shieh et al. (2001) utilized the MLQ and the Nursing Faculty Satisfaction Questionnaire (NFSQ) to determine the leadership style of nursing deans and directors and nursing faculty job satisfaction in 18 Taiwan higher education nursing programs. The researchers found that the transformational leadership factors idealized influence and intellectual stimulation were significant positive predictors along with the transactional leadership factor contingent reward of faculty job satisfaction.

There is one study on occupational therapy education leadership style and the MLQ. Reiss (2000) surveyed 147 occupational therapy professional, technical program directors and clinic administrators in order to assess transformational and transactional leadership behaviors and effectiveness. Additionally, Reiss surveyed between two to five occupational therapy faculty and staff per leader. This study found that technical program directors and clinical administrators scored higher on transformational leadership behaviors and effectiveness than professional program directors. Transactional leadership behaviors were found to have a negative correlation with effectiveness with the exception of contingent reward. Reiss also noted that the self-ratings were higher than the follower ratings.

There were two studies on radiography program director leadership styles and the MLQ. Aaron (2005) utilized the MLQ in order to determine leadership style of 284 radiologic program directors in addition to a Leadership Matrix that measures the level of importance of responsibilities and satisfaction with leadership skills in relation to the responsibilities of program directors. Aaron found that program directors were mainly transformational leaders while additionally utilizing the transactional leadership factor contingent reward.

Shaver (2003) administered the MLQ to 176 radiography program faculty for the purpose of assessing the relationship between leadership styles of associate degree radiography program directors and faculty satisfaction, willingness to exert extra effort, and perceived director effectiveness. The study found that transformational, transactional, and laissez-faire leadership factors were significantly correlated to faculty satisfaction, willingness to exert extra effort, perceived director effectiveness, and pass rate on the American Registry of Radiologic Technologists (AART) Exam.

#### *The Role of the Department Chair*

In the history of higher education, the division of academia into separate departments is a relatively new phenomenon that began at its earliest stage during the mid 1700s. The notion of departments picked up in earnest during the mid 1800s when the expansion of new knowledge forced institutions to form departments in order to improve the organization and management of the academic institution (Hecht, Higginson, Gmelch & Tucker, 1999).

Defining the role of the department chair appears to be as ambiguous as trying to define leadership. Earlier research on the duties of department chairs according to Moses and Roe (1990) found 40 distinct activities performed by department chairs and Tucker's (1992) *Chairing the Academic Department* discusses 54 distinct performance activities. Creswell, Wheeler, Seagren, Egly and Beyer (1990) also supported these numbers with their research at the University of Nebraska with a documentation of a whopping 97 department chair tasks. These numbers are staggering and frequently these activities are grouped into categories. Many researchers concur that there are four main categories in which the department chairs consistently perform duties and they are as follows: leader,



faculty developer, scholar, and manager (Carroll & Gmelch, 1992; Tucker, 1992; Seagren, Creswell & Wheeler, 1993).

According to Wolverton, Gmelch, Wolverton and Sarros (1999) as leaders, department chairs must create the vision and long-term direction for the department. Additionally, they must be able to plan and evaluate curriculum, conduct departmental meetings, act as an advocate on behalf of the department, and encourage faculty to participate and to share their ideas for departmental improvement. As faculty developers, department chairs must be able to recruit, select, and evaluate faculty. Furthermore, they must be able to motivate and improve faculty morale and provide opportunities for faculty development. Department chairs as scholars need to keep current in their own discipline through teaching and research. Finally, department chairs as managers must be able to maintain the department finances through budgeting, supervision of personnel, record keeping, and the maintenance of supplies and equipment (Wolverton et al.). As a result, successful department chairs must be both effective leaders and effective managers.

#### *The Role of the Department Chair in Allied Health Programs*

Department chairs in allied health programs must meet more qualifications than the typical department chair. They must be able to maintain current licensure or certifications along with remaining current in their field of expertise through the attendance at professional conferences.

Additionally, department chairs of programs that award degrees need to maintain program accreditation, which is extremely important for attracting future students into accredited higher education institutions. Simpson (2004) discusses two advantages for

students that attend an accredited institution that additionally offers accredited programs. An advantage of accreditation is that college credits transfer across institutions as long as the courses meet the same criteria. Registrar offices typically will not accept credits from institutions that have not undergone the stringent accreditation process. Many students may want to continue with their education at another institution once completing their degree. The second advantage accreditation assures is to future employers. Credentials brought by prospective employees from an accredited program of study are assumed to be the result of harder, stronger work than those brought by prospective employees from a non-accredited program. In other words, when employers hire someone that has graduated from an accredited program, they can be assured that the education provided to the student was of utmost quality.

Outcomes and accountability are additionally a hot topic for department chairs of allied health programs. Increased accountability of student satisfaction and educational spending are grounds for change in academia (Anderson, Cuellar, & Rich, 2003). Competition is costly and fierce among institutions to lure future students and many offer resort-like amenities. Few institutions have the president's philosophy at Bates College where "state of the art" facilities is not of the utmost importance. Instead, they rely on the reputation of faculty excellence to lure students into spending over \$40,000 a year (Selingo, 2005). The institution must be able to quantify outcomes. Outcomes can be measured utilizing a variety of methods, including but not limited to, surveying student, curriculum, college/department, and university outcomes (Anderson et al.).

Furthermore, according to Anderson et al. (2003) student outcomes are measured utilizing surveys that assessed student program satisfaction, student involvement,

attrition, test scores, and community service. Curriculum outcomes are measured by course evaluations and accreditation. College and department outcomes are measured employing board exam pass rates, employer satisfaction, employment rates, faculty evaluation, and college ratings. Finally, university outcomes may be measured by external funding, publications, presentations, FTEs, graduate rate, and service hours by faculty. As a result, desirable outcomes and accountability play an important role in program funding, planning, and elimination (“Ensuring Quality”, 2002). Some states may limit funding based on performance and assessment results, and may additionally eliminate programs altogether (“Ensuring Quality”, 2002). To better measure “outcome” data collection may also be based on student skill development and competencies. Focus on competencies in areas such as critical thinking, written and oral communication and computer literacy may be better indicators of quality (Cleary, 2001). It is essential for department chairs of allied health programs to evaluate and be accountable for program outcomes in order to keep their programs functioning well and out of jeopardy.

#### *The Role of the Program Director in Respiratory Care Programs*

Future expectations require higher education programs in respiratory care, to keep pace with the knowledge and skills needed for the advancement of the profession. The program director must possess the leadership qualities necessary to provide for the needs and expectations of the community in which it serves. According to the Standards and Guidelines for the Profession of Respiratory Care (CAAHEP, 2003), the community consists of not only the public and the health care system, but of students, faculty, and college administration as well.

In the leadership role, the program director is responsible for the implementation of the program's mission statement and providing the goals of the program. The ultimate responsibility for accountability rests on the respiratory care program director. Not only are they responsible for the program curriculum development but for the organization, administration, review, and accountability of program outcomes as established by the (CoARC, n.d.). According to the Committee on Accreditation for Respiratory Care CoARC, program outcomes include program and credentialing exam pass rates, graduate and employer satisfaction, and job placement rate. Minimum thresholds established by CoARC must be reported annually by the program director. Program directors must be able to meet the on-going evaluation criteria in order to keep its accreditation status and to assure program quality. The role of accreditation and program quality assurance in respiratory care programs deserves careful consideration and will be further discussed in the next section.

#### *Program Accreditation and Quality Assurance*

In higher education institutions today, most allied health programs are accredited with the intent to hold the program director responsible for program outcomes thus assuring quality. According to the Council for Higher Education (CHEA), the definition of "Accreditation" is the review of quality. The accreditation process is designed to hold institutions and programs accountable for guaranteeing that a quality education is provided to each student. Whether the student takes advantage of this opportunity is the student's personal decision.

According to Aft (2002) benefits of accreditation include assurances to parents and students that a program meets minimum standards, helps programs to determine

strengths and weakness, and provide a means of improvement. Accreditation also assures employers of employee's readiness, and promises taxpayers their money is well spent.

Additionally, Aft (2002) discusses the benefits of accreditation and its assurances that "minimum" standards are met. "Minimum" is the key word. Institutions and programs must go beyond the "minimum" requirements to assure a "quality" education. Allied health programs, in particular, have a duty to assure the public that graduates are of the highest quality. "Efforts to assure high quality of health care have been traced back to 1800 BC, when Hammurabi required physicians to lose a hand if a noble patient died or lost sight as a result of surgery" (Kraft, 1988).

A challenge of accreditation is there is no single definition of quality. It depends on what you are trying to measure. Therefore, quality is determined by what is important to the stakeholder. The stakeholders include all the parties involved. Scrabec (2000) elaborates on the definition of stakeholders when he defines the student as the recipient of help and defines society, industry, and parents as the beneficiaries of that student's quality education.

For instance, program quality may be partially measured, as stated by Vazzana, Winter, and Warner (1997), by "the students' overall professional development based on outcomes tied to marketable skills and work performance" (p. 315). This also ties back to Aft's (2002) statement regarding accreditation as an assurance of an employee's readiness for employment.

In order to assure future employment readiness respiratory care programs are held accountable for program outcomes established by the CoARC in conjunction with CAAHEP. The accreditation of programs is voluntary and is traditionally a peer reviewed

process. Once programs are accredited, they must be periodically reviewed. Generally, this review occurs every 7 to 10 years (Simpson, 2004). However, programs must review themselves on an annual basis by collecting and maintaining information regarding program effectiveness. For example, accredited respiratory care programs are required to maintain annual student, graduate, and employer surveys that are designed specifically to measure program effectiveness. However, an annual program review, reflecting an internal evaluation, should not be confused with the accreditation process.

Haworth and Conrad (1997) view quality more holistically when they discuss the notion that quality is dependent on a number of variables including faculty, resources, student quality and effort, and curriculum requirements. The author's state that there is a strong relationship between faculty education and training, research productivity, funding, and awards received and program quality. Educational resources are imperative to high quality programs as well. Resources include, but are not limited to, human (the number of faculty to students), financial (endowments, faculty salaries, and research funds) and physical (library strength, laboratory, and classrooms). Additionally, students themselves are vital to program quality (Pascarella & Terenzini, 1991) Haworth and Conrad confirm this when they further discuss that students that are involved and motivated are key to high quality programs.

The engagement theory proposed by Haworth and Conrad (1997) demonstrates the possibilities of going beyond the "minimum" requirements to assure quality as defined below:

High-quality programs are those in which student, faculty, and administrators engage in mutually supportive teaching and learning: students invest in teaching

as well as learning, and faculty and administrators invest in learning as well as teaching. Moreover, faculty and administrators invite alumni and employers of graduates to participate in their programs. (p. 27)

When students are engaged in diverse learning experiences, there is a positive effect on their growth and development. For instance, critical dialogue, mentoring, cooperative learning, out of class requirements, hands on, and guest speakers were all found to foster student growth and development (Haworth & Conrad, 1997).

In order to assure quality and successful outcomes, the department chair must be mindful of the different stakeholders, including but not limited to, faculty, students, and administration. Quality programs begin with the hiring and retention of quality faculty. Hiring diverse and engaging faculty requires a two-fold process. The first is to hire faculty members that are valued and that have both a theoretical and applied point of view. Secondly, reward faculty for engaging in scholarly activities and focus on teaching strategies that have positive student outcomes. Across the board, quality institutions deliberately recruit faculty who are willing to go far beyond the status quo (Haworth & Conrad, 1997).

Quality programs must recruit students that are as equally diverse and are as willing to engage themselves as the faculty. Strategies used to cultivate quality students were also two-fold. First, they only admitted students that were well rounded not only academically but also experientially and with a passion for learning as well. Secondly, they screened and admitted students whose professional interests and goals fit together well with the program (Haworth & Conrad, 1997). Student investment in their own learning is essential for successful outcomes.

Finally, quality programs must have the support of engaged leaders who are willing to be actively involved. In order to achieve the goal of attracting and retaining engaged leaders, programs need to hire department or program chairs that would be committed to success. Secondly, the institution engaged administrators and faculty in activities that were designed to support leaders. Leaders who are present and communicative were sought after and preferred for not only assuring but also advancing quality programs (Haworth & Conrad, 1997).

A philosophy that many people have is, *if it ain't broke, don't fix it*. Program directors of any allied health program certainly may meet the minimum standards required for accreditation; however, it will be those that are transformational leaders that are able to assure a quality healthcare program. Transformational department chairs are a different breed than most in that they never settle for the status quo. Their goal is to move onward upward and to continually improve the overall quality of their department.

#### *Leadership Effectiveness*

Leadership effectiveness is the ability of the leader (director) to meet the followers (faculty) job related needs, represent the group at higher levels, and meet organizational requirements (Avolio & Bass, 2006). The term effective means “producing a decided, decisive or desired effect” (*Merriam-Webster*, 2002). In other words, a cause-effect relationship can be implied. Therefore, it can be said that the program directors’ leadership style may have a direct relationship to, or an effect on, program outcomes. Respiratory care program directors are expected to be experts in their field. The question is how effective are they as leaders? An extensive search found no studies regarding the leadership styles of respiratory care program directors. A study by Parkman (2001) found



a significant relationship between hospital respiratory care manager's leadership style and department manager effectiveness as perceived by staff respiratory therapists, satisfaction with their leader, and willingness to exert extra effort.

Effective leadership is necessary in any organization, especially in higher education allied health programs for successful program outcomes. Leaming (2002) states "all leaders, must have a basic set of leadership skills, and they must find ways to create leaders, not followers" (p. 438). The creation of future leaders will be essential for the future of the respiratory care profession.

In order for leaders to be effective they need to be able to understand themselves. According to Little, (2005) interpersonal effectiveness is improved when the doors of communication are opened and information is disseminated among all parties increasing organization productivity. A famous model of communication is Luft and Ingham's (1984) Johari Window. The model can be divided into four quadrants and suggests that people communicate through one of the following four types of awareness: open, blind, hidden, and unknown. The "open" quadrant represents information that is known to both self and to others. The "blind" quadrant represents information that is known to others but not to self. The "hidden" quadrant represents information that is known to self but not to others. The final "unknown" quadrant represents information that is not known to self or others. Oftentimes, leaders may communicate utilizing the "hidden window" and may keep hidden key pieces of information, thereby affecting the perception of others. Additionally, leaders may operate in the "blind" which may lead to biased survey results.

A study by Kim and Yukl (1995) found that leadership effectiveness was more correlated with follower perception over leader self-reported perception. However, many

studies including a couple of leadership in allied health report that leaders rate themselves higher when compared to the ratings of their subordinates which may add to biased survey results (Kistler,1988; Reiss, 2000).

For the purpose of this study, criteria used to measure leader effectiveness were obtained from Avolio and Bass (2006) MLQ (5x-Short). The four areas included: the work effectiveness of the unit, effectiveness of the unit when compared to other units, leader effectiveness in meeting job-related needs, and leader effectiveness in meeting the goals of the organization.

#### *Faculty Satisfaction and Motivation*

As early as the turn of the 20th century, organizations have been interested in studying workers productivity and learning how to get the most bang for their buck from their employees. There are several historical theories that have paved the way in the research of job satisfaction and motivation. Three prominent theories that will be discussed are Mayo's (1933) Hawthorne experiments, Maslow's (1954) hierarchy of need theory, and Herzberg's (1966) theory of motivation.

Franke and Kaul (1978) emphasize that the Hawthorne experiments are fundamentally essential in understanding the social science of the workplace. Mayo's (1933) Hawthorne experiments looked at the physical and environmental conditions in the workplace and the effect on employee productivity. "The Hawthorne Effect" found that it did not matter what aspect of the workplace was manipulated, productivity improved, leading them to conclude that the workers were influenced by the attention the received from the researchers.

Maslow's (1954) hierarchy of need is based on the belief that people are motivated by five "needs." These include physiological (need for food, water, health, etc), safety (need to be safe from danger), belongingness and love (need for positive relationships with others), esteem (need to feel valued and positive self-regard), and self-actualization (need to reach one's full potential). Typically, once the lower levels needs are met, people will attempt to satisfy their higher ordered needs. However, the steps do need to occur in order.

Herzberg's (1966) theory of motivation focused on workplace experiences. *Motivators* lead to satisfaction and include: achievement, recognition, the work itself, responsibility, advancement, and growth. *Hygiene factors* lead to dissatisfaction and include: policy, supervision, relationship with boss and peers, working conditions, and salary. All of these theories support the notion that satisfaction and motivation is more than just how much money you make.

Job satisfaction generally describes how content a person is with their job and is influenced by numerous factors including but not limited to: pay, working conditions, work itself, supervision, policy and administration, responsibility, advancement, salary, interpersonal relationships, recognition and empowerment (Castillo & Cano, 2004). Motivation is defined as a need or desire that causes a person to act (*Merriam-Webster*, 2002). It is important to note that a factor that is not listed above that may have a significant effect on both job satisfaction and motivation is leadership style.

Today job satisfaction and motivation is heading toward a crisis. According to Kimball and Nink (2006), a Gallup Organization research poll showed that only 29 percent of employees are motivated and energized. The Conference Board Reports that

40 percent of workers feel disconnected from their employers and two out of three do not identify with or feel motivated by their employer and how long they stay and productivity is directly related to the quality of relationship they have with their boss (U.S., 2005).

According to Hopkins (n.d.) it is critical for a person to have a sense of belonging in both society and in the workplace. This need is a key factor in dissatisfaction if it is not met.

It is essential for program directors to understand the relationship between their leadership style and faculty satisfaction and motivation. A study by Shieh et al. (2001) found that nursing deans and nursing directors that displayed contingent reward, idealized influence and intellectual stimulation leadership styles produced a higher level of satisfaction with leadership for nursing faculty. Another study by Chen (2005) found that nursing faculty in Taiwan were moderately satisfied with their jobs and they felt that demographic factors and heavy workloads as opposed to the director's leadership style were possible reasons for faculty dissatisfaction with their jobs.

For the purpose of this study faculty satisfaction refers to the degree to which followers (faculty) are satisfied with the leaders' (directors') method of leadership and ability to work with others (Avolio & Bass, 2006). Faculty motivation to exert extra effort is the ability of the leader (director) to influence the followers (faculty) to do more than expected, to try harder, and to increase their desire to want to succeed (Avolio & Bass). The criteria used to measure follower satisfaction with their leader, motivation and leader behavior was obtained from Avolio and Bass MLQ (5x-Short). The MLQ does not measure follower job satisfaction it measures the follower's satisfaction with the leader. The two areas intended to assess follower satisfaction include the satisfaction of leadership methods and the ways in which leaders work. The three areas on the MLQ that

assess the area of follower motivation to exert extra effort include motivation to do more than expected, motivation to try harder, and motivation to succeed.

### *Chapter Summary*

Leadership of the department chair is essential at any college or university and the roles and responsibilities of the chair are many. For allied health program department chairs the roles and responsibilities are much more complicated than just performing the duties of leader, faculty developer, scholar, and manager (Carroll & Gmelch, 1992; Tucker, 1992; Seagren et al., 1993). In respiratory care the allied health department chair may often be the program director. Regardless of title, both must maintain current licensure or certifications along with remaining current in their field of expertise. Additionally, they are ultimately responsible for program quality, accreditation and outcomes including but not limited to program completion, credentialing exam pass rates, and job placement rate.

In order to accomplish such a monumental task, department chairs and program directors need the help of quality faculty. Regardless of how wonderful and qualified a faculty member may be, they will ultimately be influenced by the department chair and program director leadership or the lack thereof. Program directors need leadership skills and must use those skills in order to help create the future leaders of the profession.

Numerous studies have found that transformational leadership and to a lesser degree transactional leadership behaviors to be related to follower development, performance, job satisfaction, and leader effectiveness in the military, business, education and healthcare settings (Aaron, 2005; Archie, 1997; Bass, 1985; Chen, 2005; DeGroot et al., 2000; King, 1994; Lowe et al., 1996; Nischan, 1997; Parkman, 2001; Patterson et al.,

1995; Reiss, 2000; Shaver, 2003; Shieh et al., 2001; Xirasagar, Samuels & Stoskopf, 2005).

Transformational leadership in allied health education programs has been studied specifically in radiography, nursing, respiratory care in the hospital setting. There has not been any research studies conducted on transformational leadership in respiratory care education. Therefore, this study will help fill a void about leadership styles in respiratory care programs and will serve as a foundation for further research.

## Chapter 3

### Methodology

This chapter illustrates the research methodology that was used for this study. The following sections explain the research design, variables, population, method of data collection, instrumentation and data analysis technique.

#### *Research Design*

A similar study on leadership styles of radiography program directors' by Shaver (2003) was used as a framework to shape the focus of this research. The methodology by Shaver included a correlational research design using inferential statistics to examine the leadership characteristics of radiography program directors and to determine whether there was a significant relationship between the director's leadership style and perceived directors' effectiveness, faculties' satisfaction, willingness to exert extra effort, and radiography program outcomes. Shaver's research also looked at the relationship between the radiography program director's demographic information, educational background, and the program director's leadership style.

This study adapted the methodology established by Shaver and included a correlational research design using inferential statistics to examine the leadership characteristics of higher education respiratory care program directors. Additionally, this study determined whether there was a significant relationship between the directors' leadership style and perceived directors' effectiveness, faculties' satisfaction, willingness to exert extra effort, and respiratory care program outcomes. Finally, this study

investigated the differences between the directors' perceived leadership style and the faculties' perception of the directors' leadership style.

#### *Dependent Variables*

The following dependent variables for this study were obtained from the Multifactor Leadership Questionnaire (MLQ, 5x Short) (Avolio & Bass, 2006) and they include: faculty satisfaction, willingness to exert extra effort, and perception of program director's effectiveness. Additional dependent variables include program director reported outcomes: program completion rate, credentialing exam pass rate, and job placement rate.

#### *Independent Variables*

The following independent variables were obtained from the Multifactor Leadership Questionnaire (MLQ, 5x Short) (Avolio & Bass, 2006) and they include the following leadership styles: transformational, transactional and passive/avoidant behaviors. Avolio and Bass's model of transformational leadership includes five factors: idealized influence (attributed and behavior), inspirational motivation, intellectual stimulation, and individualized consideration. Transactional leadership include the following two factors: contingent reward and management-by-exception (active). Finally, Passive/Avoidant Behavior includes the following two factors: management-by-exception (passive) and Laissez-faire which includes a lack of involvement, lack of decision-making, and not responding to questions when needed (Avolio & Bass, 2006).

#### *Population*

The target population for this study included all accredited higher education respiratory care program directors (n = 350) and their full and part-time faculty members



located within the United States. Interim program directors and program directors with less than six months experience and the researcher's program were excluded from this study. Additionally, new programs that did not have the outcome data available in order to compile a three year average were also excluded from this study.

#### *Data Collection Method*

All accredited higher education respiratory care program directors in the United States (n = 350) were invited to participate in this study. The directors' names and e-mail addresses were public and readily available on CAAHEP website. An e-mail distribution list was created. The program directors were contacted via e-mail and received introductory information explaining the study, requesting participation, consent, and a web link to a researcher-developed survey (see Appendix A). In order to increase the response rate, follow up e-mail and phone calls were made if no response was received within a week.

The first e-mail attempt resulted in (n = 321) e-mails distributed. Several e-mails, (8%, n = 29) were returned to the researcher as undeliverable and a few (6%, n = 18) of the program directors opted out of the study by clicking the link at the end of the e-mail or by contacting the researcher directly via e-mail. A small number of program directors (13%, n = 43) agreed to participate in the study by completing the demographic survey.

A second e-mail attempt was made to the remaining unresponsive program directors (n = 260) resulting in several more program directors (n = 23) agreeing to participate in the study.

A third and final e-mail attempt was made approximately two weeks later along with phone calls, in an attempt to create a "snowball" effect in order to increase response

rates. The end result was an additional handful of program directors (n = 12) agreeing to participate in the study for a total of program directors (24%, n = 78).

As part of the web-based demographic survey process, the program director was asked to submit the names and e-mail addresses of their entire full and part-time faculty members. The number of faculty names and e-mail addresses was limited by the program directors to a total of (n = 172) all of whom were contacted by the researcher via e-mail and sent introductory information explaining the study, requesting participation, consent, and a web link to a researcher-developed survey designed to collect faculty demographics (see Appendix B). Faculty self-selected as to whether or not they wished to participate in the research study by clicking on the web link to Survey Monkey and completing the researcher designed questionnaire or faculty had the option to remove themselves from the e-mail list by clicking a link at the end of the e-mail. A total of (30.8%, n = 53) faculty members responded and completed the researcher-designed faculty demographic questionnaire. In order to increase the response rate, a follow up e-mail was sent if no response was received within one week.

Furthermore, the researcher submitted the program director's name and e-mail address (n = 78) to Mind Garden, Inc. The program directors were subsequently sent an e-mail from Mind Garden, Inc. inviting them to participate in the second portion of the research study along with a web link to complete the MLQ. The majority of the program directors (70.5%, n = 55) continued to participate in the research study by completing the MLQ. In order to increase response rates the MLQ survey was resent after one week and then again after two weeks if no response was received. As part of the MLQ survey process, the program directors were again asked to submit the names and e-mail

addresses of their entire full and part-time faculty members (n = 172). The faculty member was subsequently sent an e-mail from Mind Garden, Inc. inviting them to participate in the research study along with a web link to complete the MLQ. Faculty self-selected as to whether or not they wanted to participate in the research study by filling out the survey or deleting the e-mail. A total of (87.8%, n = 151) faculty members participated in the MLQ portion of the study.

In order to assure anonymity, Mind Garden, Inc. was responsible for coding and matching program directors and faculty (n = 55) participating in this study. The researcher did not know the individual responses of the participating faculties. All of the results of this study will be kept confidential and the results and information in this study will not be released in any way that may reveal the identification of participants without the participants' lawful agreement.

#### *Description of Respiratory Care Program Directors*

Seventy-eight directors of accredited respiratory care programs in the United States participated in the researcher-designed questionnaire for the purpose of collecting program director, institutional, and program demographics, along with program outcome data (see Tables 2, 3, and 4).

The majority of the participants were male (55.1%, n = 43). The mean age of the program directors was 50.8 years with a range between 35 and 67 years of age. A high percentage of the program directors (83%, n = 65) were Caucasian.

Most participants (70.5%, n = 55) responded that their job title was program director. Some (9%, n = 7) responded that their job title was department chair and (14.1%, n = 11) responded that they were both program director and department chair. A

limited number (6.4%, n = 5) stated they held titles such as program director and division chair, program director for respiratory care and division chair for health science programs, program coordinator, professor and department head, and program director and dean of health and public services. Program directors were also asked to provide information regarding their attendance of formal leadership training. Overwhelmingly, (88.5%, n = 69) reported that they had attended some form of leadership training whether it was a college degree, college credit, workshop, seminar, or a combination of the above. The majority of program directors reported that they had earned a master's degree (59%, n = 46) with half in the field of education (50%, n = 39).

Table 2

*Descriptive Characteristics of Respiratory Care Program Directors*

Variable	Number (N = 78)	Percent
Gender		
Male	43	55.1
Female	35	44.9
Age		
35-45 years	18	23.1
46-55 years	39	50.0
56-65 years	17	22.0
Over 65 years	1	1.3
Ethnicity		
Asian or Pacific Islander	1	1.3
American Indian or Alaskan	1	1.3
Black non-Hispanic	3	3.8
Caucasian	65	83.3
Hispanic	3	3.8
Preferred not to answer	4	5.1

*(table continues)*

Table 2 (continued)

Variable	Number (N = 78)	Percent
Highest Degree Earned		
Doctorate	11	14.1
Master's	46	59.0
Bachelor's	20	25.6
Associate	1	1.3
Discipline of Highest Degree Earned		
Respiratory Care	14	17.9
Education	39	50.0
Business	1	1.3
Health Administration	16	20.5
Other: Physiology, MBA, Public Administration, Philosophy, Nursing, Selected Studies, Biology, Theology, Counseling Epidemiology	8	10.3
Years in Current Position		
Less than 6 months	1	1.3
6 months-1 year	1	1.3
1-5 years	23	29.5
6-10 years	17	21.8
11-15 years	9	11.5
16-20 years	11	14.1
More than 20 year	16	20.5
Years as Respiratory Therapist		
11-15 years	8	10.3
16-20 years	6	7.7
More than 20 years	63	80.8
Responsible for Other Programs		
Yes	17	21.8
No	59	75.6

*(table continues)*

Table 2 (continued)

Variable	Number (N = 78)	Percent
<b>Title</b>		
Program Director	55	70.5
Department Chair	7	9.0
Program Director And Department Chair	11	14.1
Other: Program Coordinator, Division Chair, Professor and Department Head, Dean of Health and Public Services	5	6.4
<b>Attendance of Leadership Training</b>		
College Degree	5	6.4
College Credit Courses	8	10.3
Workshop (2 days or less)	12	15.4
Seminar (2 days or more)	10	12.8
All of the Above	8	10.3
Workshop and Seminar	7	9.0
College Credit and Workshop	7	9.0
College Degree and Workshop	1	1.3
College Credit, Workshop, and Seminar	9	11.5
College Degree, Workshop, and Seminar	1	1.3
College Degree, College Credit, and Workshop	1	1.3
No Response	9	11.5

*Note.* n varies due to incomplete responses.

#### *Description of Respiratory Care Programs in Higher Education Institutions*

Participating program directors (n = 78) provided information regarding their institution (see Table 3). The majority of the programs were public (88.5%, n = 69) with a large number of the programs at the community college level (61.5%, n = 48).

Table 3

*Descriptive Characteristics of Respiratory Care Programs in  
Higher Education Institutions*

Variable	Number (N = 78)	Percent
<b>Institution Type</b>		
Public Institution	69	88.5
Private Institution	9	11.5
<b>Institution Classification</b>		
Research University	5	6.4
University	9	11.5
Baccalaureate College	8	10.3
Community College	48	61.5
Technical College	8	10.3
<b>Institution Full-Time Equivalent</b>		
More than 10,000	23	29.5
5,000-9,999	14	17.9
2,000-4,999	21	26.9
Less than 1,999	13	16.7
I don't know	6	7.7

*Note.* n varies due to incomplete responses.

*Description of Respiratory Care Programs*

Participating program directors (n = 78) provided information regarding their programs including the number of faculty, highest degree awarded by the program, student capacity, and enrollment (see Table 4). Additionally, information was provided regarding program outcomes that are pertinent to CoARC accreditation. These outcomes are important variables in the assessment of program quality and they include the 2004, 2005, and 2006 year averages for program completion rate, credentialing pass rate, and

job placement rate. Additionally, program directors also provided information on their most recent CoARC accreditation award (see Table 4).

Program directors reported that the majority of the programs (75.6%, n = 59) had one or two full-time faculty members (not including themselves) and one to three part-time faculty members (38.5%, n = 30). Additionally, most of the programs offered an associate degree as the highest degree awarded (82.1%, n = 64). The majority of programs (55.1%, n = 43) reported a student capacity between ten and thirty with an average first-year enrollment between ten and twenty students (38.5%, n = 30).

Program outcomes that are essential in the assessment of program quality and are required for CoARC accreditation were also reported. Program directors were asked to report their 2004, 2005, and 2006 program outcomes in accordance with their most recent CoARC annual report. The majority of the program directors (82.1%, n = 64) reported a completion rate of more than 70 percent, while (53.8%, n = 42) of the program directors reported a 100 percent pass rate on the CRT exam and (71.8%, n = 56) reported more than a 50 percent pass rate on the RRT exam. The majority of program directors reported 100 percent job placement rate (67.9%, n = 53) and an overwhelming number (79.5 %, n = 62) reported a 10-year CoARC accreditation award.



Table 4

*Descriptive Characteristics of Respiratory Care Programs*

Variable	Number (N = 78)	Percent
Highest Degree Awarded		
Associate	64	82.1
Baccalaureate	13	16.7
Master's	1	1.3
Full-time Faculty (Not including Program Director)		
1-2	59	75.6
3-4	13	16.7
5-6	4	5.1
Part-time Faculty		
None	17	21.8
1-3	30	38.5
4-6	11	14.1
7-10	13	16.7
More than 10	4	5.1
Student Capacity		
10-20	19	24.4
21-30	23	29.5
31-40	13	16.7
41-50	9	11.5
51-60	7	9.0
More than 60	5	6.4
Average First-Year Enrollment		
Less than 10	5	6.4
10-20	30	38.5
21-30	16	20.5
31-40	6	7.7
41-50	8	10.3
51-60	4	5.1
More than 60	7	9.0
Program Completion Rate (3-year average)		
100%	4	5.1
90-99%	10	12.8
80-89%	21	26.9
70-79%	27	34.6
Less than 70%	14	17.9

*(table continues)*

Table 4 (continued)

Variable	Number (N = 78)	Percent
CRT Exam Pass Rate (3-year average)		
100%	42	53.8
90-99%	27	34.6
80-89%	4	5.1
Less than 80%	4	5.1
RRT Exam Pass Rate (3-year average)		
100%	2	2.6
90-99%	12	15.4
80-89%	11	14.1
70-79%	5	6.4
60-69%	9	11.5
50-59%	17	21.8
Less than 50%	19	24.4
Job Placement Rate (3-year average)		
100%	53	67.9
90-99%	18	23.1
80-89%	3	3.8
70-79%	2	2.6
Less than 70%	1	1.3
Most Recent CoARC Award(3-year average)		
10 years	62	79.5
5 years	7	9.0
1 year	1	1.3
Probation	4	5.1
Awaiting CoARC site visit	4	5.1

*Note.* n varies due to incomplete responses.

#### *Description of Respiratory Faculty*

Fifty-three faculty members of accredited respiratory care programs in the United States participated in the researcher-designed questionnaire for the purpose of collecting demographic, educational, and professional information (see Table 5).

The gender of the participants was nearly split with females holding a slight edge (50.9%, n = 27). The mean age of the faculty was 46.6 years with a range between 25 and 67 years of age. A high percentage of the faculty (85%, n = 45) were Caucasian.

A small number (15.1%, n = 8) of the faculty reported that they held a doctorate degree with the majority reporting that they held a masters degree (39.6%, n = 21). Most of the faculty reported that their highest degree obtained was in the field of respiratory care (35.8%, n = 19) with over one-half (52.8% n = 28) reporting that they had been in the field for over 20 years. The majority of the participants considered themselves to be full-time (71.7%, n = 38) with nearly all reporting that they work at an academic institution (i.e., college or university) (84.9%, n = 45).

Table 5

*Descriptive Characteristics of Respiratory Care Faculty*

Variable	Number (N = 53)	Percent
Gender		
Male	26	49.1
Female	27	50.9
Age		
25-35 years	7	13.2
36-45 years	15	28.3
46-55 years	23	43.4
55-65 years	6	11.3
Over 65 years	1	1.9

*(table continues)*

Table 5 (continued)

Variable	Number (N = 53)	Percent
Ethnicity		
Asian or Pacific Islander	1	1.9
American Indian or Alaskan	1	1.9
Black non-Hispanic	1	1.9
Caucasian	45	84.9
Hispanic	3	5.7
Preferred not to answer	2	3.8
Highest Degree Earned		
Doctorate	8	15.1
Master's	21	39.6
Bachelor's	13	24.5
Associate	10	18.9
Discipline of Highest Degree Earned		
Respiratory Care	19	35.8
Education	14	26.4
Business	6	11.3
Health Administration	7	13.2
Other: Law, Medical Doctor, Life Science, Chemistry, Nursing, Biology, Leisure Systems Studies	7	13.2
Years as Respiratory Therapist		
Less than 5 years	5	9.4
5-10 years	4	7.5
11-15 years	8	15.1
16-20 years	6	11.3
More than 20 years	28	52.9
Affiliation with Program		
Full-time	38	71.8
Part-time	15	28.3
Employer		
Academic Institution	45	85.0
Clinical Educational Setting	6	11.3
Other: Both academic and hospital	2	3.7

Note. n varies due to incomplete responses.

### *Instrumentation*

Three survey instruments were used to gather data for this study. The first instrument was a researcher-designed questionnaire for the purpose of collecting program and director demographics, in addition to program outcome data. The second instrument was a researcher-designed questionnaire for the purpose of collecting faculty demographics.

The third instrument that was used is the *Multifactor Leadership Questionnaire* (MLQ) initially designed by Bass (1985) and has been updated and revised several times over the last 22 years and is considered to be the benchmark measure used in transformational leadership research (Avolio, Bass & Jung, 1999)<sup>1</sup>.

The current MLQ instruments by Avolio and Bass (2006) were available in parallel forms and are designed to assess the leader's own leadership behavior MLQ-Self (5x-Short) and the leader's leadership behavior as perceived by the follower, MLQ-Rater (5x-Short). For the purpose of this study, both instruments were used to survey all higher education respiratory care program directors and all of their full and part-time faculty members. Both MLQ instruments consist of 45 items that are able to identify and measure effective leadership traits and behaviors that promote organizational success. Responses to the MLQ are based on a five point Likert-type scale (0 = Not at all, 1 = Once in a while, 2 = Sometimes, 3 = Fairly often, 4 = Frequently, if not always) (Avolio & Bass, 2006).

The MLQ measures leadership behaviors by answering four questions for each of the following nine factors that include five transformational behaviors: idealized

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<sup>1</sup> Due to copyright restrictions, a sample copy of the *Multifactor Leadership Questionnaire* (Form 5x-Short) was not included in Appendix A or B

influence (attributed), idealized influence (behavior), inspirational motivation, intellectual stimulation, and individualized consideration, two transactional behaviors: contingent reward and management-by-exception (active) and two passive/avoidant behaviors: management-by-exception (passive) and laissez-faire.

Additionally, the MLQ measures the following outcomes: leader effectiveness, follower's satisfaction with their leader, and the follower's willingness to exert extra effort. Leadership effectiveness is measured by answering four questions related to: the work effectiveness of the unit, effectiveness of the unit when compared to other units, leader effectiveness in meeting job-related needs, and leader effectiveness in meeting the goals of the organization. Satisfaction with the leader is measured by answering two questions related to: the satisfaction of leadership methods and the ways in which leaders work. Extra effort is measured by answering three questions related to: motivation to do more than expected, motivation to try harder, and motivation to succeed.

To obtain the MLQ scale scores, each of the 45 questions that are associated with the nine leadership factors and the three outcomes were averaged by summing and dividing by each of the numbered scaled items answered. Furthermore, each leadership style transformational, transactional, and passive/avoidant was averaged separately to obtain a single composite score by summing and dividing by the number for each of the scales that comprise the leadership style (see Table 6).

Table 6

*Item Numbers for MLQ Leadership Behaviors and Outcomes*

Leadership Behaviors	MLQ Item Numbers
Transformational Leadership	
Idealized Influence (Attributed)	10, 18, 21, 25
Idealized Influence (Behavior)	6, 14, 23, 34
Inspirational Motivation	9, 13, 26, 36
Intellectual Stimulation	2, 8, 30, 32
Individualized Consideration	15, 19, 29, 31
Transactional Leadership	
Contingent Reward	1, 11, 16, 35
Management-by-Exception (Active)	4, 22, 24, 27
Passive/Avoidant	
Management-by-Exception (Passive)	3, 12, 17, 20
Laissez-faire	5, 7, 28, 33
Leadership Behavior Outcomes	
Extra Effort	39, 42, 44
Effectiveness	37, 40, 43, 45
Satisfaction	38, 41

*Reliability and Validity of the MLQ*

Reliability for all of the MLQ-R (Form 5x-Short) for each of the leadership factor scales ranged from .70 to .84, and included United States raters that were subordinates of their leader within the organization (see Table 7).

Table 7

*Reliability Analysis of the MLQ-R (Form 5x-Short) for Subordinate U.S. Raters*

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MLQ Scale	Alpha Reliability
<i>Transformational Leadership Behaviors</i>	
Idealized Influence (Attributed)	0.77
Idealized Influence (Behavior)	0.70
Inspirational Motivation	0.83
Intellectual Stimulation	0.75
Individualized Consideration	0.80
<i>Transactional Leadership Behaviors</i>	
Contingent Reward	0.73
Management-by-Exception (Active)	0.74
<i>Passive/Avoidant Behavior</i>	
Management-by-Exception (Passive)	0.70
Laissez-faire	0.74
<i>Leadership Behavior Outcomes</i>	
Extra Effort	0.84
Effectiveness	0.84
Satisfaction	0.84

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<sup>a</sup> N= 1,959



A test-retest reliability of .44 to .74 was also reported. Validity of the full nine-factor model was measured by a confirmatory factor analysis (CFA) performed using LISREL resulting in a goodness of fit index (GFI) of .92 (Avolio & Bass, 2006).

### *Pilot Study*

A pilot study was performed following the Institutional Review Board (IRB) guidelines, after IRB approval had been received. The modified researcher-designed questionnaire (Shaver, 2003) intended to collect demographic data and program outcome data from program directors along with faculty demographic data has been successfully used (n = 345) in a both a pilot study and a dissertation by Shaver. The MLQ-S (5x-Short) and the MLQ-R (5x-Short) designed by Avolio and Bass (2006) are well established and has been utilized thousands of times in other studies over the last 22 years. Therefore, the purpose of this pilot study was to test the online technical modifications made to the paper version established by Shaver, (2003).

### *Data Analysis Technique*

The data obtained from both the MLQ-S (5x-Short) and the MLQ-R (5x-Short), along with the researcher designed questionnaires, were analyzed utilizing Statistical Program for Social Science (SPSS) 16.0 computer software. Descriptive statistics, regression analysis, and *t* tests were used in the analysis of the data. Descriptive statistics obtained from the regression procedure was used to describe the leadership styles of program directors. A multiple regression analysis was performed to determine which leadership styles are predictors of program directors' effectiveness, faculty satisfaction, and willingness to exert extra effort. Additionally, a multiple regression analysis was

performed to determine which leadership styles are predictors of program outcomes that include program completion rate, credentialing exam pass rate, and job placement rate.

Program directors and faculty were coded and matched by Mind Garden, Inc. A comparison of the means between the director and the aggregate of matched faculty was performed in order to determine the difference between the directors' perception of their leadership style and the faculties' perception of the directors' leadership style. A set of *t* tests was used to test the difference in means between the two groups for each of the leadership styles. The Bonferroni correction for multiple-comparison, along with Cohen's *d* calculation to determine effect size, was used as needed.

#### *Chapter Summary*

This chapter illustrates the research methodology that was used to examine the relationship between the director leadership style and faculties' satisfaction, willingness to exert extra effort, perceived director effectiveness, and respiratory care program outcomes. Additionally, the methodology that was used to explore the differences between the directors' perceived leadership style and the faculties' perception of the directors' leadership style was also presented. Program directors and their full and part-time faculty from across the United States were asked to participate in this study. Program director, faculty, and program demographic data along with data collected from the MLQ was subsequently analyzed using SPSS 16.0 computer software.

## Chapter 4

### Presentation of the Findings

Data collected from the researcher designed program director and faculty demographic questionnaires along with the leadership characteristics and outcome variables collected from Avolio and Bass (2006) *Multifactor Leadership Questionnaire-Self (MLQ-S) (5x-Short)* and the *Multifactor Leadership Questionnaire-Rater (MLQ-R) (5x-Short)* were analyzed using Statistical Program for Social Science (SPSS) 16.0 computer software. Descriptive statistics, regression analysis, and paired *t* tests were used in the analysis of the data. Descriptive statistics obtained from the regression procedure described the leadership style of program directors. Multiple regression analysis was performed to determine which leadership styles are predictors of faculty satisfaction, willingness to exert extra effort, perceived program directors' effectiveness, and program outcomes (program completion rate, credentialing exam pass rate, and job placement rate).

A comparison of the means between the director and the aggregate of matched faculty data was performed in order to determine the difference between the directors' perception of their leadership style and the faculties' perception of the directors' leadership style. A set of *t* tests was used to test the difference in means between the two groups for each of the leadership styles. An alpha level of .05 was used for all statistical procedures. The Bonferroni correction for multiple-comparison and Cohen's *d* to evaluate effect size were used as needed.

The means and standard deviations for the seven criteria variables, satisfaction with the leader, willingness to exert extra effort, perceived director effectiveness, and program outcomes (program completion rate, credentialing exam pass rate, and job placement rate), along with the three predictor variables transformational, transactional, and passive/avoidant leadership are shown in Table 8.

Table 8

*Descriptive Statistics for the Criteria and Predictor Variables*

Variable	Mean	SD	N
Satisfaction	3.529	.592	55
Extra Effort	3.556	.523	55
Effectiveness	3.586	.496	55
Completion Rate	76.894	15.086	54
CRT Pass Rate	96.264	6.670	55
RRT Pass Rate	64.320	23.215	54
Job Placement Rate	97.402	6.224	55
Transformational	3.314	.514	55
Transactional	2.594	.406	55
Passive/Avoidant	.478	.496	55

*Note.* n varies due to incomplete responses.

## *Major Findings*

*What is the relationship between the directors' leadership style and faculty satisfaction with the leader?* In order to answer the first question, a multiple regression analysis was performed using program director transformational, transactional, and passive/avoidant leadership behaviors as perceived by their aggregated faculty to predict satisfaction with the leader. This study found that simple correlations between faculty satisfaction with the leader and each of the predictors transformational, transactional, and passive/avoidant leadership behaviors were significant,  $p < .001$  (see Table 9).

Both transformational and transactional leadership behavior had a positive correlation with faculty satisfaction with the leader, while passive/avoidant behavior had a negative correlation with faculty satisfaction with the leader (see Table 9).

A significant percentage (81%) of the variance in satisfaction with the leader can be predicted from the transformational, transactional, and passive/avoidant leadership behavior scores,  $R^2 = .817$ ,  $F(3, 51) = 75.96$ ,  $p < .001$ . Using the criterion of VIFs less than 10, there appeared to be no collinearity difficulties as all VIFs were less than 3, (see Table 10).

Transformational leadership behavior predicted a significant amount of the variance in faculty satisfaction with the leader,  $p < .001$  over-and-above the predictive accuracy afforded by transactional and passive/avoidant leadership behaviors (see Table 10).

Table 9

*Correlations Among Leadership Behaviors and Faculty Satisfaction  
With the Leader*

Variable	Satisfaction	Transformational	Transactional	Passive/ Avoidant
Satisfaction	1.000	.903*	.574*	-.602*
Transformational	.903*	1.000	.623*	-.687*
Transactional	.574*	.623*	1.000	-.487*
Passive/Avoidant	-.602*	-.687*	-.487*	1.000

\*  $p < .05$

Table 10

*Contributions of Transformational, Transactional, and Passive/Avoidant  
Leadership Behaviors to the Model*

Variable	t	p	VIF
Transformational	9.907	<.001*	2.386
Transactional	.270	.788	1.654
Passive/Avoidant	.456	.650	1.914

a. Dependent Variable: Satisfaction

*What is the relationship between the directors' leadership style and faculty willingness to exert extra effort?* In order to answer the second question, a multiple regression analysis was performed using program director transformational, transactional, and passive/avoidant leadership behaviors as perceived by their aggregated faculty to predict faculty willingness to exert extra effort. This study found that simple correlations between faculty willingness to exert extra effort and each of the predictors

transformational, transactional, and passive/avoidant leadership behaviors were significant with transformational and passive/avoidant leadership behaviors at,  $p < .001$  and transactional leadership behavior at,  $p = .008$ , (see Table 11).

Both transformational and transactional leadership behavior had a positive correlation with faculty willingness to exert extra effort, while passive/avoidant behavior had a negative correlation with faculty willingness to exert extra effort (see Table 11).

A significant percentage (60%) of the variance in faculty willingness to exert extra effort can be predicted from the transformational, transactional, and passive/avoidant leadership behavior scores,  $R^2 = .637$ ,  $F(3, 51) = 29.778$ ,  $p < .001$ . Using the criterion of VIF's less than 10, there appeared to be no collinearity difficulties as all VIF's were less than 3, (see Table 12).

Transformational leadership behavior predicted a significant amount of the variance in faculty willingness to exert extra effort,  $p < .001$  over-and-above the predictive accuracy afforded by transactional and passive/avoidant leadership behaviors (see Table 12).

Table 11

*Correlations Among Leadership Behaviors and Faculty Willingness to Exert Extra Effort*

Variable	Satisfaction	Transformational	Transactional	Passive/ Avoidant
Extra Effort	1.000	.774*	.357*	-.440*
Transformational	.774*	1.000	.623*	-.687*
Transactional	.357*	.623*	1.000	-.487*
Passive/Avoidant	-.440*	-.687*	-.487*	1.000

\* p < .05

Table 12

*Contributions of Transformational, Transactional, and Passive/Avoidant Leadership Behaviors to the Model*

Variable	t	p	VIF
Transformational	7.641	<.001*	2.386
Transactional	-1.752	.086	1.654
Passive/Avoidant	1.295	.201	1.914

b. Dependent Variable: Willingness to Exert Extra Effort

*What is the relationship between the directors' leadership style and perceived director effectiveness?* In order to answer the third question, a multiple regression analysis was performed using program director transformational, transactional, and passive/avoidant leadership behaviors as perceived by their aggregated faculty to predict faculty perceived director effectiveness. This study found that simple correlations



between faculty and each of the predictors transformational, transactional, and passive/avoidant leadership behaviors were significant,  $p < .001$  (see Table 13).

Both transformational and transactional leadership behavior had a positive correlation with faculty perceived director effectiveness, while passive/avoidant behavior had a negative correlation with faculty perceived director effectiveness (see Table 13).

A significant percentage (78%) of the variance in faculty perceived director effectiveness can be predicted from the transformational, transactional, and passive/avoidant leadership behavior scores,  $R^2 = .788$ ,  $F(3, 51) = 63.120$ ,  $p < .001$ . Using the criterion of VIF's less than 10, there appeared to be no collinearity difficulties as all VIF's were less than 3, (see Table 14).

Transformational leadership behavior predicted a significant amount of the variance in faculty perceived director effectiveness,  $p < .001$  over-and-above the predictive accuracy afforded by transactional and passive/avoidant leadership behaviors (see Table 14).

Table 13

*Correlations Among Leadership Behaviors and Faculty Perceived Director Effectiveness*

Variable	Satisfaction	Transformational	Transactional	Passive/ Avoidant
Effectiveness	1.000	.885*	.592*	-.583*
Transformational	.885*	1.000	.623*	-.687*
Transactional	.592*	.623*	1.000	-.487*
Passive/Avoidant	-.583*	-.687*	-.487*	1.000

\* p &lt; .05

Table 14

*Contributions of Transformational, Transactional, and Passive/Avoidant Leadership Behaviors to the Model*

Variable	t	p	VIF
Transformational	8.815	<.001*	2.386
Transactional	.866	.390	1.654
Passive/Avoidant	.620	.538	1.914

c. Dependent Variable: Faculty Perceived Director Effectiveness

*What is the relationship between the directors' leadership style and program outcomes?* In order to answer the fourth question, a multiple regression analysis was performed using program director transformational, transactional, and passive/avoidant leadership behaviors and program outcomes (program completion rate, credentialing exam pass rate, and job placement rate). The Bonferroni correction for multiple-comparison was used with the adjusted per-hypothesis alpha of .0125.

This study found that simple correlations between the program outcomes and each of the predictors transformational, transactional, and passive/avoidant leadership behaviors were not significant,  $p > .0125$  (see Table 15).

Table 15

*Correlations Among Leadership Behaviors and Program Outcomes*

----- Variable -----	Completion -----Rate	CRT Pass Rate	RRT Pass Rate	Job Placement
Transformational	.057	-.012	-.027	-.143
Transactional	.110	-.034	-.206	-.098
Passive/Avoidant	-.017	.070	.103	.177

Further investigation into moderation effects of program director years in current position on the relationship between program director’s leadership style and program completion rate, RRT exam pass rate, and CoARC accreditation award was completed. A multiple regression analysis was performed using two individual variables along with the product of the variables as a three predictor model. The predictor variables included transformational, transactional, passive/avoidant leadership behaviors, and years in position. The product variables included transformational by years in position, transactional by years in position, and passive/avoidant by years in position. The above variables were used to predict the moderation effect of program completion rate, RRT exam pass rate, and CoARC accreditation award.

This study found that there was no moderation effect for program completion rate, RRT exam pass rate, CoARC accreditation award, and each of the predictors or product variables,  $p > .05$  (see Table 16, 17, and 18). The predictor variables were “centered”

before inclusion in the model and using the criterion of VIF's less than 10, there appeared to be no collinearity difficulties as all VIF's were less than 2.

Table 16

*Moderation Effect of Transformational, Transactional, and Passive/Avoidant Leadership Behaviors by Years in Position and Program Completion Rate*

Variable	$\beta$	t	p	VIF
Transformational by Years in Position	-.013	-.089	.930	1.026
Transactional by Years in Position	-.038	-.265	.792	1.040
Passive/Avoidant by Years in Position	.039	.264	.793	1.107

d. Dependent Variable: Program Completion Rate

Table 17

*Moderation Effect of Transformational, Transactional, and Passive/Avoidant Leadership Behaviors by Years in Position and RRT Exam Pass Rate*

Variable	$\beta$	t	p	VIF
Transformational by Years in Position	.273	1.979	.053	1.026
Transactional by Years in Position	-.034	-.241	.810	1.040
Passive/Avoidant by Years in Position	-.083	-.561	.578	1.107

e. Dependent Variable: RRT Exam Pass Rate

Table 18

*Moderation Effect of Transformational, Transactional, and Passive/Avoidant Leadership Behaviors by Years in Position and CoARC Accreditation Award*

Variable	$\beta$	t	p	VIF
Transformational by Years in Position	-.246	-1.845	.071	1.025
Transactional by Years in Position	-.052	-.375	.709	1.039
Passive/Avoidant by Years in Position	.209	1.500	.140	1.107

f. Dependent Variable: CoARC Accreditation Award

*What is the difference between the directors' perceived leadership style and the faculties' perception of the directors' leadership style?* In order to answer the fifth question, a paired sample *t* test was performed using program director perceived transformational, transactional, and passive/avoidant leadership behaviors compared to faculty perceived program director transformational, transactional, and passive/avoidant leadership behaviors. The Bonferroni correction for multiple-comparison was used with the adjuster per-hypothesis alpha of .0167. There was no significant difference between the means of both transformational and transactional leadership behaviors,  $p > .01$ . However, there was a significant difference between the means of passive/avoidant behavior,  $p < .01$  (see Table 19). A Cohen's *d* calculation demonstrates a 0.5 effect size.

Table 19

*Descriptive Statistics for Paired Samples of Directors' Leadership Styles*

Variable	Mean		SD		t (54)
	Director	Faculty	Director	Faculty	
Transformational	3.125	3.314	.438	.514	-2.183
Transactional	2.452	2.594	.512	.405	-1.769
Passive/Avoidant	.706	.479	.483	.496	2.808**

N = 55

\*\* p &lt; .01

*Chapter Summary*

The results of this study found that there was a significant relationship between faculty satisfaction, willingness to exert extra effort, and perceived director effectiveness and each of the predictors transformational, transactional, and passive/avoidant leadership behaviors. Both transformational and transactional leadership behaviors had a positive correlation with faculty satisfaction, willingness to exert extra effort, and perceived director effectiveness, while passive/avoidant behaviors had a negative correlation with faculty satisfaction, willingness to exert extra effort, and perceived director effectiveness.

The results also demonstrated that a significant percentage of the variance in faculty satisfaction, willingness to exert extra effort, and perceived director effectiveness can be predicted from the transformational, transactional, and passive/avoidant leadership behaviors. The results also suggest that transformational leadership behavior predicted a significant amount of the variation in faculty satisfaction, willingness to exert extra effort,

and perceived director effectiveness over-and-above the predictive accuracy afforded by transactional and passive/avoidant leadership behaviors.

Furthermore, the results of this study found that there was no relationship between program director leadership style and program outcomes (program completion rate, credentialing exam pass rate, and job placement rate). This study also found that there was no moderation effect for program completion rate, RRT exam pass rate, CoARC accreditation award, and each of the predictors transformational, transactional, passive/avoidant leadership behaviors or the product variables transformational by years in position, transactional by years in position, and passive/avoidant by years in position.

Additionally, the results of this study found that participating respiratory care program faculties' perceived their program directors using transformational leadership behaviors *fairly often to frequently, if not always*. To a lesser degree, faculties' perceived their program directors using transactional leadership behaviors *sometimes to fairly often* and passive/avoidant behaviors from *not at all to once in a while*.

Finally, this study found no significant difference between the directors' perception and the faculties' perception of the directors' transformational and transactional leadership behaviors. However, there was a significant difference between the directors' perception and the faculties' perception of the directors' passive/avoidant behavior. A Cohen's d calculation demonstrates a medium effect size.

## Chapter 5

### Summary

The purpose of this chapter is to provide a summary and interpretation of the findings of this study as they relate to the research questions. Additionally, this chapter will provide a discussion of how the findings relate to the literature review, limitations of the study, implications, recommendations for current and future respiratory care program directors, conclusions, and recommendations for future research.

#### *Purpose of the Study*

The purpose of this study was to investigate the leadership behaviors of program directors of all accredited higher education respiratory care programs located in the United States. Specifically, the aim of this research was to establish the relationship between the directors' leadership style and faculty satisfaction, willingness to exert extra effort, perceived director effectiveness, and program outcomes. Finally, this study explored the differences between the directors' perceived leadership style and faculties' perception of the directors' leadership style.

The conceptual framework that was utilized for this study was Bass and Avolio's (1994) *Full Range of Leadership Model*. This model differentiates between transformational, transactional, and passive/avoidant leadership behaviors. Bass and Avolio's survey instrument the *Multifactor Leadership Questionnaire* (MLQ) was employed to measure the following nine factors that compose the model: five transformational behaviors: idealized influence (attributed), idealized influence



(behavior), inspirational motivation, intellectual stimulation, and individualized consideration, two transactional behaviors: contingent reward and management-by-exception (active), two passive/avoidant behaviors: management-by-exception (passive) and laissez-faire. Additionally, the MLQ measured the following outcomes: follower's satisfaction with their leader, willingness to exert extra effort, and perceived leader effectiveness.

Building upon the conceptual framework as established by Bass and Avolio, this theoretical model additionally used program outcomes as established by CoARC obtained through a researcher-designed questionnaire that included the following program director reported outcomes: program completion rate, credentialing exam pass rate, and job placement rate.

#### *Summary of the Procedures*

All accredited higher education respiratory care program directors in the United States were invited to participate in this study. The directors' names and e-mail addresses were obtained from the CAAHEP website and an e-mail distribution list was created. The program directors (n = 321) were subsequently contacted via e-mail and received introductory information explaining the study, requesting participation, consent, and a web link to a researcher-developed survey. Program directors (n = 78) self-selected as to whether or not they wished to participate in the research study by clicking on the web link to Survey Monkey and completing the researcher designed questionnaire. In order to increase the response rate, follow up e-mail and phone calls were made if no response was received within in one week. Anderson and Gansneder (1995) recommend that

internet e-mail follow-up timelines be shortened when compared to postal mail due to the increased speed of internet and the shortened timeframe of survey response rates.

As part of the web-based demographic survey process, the program director was asked to submit the names and e-mail addresses of their entire full and part-time faculty members. The number of faculty ( $n = 172$ ) names and e-mail addresses provided was limited by the program director. Subsequently, all faculty members were e-mailed and sent introductory information explaining the study, requesting participation, consent, and a web link to a researcher-developed survey designed to collect faculty demographics. A total of (30.8%,  $n = 53$ ) faculty members responded and completed the researcher-designed faculty demographic questionnaire.

Next, the researcher submitted the program directors' names and e-mail addresses ( $n = 78$ ) to Mind Garden, Inc. The program directors were subsequently sent an e-mail from Mind Garden, Inc. inviting them to participate in the second portion of the research study along with a web link to complete the MLQ. The majority of the program directors (70.5%,  $n = 55$ ) continued to participate in the research study by completing the MLQ. As part of the MLQ survey process, the program director was again asked to submit the names and e-mail addresses of their entire full and part-time faculty members. The faculty member was subsequently sent an e-mail from Mind Garden, Inc. inviting them to participate in the research study along with a web link to complete the MLQ. Faculty self-selected as to whether or not they wanted to participate in the research study by filling out the survey or deleting the e-mail. A total of (87.8%,  $n = 151$ ) faculty members participated in the MLQ portion of the study. The researchers name and contact

information was provided to the faculty on the introductory page sent by Mind Garden, Inc (see Appendix B).

To obtain the MLQ scale scores, each of the 45 questions that are associated with the nine leadership factors and the three outcomes were averaged by summing and dividing by each of the numbered scaled items answered. Furthermore, each leadership style transformational, transactional, and passive/avoidant was averaged separately to obtain a single composite score by summing and dividing by the number for each of the scales that comprise the leadership style (see Table 6).

The data obtained from both the MLQ-S (5x-Short) and the MLQ-R (5x-Short), along with the researcher designed questionnaires, were analyzed utilizing with Statistical Program for Social Science (SPSS) 16.0 computer software. Descriptive statistics, regression analysis, and *t* tests were used in the analysis of the data. Descriptive statistics obtained from the regression procedure was used to describe the leadership styles of program directors. A multiple regression analysis was performed to determine which leadership styles are predictors of faculties' satisfaction, willingness to exert extra effort, perceived program directors' effectiveness, and program outcomes that include program completion rate, credentialing exam pass rate, and job placement rate.

Program directors and faculty (n = 55) were coded and matched by Mind Garden, Inc. The researcher did not know the individual responses of the participating faculties.

A comparison of the means between the director and the aggregate of matched faculty was performed in order to determine the difference between the directors' perception of their leadership style and the faculties' perception of the directors' leadership style. A set of *t* tests was used to test the difference in means between the two

groups for each of the leadership styles. The Bonferroni correction for multiple-comparison, along with Cohen's *d* calculation to determine effect size, was used as needed.

#### *Summary of Descriptive Data for the Criteria and*

#### *Predictor Variables of the MLQ*

The results of this study found that participating respiratory care program faculties' (n = 151) were satisfied *fairly often to frequently, if not always* (M = 3.529), with their program director (n = 55). Faculty were willing to exert extra effort *fairly often to frequently, if not always* (M = 3.556), and they thought that the program director was effective *fairly often to frequently, if not always* (M = 3.314). Additionally, the results of this study found that faculty perceived their program directors using transformational leadership behaviors *fairly often to frequently, if not always* (M = 3.314). To a lesser degree, they perceived their program directors using transactional leadership behaviors *sometimes to fairly often* (M = 2.594) and passive/avoidant behaviors from *not at all to once in a while* (M = .478). These findings support research by Bass (1998) when he suggests that the most advantageous leader will more often display transformational leadership behaviors, to a lesser degree display transactional leadership behaviors, and almost never display passive/avoidant leadership behaviors. Additionally, these findings support the results reported in two metaanalysis and numerous other studies (Aaron, 2005; Archie, 1997; Bass, 1985; Chen, 2005; Chen et al., 2005; DeGroot et al., 2000; King, 1994; Lowe et al., 1996; Nischan, 1997; Parkman, 2001; Patterson et al., 1995; Shaver, 2003; Shieh et al., 2001).

### *Summary and Interpretation of the Findings*

*What is the relationship between the directors' leadership style and faculty satisfaction with the leader?* In order to answer the first question, a multiple regression analysis was performed using program director transformational, transactional, and passive/avoidant leadership behaviors as perceived by their aggregated faculty to predict satisfaction with the leader. This study found that each of the predictors transformational, transactional, and passive/avoidant leadership behaviors were significant predictors of faculty satisfaction with the leader ( $p < .001$ ). Both transformational and transactional leadership behavior had a positive correlation with faculty satisfaction with the leader, while passive/avoidant behavior had a negative correlation with faculty satisfaction with the leader.

A significant percentage (81%) of the variance in satisfaction with the leader can be predicted from the transformational, transactional, and passive/avoidant leadership behavior scores. Transformational leadership behavior predicted a significant amount of the variance in faculty satisfaction with the leader ( $p < .001$ ) over-and-above the predictive accuracy afforded by transactional and passive/avoidant leadership behaviors.

These findings were similar to the findings as those established by Archie (1997), Chen (2005), Chen et al. (2005), King (1994), Nischan (1997), Shaver (2003), Shieh et al. (2001).

The majority of the studies (Chen, 2005; Chen et al., 2005; King, 1994; Nischan, 1997; Shaver, 2003; Shieh et al., 2001) found that transformational and to a lesser extent transactional leadership behaviors had a positive correlation to faculty satisfaction and laissez-faire behaviors had a negative correlation to faculty satisfaction.

However, these findings differ from Archie (1997) who did not find that the transactional model had a statistical significance in faculty satisfaction. Additionally, these findings differ from Chen (2005) who found that nursing faculty in Taiwan were moderately satisfied with their jobs but felt that demographic factors and heavy workloads as opposed to the director's leadership style were possible reasons for faculty dissatisfaction.

*What is the relationship between the directors' leadership style and faculty willingness to exert extra effort?* In order to answer the second question, a multiple regression analysis was performed using program director transformational, transactional, and passive/avoidant leadership behaviors as perceived by their aggregated faculty to predict faculty willingness to exert extra effort. This study found that each of the predictors transformational, transactional, and passive/avoidant leadership behaviors were significant with transformational and passive/avoidant leadership behaviors at ( $p < .001$ ) and transactional leadership behavior at ( $p = .008$ ). Both transformational and transactional leadership behavior had a positive correlation with faculty willingness to exert extra effort, while passive/avoidant behavior had a negative correlation with faculty willingness to exert extra effort.

A significant percentage (60%) of the variance in faculty willingness to exert extra effort can be predicted from the transformational, transactional, and passive/avoidant leadership behavior scores. Transformational leadership behavior predicted a significant amount of the variation in faculty willingness to exert extra effort ( $p < .001$ ) over-and-above the predictive accuracy afforded by transactional and passive/avoidant leadership behaviors.

These findings were similar to the findings established by King (1994) who found that transformational and to a lesser extent transactional leadership behaviors had a positive correlation to faculty willingness to exert extra effort and laissez-faire behaviors had a negative correlation to faculty willingness to exert extra effort. However, these findings differ from Archie (1997) who did not find that the transactional model had a statistical significance in faculty willingness to exert extra effort. Additionally, these findings differ from Shaver (2003) who found that faculty willingness to exert extra effort correlated higher with transactional more than with transformational leadership behaviors. Willingness to exert extra effort may be more associated with contingent reward for some people and may be more intrinsic for others as demonstrated in this study.

*What is the relationship between the directors' leadership style and perceived director effectiveness?* In order to answer the third question, a multiple regression analysis was performed using program director transformational, transactional, and passive/avoidant leadership behaviors as perceived by their aggregated faculty to predict faculty perceived director effectiveness. This study found that each of the predictors transformational, transactional, and passive/avoidant leadership behaviors were significant predictors of faculty perceived director effectiveness. Both transformational and transactional leadership behavior had a positive correlation with faculty perceived director effectiveness, while passive/avoidant behavior had a negative correlation with faculty perceived director effectiveness.

A significant percentage (78%) of the variance in faculty perceived director effectiveness can be predicted from the transformational, transactional, and

passive/avoidant leadership behavior scores. Transformational leadership behavior predicted a significant amount of the variation in faculty perceived director effectiveness ( $p < .001$ ) over-and-above the predictive accuracy afforded by transactional and passive/avoidant leadership behaviors.

These findings were similar to the findings established by King (1994) and Shaver (2003) in that they all found that transformational and to a lesser extent transactional leadership behaviors had a positive correlation to faculty perceived director effectiveness and laissez-faire behaviors had a negative correlation to faculty perceived director effectiveness. However, these findings differ from Archie (1997) who did not find that the transactional model had a statistical significance in faculty perceived director effectiveness. Additionally, these findings differ from Reiss (2000) who found that transactional leadership behaviors with the exception of the contingent reward factor had a negative correlation with perceived effectiveness.

*What is the relationship between the directors' leadership style and program outcomes?* In order to answer the fourth question, a multiple regression analysis was performed using program director transformational, transactional, and passive/avoidant leadership behaviors and program outcomes (program completion rate, credentialing exam pass rate, and job placement rate). The Bonferroni correction for multiple-comparison was used ( $p < .0125$ ). This study found that none of the predictor's transformational, transactional, and passive/avoidant leadership behaviors were significant predictors of program outcomes.

These findings were similar to Shaver (2003) who found no significant relationship with the majority of program outcomes with the exception of the AART



exam pass rate. Although the literature supports that leadership may have some influence on organizational outcomes, there are many variables that may also have an affect as well (e.g., teaching style, quality of student, admission criteria, faculty effectiveness, program funding, and other resources) (Pascarella & Terenzini, 1991; Haworth & Conrad, 1997). Therefore the leadership style of the program director would only be one of many factors that would influence program outcomes.

Further investigation into moderation effects of program director years in current position on the relationship between program director's leadership style and program completion rate, RRT exam pass rate, and CoARC accreditation award was completed. A multiple regression analysis was performed using two individual variables along with the product of the variables as a three predictor model. This study found that there was no moderation effect for program completion rate, RRT exam pass rate, CoARC accreditation award, and each of the predictors transformational, transactional, passive/avoidant leadership behaviors or the product variables transformational by years in position, transactional by years in position, and passive/avoidant by years in position.

*What is the difference between the directors' perceived leadership style and the faculties' perception of the directors' leadership style?* In order to answer the fifth question, a paired sample *t* test was performed using program director perceived transformational, transactional, and passive/avoidant leadership behaviors compared to faculty perceived program director transformational, transactional, and passive/avoidant leadership behaviors. The Bonferroni correction for multiple-comparison was used ( $p < .01$ ). There was no significant difference between the means of both transformational and transactional leadership behaviors, ( $p > .01$ ). However, there was a significant difference

between the means of passive/avoidant behavior, ( $p < .01$ ). A Cohen's  $d$  calculation demonstrated a 0.5 medium effect size.

These findings suggest that both the directors' and faculties' perception of the directors' transformational and transactional leadership style were on target with one another. However, in regards to passive/avoidant leadership style, program directors rated themselves significantly higher than the faculty rated them, suggesting that program directors admitted to failure and felt that they were more neglectful than the faculty perceived them to be. Program directors in respiratory care programs are extremely busy. In addition to their responsibilities for upholding the program's goals and mission statement, curriculum development, organization, administration, review, and program outcomes, program directors must maintain current licensure along with remaining current in their field of expertise. Therefore, this finding may be significant. A number of studies have found that leaders rate themselves higher when compared to the ratings of their subordinates in order to avoid embarrassment which typically adds to biased survey results (Arnold & Feldman, 1981; Herbert et al., 1997; Kistler, 1988; Reiss, 2000). These studies further support the significance of this study's finding.

#### *Limitations of Study*

There were a few limitations that affected this study that included social desirability, small sample size, nonresponse bias, and online survey research. These limitations will be further examined.

The first limitation to this study was the concept of social desirability. According to Nederhof (1985) social desirability is one of the largest variables that affects response bias. The problem with self-report is that there is a vulnerability of social desirability

response bias, in which people overestimate their responses pertaining to themselves (Arnold & Feldman, 1981). Furthermore, Herbert et al. (1997) suggest that social desirability is the tendency for people to rate themselves better than they are perceived by others in order to avoid criticism, and it plays a significant role in survey bias. This study found the opposite in that program directors rated themselves higher in the more negatively associated passive/avoidant leadership behaviors than faculty rated them.

The second limitation to this study was small sample size (22.3%,  $n = 350$ ) and the notion of nonresponse bias. Both of which may have inadvertently influenced the interpretation of the survey results. Low response rates decrease the statistical power of the data and increase the size of the confidence interval regarding the sample (Yu & Cooper, 1983). Additionally, low response rates challenge the perceived creditability of the study and undermine the actual generalizability of the study by producing misleading conclusions generated by nonresponse bias (Rogelberg & Stanton, 2007). With that said, Rogelberg and Stanton also state that if a study falls short of an expected response rate it does not mean that the data obtained was biased and that research with low response rates should not be discounted particularly when it examines new uncharted territory. However, it is imperative that the researcher investigate to what extent the low response rates have on the conclusions drawn from the data collected. To that end, the extent of nonresponse bias on this researcher's survey results was examined. Nonresponse bias for this study was explored using three techniques: passive nonresponse analysis, active nonresponse analysis, and wave analysis. Passive nonrespondents are those participants who unintentionally did not participate in the survey including those who did not receive the survey in contrast to active nonrespondents who overtly choose not to respond to a

survey. The final form of analysis used was wave analysis. This method was performed to determine whether late responders differed from responders in order to examine the affect of nonresponse bias.

According to Rogelberg and Stanton (2003) the majority of nonresponse to a survey can be categorized as passive or unintentional. Oftentimes the researcher may or may not know why. For example, non-delivered e-mail or participants with good intentions, wanted to participate but never got around to completing the survey. In this study, a number of participants (8%,  $n = 29$ ) did not receive the survey and the survey was returned to the researcher as undeliverable e-mail. One response read:

To control spam, I now allow incoming messages only from senders I have approved beforehand. If you would like to be added to my list of approved senders, please fill out the short request form (see link below). Once I approve you, I will receive your original message in my inbox.

The e-mail was sent again as instructed with no response from the participant and the researcher is unsure if it was received. Numerous other e-mail responses were sent to the researcher with similar text as the next example, “A message appearing to be from you was blocked and has NOT BEEN DELIVERED.” The researcher is unsure of how many other e-mails may have been undelivered with no notification received.

Other participants had good intentions and wanted to participate however, may have never completed the task. Another (3%,  $n = 10$ ) spoke with the researcher directly either via e-mail or in person with some of the responses as follows: “I am planning on assisting with your dissertation, but I have a number of things that I consider higher priorities,” “I’ll get ‘er done”, and “I am willing to participate and I would be glad to

help.” Even with a follow-up reminder the majority of these participants did not follow through. This group of participants seemed eager to participate and there is no reason to think that their responses would have differed from responders (Rogelberg & Stanton, 2003).

Active nonrespondents differ from passive nonrespondents in that they blatantly refuse to participate in a survey. A small number (6%, n = 18) actively opted out of this survey by contacting the researcher directly. Active nonresponse may affect survey results according to Rogelberg and Stanton (2003), if the number of active nonrespondents is large than the potential for bias increases greatly. The reasons for nonparticipation were categorized into the following themes: nonparticipants of research in general, nondisclosure of faculty information, and lack of time.

A few of the nonparticipants of research responses from the program directors included: “I WISH not TO PARTICIPATE,” “You may eliminate me from your survey pool. I do not participate in any independent research activities, including dissertation research.” Finally, one person stated that they don’t participate in research in which they do not know the researcher.

A couple of the nondisclosure of faculty information responses included: “I would be amiable to participate; however, I do not give out the email addresses or names of my faculty and part time faculty without their permission.”

I am all for the advancement of respiratory care and your project sounds interesting. However, I am not sure I can supply all of the information you want, specifically in regard to wanting me to supply personal information about my

faculty. Maybe this is part of my leadership style, but I don't believe I can participate in your study the way that it is written.

I am not able to complete the last part of your survey because I am not at liberty to share the information requested. Due to a recent influx of junk mail (what are filters for?) the college has changed its policy.

It is important for program directors to understand that although the "Freedom of Information Act" explicitly does not apply to states or private institutions, each state has passed its own public records law (Freedom of Information Act, n.d.). Generally, email addresses are included as public records, if nothing else, as a result of the public's right to access emails sent by that address. Some states, such as Florida, clearly apply their public records law to the right to access of email addresses from all public institutions and their faculty, (Public officers, employees, & records, n.d.), while other states, such as South Carolina, extend this right to private institutions that receive "part of" its funding from the public treasury (Codes of Law of South Carolina, 1976).

The final group of active nonrespondents stated that they were too busy to complete the survey. Some of their comments included: "I am sorry I will not be able to participate. You may rethink how you can get this information in a less time-consuming way from program directors who are already overloaded with teaching and administrative responsibilities." Another person replied "I would happily do this, but I am just swamped right now." As a final point, a program director stated that they had received four surveys in the past two weeks and deleted them all because he was so overwhelmed with everything he needed to do. Rogelberg and Stanton (2003) state that if the active non-

participant group (6%, n = 18) is less than 15 percent then there are few concerns regarding bias.

Lastly, a wave analysis was performed to determine whether late responders differed from responders in order to examine the affect of nonresponse bias. There was no significant correlation between the number of follow-up attempts made and transformational, transactional, and passive/avoidant leadership behaviors,  $p$  - value > 0.05. Therefore, it could be said, that the number of follow-up attempts was not related to transformational, transactional, and passive/avoidant leadership behaviors. This provides further evidence, although not conclusive, that nonresponders would not be different from those that responded to the survey.

The third limitation was utilizing the web for conducting survey research. There have been numerous studies that have investigated survey response rates and various techniques of administration. Higher response rates are associated with personal and telephone surveys as found by Yu and Cooper (1983) in a study that mathematically combined 497 response rates across 93 journal articles. This theme is further supported by Assess teaching/response rates (2006) when they advise that face to face and phone surveys provide over an 80 percent response rate. Mail surveys range from 50 – 70 percent, e-mail surveys from 40 – 60 percent, and online surveys are expected to provide about a 30 percent response rate. Even with lower response rates there are some significant benefits to using online surveys especially for those who regularly use the internet (Kaplowitz, Hadlock, & Levine, 2004). Some of the many benefits of online surveys include environmentally friendliness, provides faster response times, and lower

costs when compared to mail surveys (Deutskens, De Ruyter, Wetzels, & Oosterveld, 2004).

The web has posed a threat in regards to safety and security among users. Participants are suspicious of unsolicited e-mail, and organizations go to great expense in an attempt to block unwanted junk mail and viruses by installing software filters. A study by Porter and Whitcomb (2005) compared information provided on the e-mail subject line and low and high involvement participants within the university. They found that nonapplicants were more likely to open an e-mail with no message in the subject line. Many people may open the e-mail out of curiosity which is just one of many reasons why viruses attack computers. The study also found that when there was minimal information provided in the e-mail subject line it was more likely to be perceived as spam and rejected. Therefore, careful consideration of information provided in the subject line is critical in the determination of whether an e-mail is opened or rejected as spam.

There are number of reasons as to why people choose not to participate or may not complete web-based survey's including, but not limited to, limited access to a computer, technical problems with computer or survey, lack of confidence in anonymity (Sax, Gilmartin, & Bryant, 2003). However, there are a few ways to increase web survey response rates. Yu and Trumbo (2000) suggest using multi-mode techniques (more than one method to complete the survey) in order to improve sample representation. Marcus, Bosnjak, Lindner, Pilischenko, and Schutz (2007) recommend using surveys that are highly relevant, short, provide personalized feedback to participants, and provide a lottery drawing as a reward for completion provided higher response rates. Kaplowitz et al. (2004) recommend sending advance mail notification and that follow-up reminders were



the least effective. All of these suggestions should be taken into consideration when attempting to increase response rates.

*Implications and Recommendations for Current and Future Respiratory Care Program Directors*

The future of higher education leaders in the field of respiratory care is uncertain. In the near future, nearly half of all the respiratory care program directors report that they will retire (Dubbs, 2006). This study confirmed the uncertainty of sufficient qualified future respiratory care program directors in that (80.8%, n = 63) of the program directors reported that they have more than twenty years experience in the field of respiratory therapy of which (46%, n = 36) have more than 10 years experience in education. There is a need for respiratory therapists in both clinical practice and in education. It has been reported that graduation rates are down (Ellwood, 2003) and without change the combination of these variables will further exacerbate the shortage of respiratory care professionals. The leadership of the current and future program directors in respiratory care education is essential for the future of the profession. Program directors in respiratory care need to possess the leadership qualities necessary to provide for the needs and expectations of the community in which they serve. In the leadership role, the program director is responsible for the implementation of the program's mission statement, providing the goals of the program, curriculum development, organization, administration, review, and accountability of program outcomes as established by CoARC in conjunction with CAAHEP.

Although the literature supports that leadership may have some influence on organizational outcomes, there are many variables that may have an effect as well (e.g.,

teaching style, quality of students, admission criteria, faculty effectiveness, program funding, and learning resources) (Haworth & Conrad, 1997; Pascarella & Terenzini, 1991). Therefore, the program director leadership style is only one factor that influences program outcomes. This study found that none of the predictor's transformational, transactional, and passive/avoidant leadership behaviors were significant predictors of program outcomes. Regardless of this study's findings, the ultimate responsibility for accountability of the program rests on the director.

Although the results of this study are preliminary, they clearly are supported by the current research in other allied health professions and a parallel can be drawn. Participating current program directors have and use transformational leadership behaviors *fairly often to frequently, if not always* (M = 3.314) and that leadership style is related to faculty satisfaction, willingness to exert extra effort, and perceived director effectiveness. It is clear that the current faculties are proud to be associated with their program directors. Faculties were satisfied *fairly often to frequently, if not always* (M = 3.529), willing to exert extra effort *fairly often to frequently, if not always* (M = 3.556), and thought that the program director was effective *fairly often to frequently, if not always* (M = 3.314). Therefore, these leadership characteristics should be a part of the program directors' leadership style, and it is imperative for the current program directors to continue to model transformational leadership behaviors.

According to Bass and Avoilo's (1994) leadership theory, program directors will model the types of ethical and moral behavior that followers (both faculty and students) would want to emulate. Effective leader's place a priority of others needs over his/her own and inspire and motivate others around them. Program directors must have the

ability to communicate a vision, provide clear expectations, and exude enthusiasm in which followers want to help perform the task in order to get it done. Additionally, program directors need to be able to solicit new innovative and creative ideas from followers. These skills are necessary to help drive the future of the profession. The ultimate result of this leadership style is a mutual relationship between the leader and the follower, which changes followers into leaders and leaders into moral change agents (Burns, 1978).

Finally, program directors need to act as mentors and to help develop a follower's potential. In anticipation of a significant level of retirements within the profession, encouragement of formal leadership training for future program directors is warranted.

### *Conclusions*

This study is the first step in understanding the leadership of program directors in respiratory care and without a doubt adds to the literature base of transformational leadership in allied health programs. There were a few limitations to the study that affected this study that included social desirability, small sample size, nonresponse bias, and online survey research. With a few future study modifications these limitations can be reduced. Participating respiratory care program directors are transformational leaders, to lesser extent transactional leaders, and rarely display passive/avoidant behaviors. Faculties are satisfied, willing to exert extra effort, and perceive that their directors are effective. There is a significant difference in the way faculties perceive program directors' passive/avoidant behaviors. Although the literature supports that leadership may have some influence on organizational outcomes, there are many variables that may have an affect as well (e.g., teaching style, quality of student, admission criteria, faculty

effectiveness, program funding, and other resources) (Haworth & Conrad, 1997; Pascarella & Terenzini, 1991). Therefore, the program director leadership style is only one factor that influences program outcomes.

### *Suggestions for Future Research*

At the conclusion of this study, preliminary data has been collected regarding leadership behaviors of respiratory care program directors, faculty satisfaction, willingness to exert extra effort, perceived director effectiveness, and program outcomes.

Based on these findings and the limitations of this study, suggestions for future research include:

1. Make an initial contact with the program director by mailing a preliminary postcard with the purpose of the study prior to sending the online survey.
2. Include incentives such as vouchers, lotteries, or donations in order to encourage completion of both online questionnaires.
3. Use a multi-mode technique for participants to help facilitate the completion of the surveys.
4. Demonstrate generalizability by replicating findings using a different set of research methods.
5. Expand on the current study's knowledge base and complete a qualitative study utilizing direct observation and interviews with program directors and faculty.
6. Further research of leadership and other variables of program outcomes are warranted.

## Summary

The purpose of this study was to examine the leadership characteristics of respiratory care program directors and determine the relationship between the director's leadership style, effectiveness, faculty satisfaction, willingness to exert extra effort, and program outcomes. Differences between the directors' perceived leadership style and faculties' perception of the directors' leadership style were examined.

Directors' leadership styles were measured by the MLQ. Director, faculty and program information was measured with a researcher-designed questionnaire. CoARC accredited program directors (n = 321) and their full and part-time faculty (n = 172) received an e-mail and a web link to obtain demographic information. Additionally, all participants received an e-mail from Mind Garden, Inc. with a web link to complete the MLQ. Correlational regression analysis and *t* tests were used to analyze the data.

The results found a significant relationship between faculty satisfaction, extra effort, perceived director effectiveness and each of the predictors transformational, transactional, and passive/avoidant leadership behaviors. There was no relationship between program director leadership style and program outcomes.

Additionally, the results of this study found that participating respiratory care program faculties' perceived their program directors using transformational leadership behaviors *fairly often to frequently, if not always*. To a lesser degree, faculties' perceived their program directors using transactional leadership behaviors *sometimes to fairly often* and passive/avoidant behaviors from *not at all to once in a while*. This study found no significant difference between the directors' perception and the faculties' perception of the directors' transformational and transactional leadership behaviors. However, there

was a significant difference between the directors' perception and the faculties' perception of the directors' passive/avoidant behavior.

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## Appendix A

### Materials for Program Director Survey

## Introductory E-mail

Dear Colleague

I am a doctoral candidate at Florida Atlantic University and the topic of my dissertation focuses on the leadership characteristics of respiratory care program directors. As a respiratory care program director you have been selected to participate in this research study.

The purpose of this study is to determine the relationship between the directors' leadership style and faculty satisfaction with the leader, faculty willingness to exert extra effort, perceived director effectiveness, and program outcomes. Additionally, this study will explore the differences between the directors' perceived leadership style and faculties' perception of the directors' leadership style.

Participation in this study will require clicking on the link provided and answering questions relating to yourself, program demographics, outcomes and providing the names and e-mail addresses for all of your full and part-time faculty associated with your program. Subsequent to you completing the demographic questionnaire a web link for the *Multifactor Leadership Questionnaire* (MLQ) a survey designed to assess your leadership characteristics will be e-mailed to you from Mind Garden, Inc. Mind Garden, Inc. will ask you to submit the names and e-mail address for your faculty to rate you. Both questionnaires will take in total approximately 25 minutes to complete.

Faculty members from your department will be contacted and asked to complete a demographic survey and the questionnaire regarding your leadership characteristics. Mind Garden, Inc. will collect and compile the data from the survey, code and match program directors and faculty participating in this study.

You may be assured of complete confidentiality. All of the results of this study will be kept confidential and the results and information in this study will not be released in any way that may reveal the identification of participants without the participant's lawful agreement.

Your participation in this study is voluntary and the risks involved in participating are no more than one would experience in normal daily activities. You may elect to withdraw at any time. Potential benefits that participants may obtain from joining in this research study include the satisfaction of knowing that they have contributed to a better understanding of the leadership qualities of respiratory care program directors.

I have read the preceding information describing this study. All my questions have been answered to my satisfaction. I am 18 years of age or older and freely consent to participate. I have received a copy of this consent form.

For related problems or questions regarding your rights as a subject, the Division of Research of Florida Atlantic University can be contacted at (561) 297-0777. If you have any questions regarding this study or need clarification, please do not hesitate to contact me at (561) 670-6547 or via email: [nweissman03@yahoo.com](mailto:nweissman03@yahoo.com). You may also contact my advisor, Dr. Deborah L. Floyd at (561) 297-2671 or via email: [dfloyd@fau.edu](mailto:dfloyd@fau.edu).

Both your time and effort are greatly appreciated.

Sincerely,

Nancy L. Weissman, M.ED., RRT  
Doctoral Candidate  
Florida Atlantic University

To help facilitate the completion of this survey, please have your current program annual report available. Data collected will be an average of the past three (3) years, beginning in 2004 ending in 2006.

Here is a link to the survey:

[https://www.surveymonkey.com/s.aspx?sm=8Gfys3PtWYgP8bh3obVOToGI02fhImvllnBwAyVzdek\\_3d](https://www.surveymonkey.com/s.aspx?sm=8Gfys3PtWYgP8bh3obVOToGI02fhImvllnBwAyVzdek_3d)

This link is uniquely tied to this survey and your email address, please do not forward this message.

Thanks for your participation!

Please note: If you do not wish to receive further emails from us, please click the link below, and you will be automatically removed from our mailing list.

<https://www.surveymonkey.com/optout.aspx>

**Sample Client Email Mind Garden, Inc.**

**Subject:** Participant Info from Nancy Weissman, Doctoral Candidate  
Florida Atlantic University  
**From:** invite@mindgarden.info  
**To:** Sample Client <sample@email.address>

Dear Sample Client,

Nancy Weissman has invited you to participate in an online leadership evaluation. All questions about selecting your raters for your evaluation or about this program should be addressed to Nancy Weissman ([nweissman03@yahoo.com](mailto:nweissman03@yahoo.com)). If you have technical problems, please contact Mind Garden, +1 650 322-6300, [info@mindgarden.com](mailto:info@mindgarden.com).

To complete your self rating and select raters to evaluate your leadership behaviors, please go to:

<http://www.mindgarden.info/mlq2/>

It is important that you respond by ASAP

You should save this email to get back to this important page or bookmark it in your browser.

Thank You.

Mind Garden

## Program Director Questionnaire

Program ID \_\_\_\_\_

\* For the purpose of this study the Respiratory Care Program Director is defined as the person responsible for the organization and administration of the program. Additionally they are responsible for curriculum development, program effectiveness, program evaluation, and program outcomes.

Directions: Please Answer each of the following questions by selecting the appropriate response for each item.

### *Section I: Personal Information*

1. What is your gender?  
 Female  
 Male
2. What is your age?  
 Years
3. Which of these best describes your ethnic background?  
 Asian or Pacific Islander  
 American Indian or Alaskan Native  
 Black, non-Hispanic  
 Caucasian (White), non-Hispanic  
 Hispanic  
 Other (please specify) \_\_\_\_\_  
 I would prefer not to say
4. What is your current title?  
 Program Director  
 Department Chair  
 Department Chair/Program Director  
 Other (please specify) \_\_\_\_\_
5. What is your current appointment status?  
 Permanent  
 Interim  
 Acting
6. How long have you been in your current position?  
 Less than six months  
 Greater than six months, but less than one year  
 Total number of Years



7. Are you responsible for programs other than Respiratory Care?  
 Yes  
 No
8. How long have you been a Registered Respiratory Therapist?  
 Less than 5 years  
 5 – 10 years  
 11 – 15 years  
 16 – 20 years  
 More than 20 years

***Section II: Educational Background***

1. Which of the following designates your highest academic degree obtained?  
 Doctoral degree  
 Masters degree  
 Bachelors degree  
 Associate degree
2. Which discipline is associated with your highest academic degree obtained?  
 Respiratory Care  
 Education  
 Business  
 Health Administration  
 Other (please specify) \_\_\_\_\_
3. If you have participated in continuing or formal education in the area of leadership, please select all that apply:  
 College degree  
 College credit course(s)  
 Workshop (one or two-day)  
 Seminar (more than two days)

***Section III: Institutional Information***

1. Which of the following best describes your institution?  
 Public  
 Private  
 For Profit
2. Which of the following best describes your institution?  
 Research University  
 University  
 Baccalaureate College  
 Community College  
 Technical College

3. Which of the following best describes your institution's fall semester's Full Time Equivalent (FTE) enrollment status?

- Less than 1,999
- 2,000 - 4,999
- 5,000 - 9,999
- More than 10,000
- I don't know

4. Upon completion of your institution's respiratory care program, which of the following degrees does your graduate receive?

- Associate of Science
- Baccalaureate Degree
- Master's Degree
- Other (please specify) \_\_\_\_\_

***Section IV: Program Information***

\* For the purposes of this study, a part-time or full-time faculty member is defined as any person that is employed by the educational institution or by a clinical affiliated institution whose responsibilities includes instruction in the classroom, and/or laboratory and/or clinical setting.

1. Number of full-time faculty members \* (not including yourself):

\_\_\_\_\_

2. Number of part-time faculty members \*:

\_\_\_\_\_

3. Total student capacity:

\_\_\_\_\_

4. Average number of first-year students admitted annually:

- Less than eight
- 8 - 15
- 16 - 25
- 26 - 35
- More than 35

5. Three-year average NBRC Entry Level CRT Exam pass rate (the number of program graduates who pass the Entry Level CRT credentialing examination divided by the number of graduates who take the examination on the first attempt):

\_\_\_\_\_ %

6. Three-year average NBRC Written Registry Exam pass rate (the number of program graduates who pass the Written Registry credentialing examination divided by the number of graduates who take the examination on the first attempt):  
 \_\_\_\_\_%
7. Three-year average NBRC Clinical Simulation Exam pass rate (the number of program graduates who pass the Clinical Simulation credentialing examination divided by the number of graduates who take the examination on the first attempt):  
 \_\_\_\_\_%
8. Three-year average program completion rate (the number of students initially enrolled divided by the number of students who complete the program):  
 \_\_\_\_\_%
9. Three-year average job-placement rate (number of graduates actively seeking employment in the respiratory care profession divided by the number of graduates employed in the respiratory care profession within 6 months of graduation):  
 \_\_\_\_\_%
10. Most recent CoARC accreditation action or award:  
 \_\_\_\_\_ 10 years  
 \_\_\_\_\_ 5 years  
 \_\_\_\_\_ 1 year  
 \_\_\_\_\_ Probation  
 \_\_\_\_\_ Other (please specify) \_\_\_\_\_

## Faculty Contact Information

Please list the names and email addresses of faculty members associated with your program. Faculty members will be contacted and asked to complete the *Multifactor Leadership Questionnaire* (MLQ). The MLQ is designed to assess your leadership skills and your effectiveness as perceived by the faculty member. All responses will be kept confidential.

\* For the purposes of this study, a full-time or part-time faculty member is defined as any person that is employed by the educational institution or by a clinical affiliated institution whose responsibilities includes instruction in the classroom, and/or laboratory and/or clinical setting.

---

Name: \_\_\_\_\_

Email Address: \_\_\_\_\_

Check One: Full-time      Part-time

Name: \_\_\_\_\_

Email Address: \_\_\_\_\_

Check One: Full-time      Part-time

Name: \_\_\_\_\_

Email Address: \_\_\_\_\_

Check One: Full-time      Part-time

Name: \_\_\_\_\_

Email Address: \_\_\_\_\_

Check One: Full-time      Part-time

Appendix B  
Materials for Faculty Survey

## Introductory E-mail

Dear Colleague

I am a doctoral candidate at Florida Atlantic University and the topic of my dissertation focuses on the leadership characteristics of respiratory care program directors. You have been selected by your program director to participate in this research. Should you agree to participate, please click on the link below and complete the *faculty questionnaire*.

Subsequent to you completing the demographic questionnaire a web link for the *Multifactor Leadership Questionnaire* (MLQ) a survey designed to assess your program directors leadership characteristics will be e-mailed to you from Mind Garden, Inc. Both questionnaires will take in total approximately 15 minutes to complete.

Mind Garden, Inc. will collect and compile the data from the survey, code and match program directors and faculty participating in this study. Your responses to the questionnaire will be completely anonymous.

You may be assured of complete confidentiality. All of the results of this study will be kept confidential and the results and information in this study will not be released in any way that may reveal the identification of participants without the participant's lawful agreement.

Your participation in this study is voluntary and the risks involved in participating are no more than one would experience in normal daily activities. You may elect to withdraw at any time. Potential benefits that participants may obtain from joining in this research study include the satisfaction of knowing that they have contributed to a better understanding of the leadership qualities of respiratory care program directors.

I have read the preceding information describing this study. All my questions have been answered to my satisfaction. I am 18 years of age or older and freely consent to participate. I have received a copy of this consent form.

For related problems or questions regarding your rights as a subject, the Division of Research of Florida Atlantic University can be contacted at (561) 297-0777. If you have any questions regarding this study or need clarification, please do not hesitate to contact me at (561) 670-6547 or via email: [nweissman03@yahoo.com](mailto:nweissman03@yahoo.com). You may also contact my advisor, Dr. Deborah L. Floyd at (561) 297-2671 or via email: [dfloyd@fau.edu](mailto:dfloyd@fau.edu).

Both your time and effort are greatly appreciated.

Sincerely,

Nancy L. Weissman, M.ED., RRT  
Doctoral Candidate  
Florida Atlantic University

Here is a link to the survey:

[https://www.surveymonkey.com/s.aspx?sm=8Gfys3PtWYgP8bh3obVOToGI02fhImvlInBwAyVzdek\\_3d](https://www.surveymonkey.com/s.aspx?sm=8Gfys3PtWYgP8bh3obVOToGI02fhImvlInBwAyVzdek_3d)

This link is uniquely tied to this survey and your email address,  
please do not forward this message.

Thanks for your participation!

Please note: If you do not wish to receive further emails from us,  
please click the link below, and you will be automatically removed from our  
mailing list.

<https://www.surveymonkey.com/optout.aspx>

## Sample Rate Request E-mail

**Subject:** Leadership rating request from Nancy Weissman

**From:** [invite@mindgarden.com](mailto:invite@mindgarden.com)

**To:** Sample Rater <[sample@email.address](mailto:sample@email.address)>

Dear Sample Client,

You have been identified as someone who can provide ratings of leadership of Nancy Weissman ([nweissman03@yahoo.com](mailto:nweissman03@yahoo.com)). There are other raters also completing this survey for Nancy Weissman. Your ratings will be aggregated with the other ratings which will provide leadership development feedback to Nancy Weissman. This aggregation is to assist you in providing direct and honest feedback to Nancy Weissman since you will not be identified with your ratings. Note that usually higher level ratings (e.g., supervisor) consist of only one person and so are not aggregated.

For purposes of confidentiality, an independent company, Mind Garden, Inc. manages this process. Please also contact Mind Garden with any technical problems, [info@mindgarden.com](mailto:info@mindgarden.com), +1 650-322-6300 (USA).

To complete your rating, please visit:

<http://www.mindgarden.info/mlq2/>

to rate Nancy Weissman. For the purposes of this evaluation, you should respond by: **ASAP**. All questions about this process should be addressed to Nancy Weissman, [nweissman03@yahoo.com](mailto:nweissman03@yahoo.com). If you have technical problems, please contact Mind Garden, 650 322-6300, [info@mindgarden.com](mailto:info@mindgarden.com)

Thank You.

Mind Garden



## Faculty Questionnaire

Program ID \_\_\_\_\_

Directions: Please Answer each of the following questions by selecting the appropriate response for each item.

### *Section I: Personal Information*

1. What is your gender?

\_\_\_\_\_ Female  
\_\_\_\_\_ Male

2. What is your age?

\_\_\_\_\_ Years

3. Which of these best describes your ethnic background?

\_\_\_\_\_ Asian or Pacific Islander  
\_\_\_\_\_ American Indian or Alaskan Native  
\_\_\_\_\_ Black, non-Hispanic  
\_\_\_\_\_ Caucasian (White), non-Hispanic  
\_\_\_\_\_ Hispanic  
\_\_\_\_\_ Other (please specify) \_\_\_\_\_  
\_\_\_\_\_ I would prefer not to say

### *Section II: Educational Background*

1. Which of the following designates your highest academic degree obtained?

\_\_\_\_\_ Doctoral degree  
\_\_\_\_\_ Masters degree  
\_\_\_\_\_ Bachelors degree  
\_\_\_\_\_ Associate degree

2. Which discipline is associated with your highest academic degree obtained?

\_\_\_\_\_ Respiratory Care  
\_\_\_\_\_ Education  
\_\_\_\_\_ Business  
\_\_\_\_\_ Health Administration  
\_\_\_\_\_ Other (please specify) \_\_\_\_\_

***Section III: Professional Information***

1. Which of the following best describes your affiliation with the respiratory care program?

Full-time  
 Part-time

2. Which of the following best describes your employer?

Academic institution (i.e., college, university)  
 Clinical education setting (i.e., hospital, clinic, rehab)  
 Other (please specify) \_\_\_\_\_

3. How long have you been a Registered Respiratory Therapist?

Less than 5 years  
 5 – 10 years  
 11 – 15 years  
 16 – 20 years  
 More than 20 years