LEADERSHIP QUALITIES IN ADMINISTRATORS OF GROUP MEDICAL PRACTICES

by

Joy M. Nonnweiler

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has been approved

April, 2002

APPROVED:

CAROLYN C.HOCH, Ph.D., R.N., FAAN, Faculty Mentor and Chair

ROBERT HOCKIN, Ph.D., Committee Member

CHARLES LORBEER, Ph.D., Committee Member

FRANK CUMMINS, M.D., F.A.C.C., Committee Member

NANCY STARBUCK, Committee Member

ACCEPTED AND SIGNED:

CAROLYN C. HOCH, Ph.D., R.N., FAAN

Dean, School of Business

Abstract

This dissertation has been constructed to synthesize what was the best, most affordable, and logistically reasonable, design and methodology for this study to measure leadership abilities of medical group practice managers. The Bass-Avolio Multifactor Leadership Questionnaire (MLQ) version 5X self-rater form was selected as the research instrument. The MLQ can be used to assess respondent leadership behaviors and provide a stratification of the response in terms of Idealized Influence, Inspirational Motivation, Intellectual Stimulation, Individual Consideration, Contingent Reward, Management-by-Exception, Laissez-faire Leadership, Extra Effort, Effectiveness, and Satisfaction. This survey was executed using a web-based format with e-mail contact letters incorporating elements of an informed consent document. The population sample was a random, purposive sample selected from the membership of the Medical Group Management Association. The SPSS version 10.0 statistical package was selected for data analysis.

Dedication

To George, who puts sunshine in my heart.

Acknowledgments

I would like to thank my dissertation committee for the support they have proffered, and for the wealth of knowledge on which I continued to draw as we traveled together throughout the dissertation journey. It was truly comforting to know that during my pursuit of a doctorate, I was encircled by talented and generous teammates. I particularly wish to express my gratitude to my faculty mentor, Dr. Carolyn Hoch, for an attention to detail that I truly covet in an advisor. Carolyn has been there for me throughout my degree program, always nudging me in the right direction without ever diminishing my individuality. My diligence, several years ago, in making the case of why she should accept me as a mentee was well worth it.

I also want to take this opportunity to recognize a beacon in my life, a man who figured prominently as friend and mentor for many years as I struggled through some pretty tortuous career passages. Dr. Frank Cummins has helped me in too many ways to recount and I thank him for overlooking my crazy antics on the way here.

I wish to thank the administration and the research staff of the Medical Group Management Association, for

making the population sample available, and for waiving any fees for their services.

In closing, I thank my family. They have been so wonderfully understanding of my need to take time away from them to assure my continued success in pursuit of my degree. I thank them for each sacrifice and every day.

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CHAPTER 1. THE PROBLEM

Brechbill (1998) has reported that both physicians and managers recognize the importance of the practice administrator as leader in a survey conducted on medical groups with fewer than 15 physicians. However, the physicians who were surveyed did not cite leadership as one of the management performance areas with which they were satisfied. Dye (2000a) emphasizes there are five leadership imperatives in the healthcare industry that must be fulfilled in order to restore trust, efficiency and quality in an era of increased complexity and growing dissatisfaction among patients, physicians and healthcare executives. Each imperative is contingent upon the presence of skilled leaders in the medical organization. Manion (1998, p., 197) explains, "Health care has never been in greater need of exemplary leaders than in this period of tumultuous change that marks the close of the century."

Coile and Tyler (2000, p. 12) note that at the current rate one in five health care CEOs will leave or be fired. Ballard (2001) reports on skyrocketing turnover of health

care executives in New York and Moore (1999) states that group practice leaders in the modern healthcare environment may change jobs as often as every year. Marlowe (1999) cites that the high turnover in senior management is present in every type of health care organization.

The Medical Group Management Association (MGMA) and the American College of Medical Practice Executives (ACMPE) have identified the core competencies that are critical to the success of the group practice administrator (Davis, 1998). In addition to the more pragmatic competencies (e.g., using information systems, managing mergers and acquisitions) Davis (1998) also focuses our attention on transformational leadership factors (e.g., Inspirational Motivation, Intellectual Stimulation, Idealized Influence) that are considered essential.

With a recognized need for leadership of group medical practices and in light of the problems with retention and unsuccessful leadership of contemporary healthcare administrators, a question arises as to whether there are common leadership characteristics, limitations, or deficiencies in the background or nature of health care management personnel within medical group practices.

Identifying the degree and nature of leadership factors that are present in medical practice administrators might explain, or perhaps even predict, this predisposition to failure.

Background of the Study

In the last few years small physician practices have been experiencing rapid growth, in part by merging with other small practices (Covin, Koleko, Sightler, & Tudor, 1997; Wolper, 2001). It is common that office managers who are retained following a merger of smaller organizations may not be qualified for the administration of the resultant larger organization (Rieder, 1999).

Meanwhile, healthcare organizations have foundered in an attempt to implement the strategies for managed care and capitation proposed in the 1990s (Morrison, 2000) and continue to struggle with the increasing complexity in the politics of healthcare, enormous financial upheaval, mounting frustration of physicians and other care providers, and a shortage of quality office staff and allied health professionals (Dunevitz, 2000). The complexity of the environment even challenges the

leadership capability of seasoned veterans of healthcare administration (Blair & Fottler, 1998).

Theoretical Framework of the Study

Recent trends in our society and changes in our organizational orientations reflect an evolution from the concept that great men must be born to lead, to the theory that modern leadership might also be manifested in a more team-oriented approach that seeks to transform everyone into a leader (Boje, 2000; Cunningham & Kitson, 2000). Burns (1978), attributed as the first theorist to describe the "transforming" leader, notes that this leader transmits a moral and intellectual leadership that stems from mutual values that transcend the practical transaction. Burns sought to shift the emphasis of the study of leadership from collective bargaining to motivation (Sorenson, 2001).

In 1985, Bass dedicated his contribution in leadership theory to James MacGregor Burns, and specifically cites the influence of the earlier work of Burns on his subsequent exploration of transactional and transformational leadership. Bass recognized Burns' treatment as a revolutionary influence in leadership theory, and endeavored to expand the research and develop the tools to

quantify the validity of the underlying concepts (Bass, 1985).

The subsequent work of Bass and Avolio in the development of instruments with which to measure transformational and transactional leadership qualities has been influential in the advancement of leadership theory through applied research (Avolio, Bass, & Jung, 1995). Organizations are taking a more proactive approach in leadership development as a result of this ability to measure leadership qualities, provide subsequent training to personnel as a approach to overcome deficiencies, and then re-test for expected improvement (Blanchard, Hybels, & Hodges, 1999).

Statement of the Problem

While it appears that leadership is recognized as an essential quality in a group practice administrator, too few organizations consider leadership skills in their selection process (Brechbill, 1998). Sometimes physician groups deliberately select an administrator that will be acquiescent so they can undermine their authority (Morrison, 2000). Other groups promote a candidate of convenience, subsequent to a practice merger and selected

from limited management staffs of the former separate organizations (Wolper, 2001). Either way, by ignoring candidates' leadership abilities, the groups may also disable their organizational progress, and the progress of the employees within the medical organization. The high rate of administrative failure and attrition in medical groups creates a chaotic internal environment in addition to an already extremely challenging external healthcare milieu (Dye, 2000b). Therefore, the problem to which this study is directed is an investigation of the leadership characteristics of the administrators in group practice organizations of various sizes.

Purpose of the Study

The purpose of this study was to assess the leadership qualities in administrators of group medical practices, and then compare the leadership qualities of administrators in small, medium, and large group practices. An assessment of transformational leadership factors (viz., Idealized Influence, Inspirational Motivation, Intellectual Stimulation, Individualized Consideration), transactional leadership factors (viz., Contingent Reward, Management-by-Exception), laissez-faire leadership, and leadership

outcome factors (viz., Extra Effort, Effectiveness, Satisfaction) is evaluated within the context of the medical group administrators as a single entity, and then stratified by practice size in order to determine if there is a significant difference in leadership factors between practice administrators within the three subgroups.

Rationale

Rapid growth, mergers and turnover in healthcare have focused interest on the feasibility of a study of the leadership of group medical practices. This investigator hoped that by exploring the leadership in group practices across specialties and across geographic areas, and further comparing the leadership in various size medical organizations, one might identify a relationship between practice size and leadership skills.

By studying the leadership qualities of group practice administrators and hopefully revealing areas of strength, deficiency, or incongruity, it is possible that strategic information will be identified that could be utilized in the preparatory education of future administrators, for improvement in the applicant screening process, or in

leadership development training for contemporary healthcare executives.

Hypotheses and Research Questions

Research Question 1

The research question asks, is there a relationship between the transformational, transactional, laissez-faire leadership factors, and leadership outcome factors in administrators of small and medium group practices?

Research Hypothesis I:

Null hypothesis I: There is no significant difference in the transformational, transactional, laissez-faire leadership characteristics, and leadership outcome factors in administrators of small and medium group practices.

Alternate hypothesis I: There is a significant difference in the transformational, transactional, and laissez-faire leadership characteristics, and leadership outcome factors in administrators of small and medium group practices.

Research Question 2

The research question asks, is there a relationship between the transformational, transactional, laissez-faire leadership factors, and leadership outcome factors, in administrators of small and large group practices?

Hypothesis II:

Null hypothesis II: There is no significant difference in the transformational, transactional, and laissez-faire leadership characteristics, and leadership outcome factors in administrators of small and large group practices.

Alternate hypothesis II: There is a significant difference in the transformational, transactional, and laissez-faire leadership characteristics, and leadership outcome factors in administrators of small and large group practices.

Research Question 3

The research question asks, is there a relationship between the transformational, transactional, laissez-faire leadership factors, and leadership outcome factors, in administrators of medium and large group practices?

Hypothesis III:

Null hypothesis III: There is no significant difference in the transformational, transactional, and laissez-faire leadership characteristics, and leadership outcome factors in administrators of medium and large group practices.

Alternate hypothesis III: There is a significant difference in the transformational, transactional, and laissez-faire leadership characteristics, and leadership outcome factors in administrators of medium and large group practices.

Significance of the Study

The theoretical or perceived benefits of a solo physician joining a group practice, or those of merging several smaller groups into a single, larger group are often never found in reality (Wolper, 2001). A part of this disparity may be caused by inappropriate selection of practice administrators who lack the leadership factors necessary to succeed in a challenging environment (Blair & Paine, 2000). If leadership deficiencies in any particular size strata of group practices can be identified, perhaps the groups within that contingent can benefit from the

information in their leadership selection process. In addition, educational organizations whose mission involves the leadership training of future healthcare executives or the continuing development of contemporary medical group administrators, may benefit from a slightly modified, or entirely redirected emphasis toward enhancement of one or more particular leadership factors found deficient in this proposed study.

Study Variables

The study variables include transformational leadership factors including Idealized Influence, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration, transactional leadership factors including Contingent Reward and Management-by-Exception, Laissez-Faire leadership, and leadership outcome factors including Extra Effort, Effectiveness, and Satisfaction. Biodata variables include Gender, Age, Years of Experience, Years in Current Position, and Highest Level of Education. Practice demography variables include Practice Size in physician FTEs, and Job Title.

While experimental methods purport to determine causality, the proposed correlational method only infers

the existence of a relationship between variables (Dyer, 1995). A meaningful result from correlational inference is almost always preceded by a suspected connection between two sets of data (McGuigan, 1993). The predictor is the variable that is similar to the independent variable of experimental design, and the outcome variable is similar to the dependent variable (Dyer, 1995). So, in the traditional sense there are actually no independent variables that were manipulated by the investigator in the conduct of this study. However, since the number of physician FTEs was a condition of the participants that will allow comparison of leadership qualities between the groups, practice size has been called the independent or "predictor" variable. The leadership and outcome factors (viz., Idealized Influence, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration, transactional leadership factors including Contingent Reward and Management-by-Exception, Laissez-Faire leadership, Extra Effort, Effectiveness, Satisfaction) were considered the dependent or "outcome" variables.

Definition of Terms

Medical Group Practice

A medical group practice is an organization with at least two physicians who jointly prepare their financial and medical records (DocInTraining.com, 2001), or who are organized as a legal entity and share records and employees (American Medical Association, 2001).

Group Practice Size (Small, Medium, Large)

The Health Technology Center, Pricewaterhouse Coopers, and the Institute for the Future (2001, p. 5) have defined medium sized group medical practices as those with 25 to 50 physicians. They defined small groups as those with fewer than 25 physicians and large groups as those with more than 50 physicians. DocInTraining.com (2001), an Internet website for medical residents, defines small group practices as three to nine physicians, medium sized practices as 10 to 49 physicians and large groups as those which consist of 50 or more physicians. The authors of "*The Complete Practice Management Seminar*™" (2001) define the small group as two to five physicians, medium as 6 to 24 physicians, large as 25 to 99 physicians and very large as 100+ physicians. Blair and Fottler (1998, p. 32) define

the small group as one with fewer than ten Full Time Equivalent (FTE) physicians, the medium group as one with between 10 and 50 FTE physicians, and the large group as one with over 50 FTE physicians.

Because of the lack of a uniform definition for size stratification in medical group practices, for purposes of dissertation research the Medium Sized Group Practice will be defined as having between 10 and 50 physician FTEs. Small group practices will be those with physician FTEs under 10, and Large Group Practices will be those with physician FTEs over 50. This practice stratification is congruent with the definitions used by the DocInTraining.com website and Blair and Fottler (1998)

Transactional Leadership

Burns (1978) describes the transactions between leader and follower as a bartering of gratifications that are generally superficial, less enduring exchanges.

Transformational Leadership

The more substantial leadership interaction, which Burns (1978) discusses at great length, is a moral and an intellectual leadership that stems from mutual values that transcend the practical transaction.

Charismatic or Heroic Leadership

While Burns (1978) downplayed the lasting importance of the heroic leader as mainly transitional, Bass (1985) identified charisma as the most influential factor of the successful leader as long as the underlying needs were authentic. Heroic leadership stands on the essence of the leadership "presence" rather than any specific abilities or actions (Bass, 1985).

Inspirational Leadership

Inspirational motivation is a process of focusing on the organizational or cultural vision, and raising the expectations for achievement (Zacharatos, Barling, & Kelloway, 2000).

Individualized Consideration

Bass (1985) indicates that by treating subordinates in a fair manner, the transformational leader can develop the respect and trust necessary to be accepted as leader. This idealized influence is closely tied to telling the truth, and sacrificing popularity in favor of doing the right thing (Blanchard, Hybels, & Hodges 1999).

Intellectual Stimulation

Transformational leaders use intellectual stimulation to help their subordinates to reframe old problems in order to stimulate creative thinking and innovation (Zacharatos, Barling, & Kelloway, 2000). This stimulation is especially helpful in the resolution of poorly defined problems (Bass, 1985).

Contingent Reward and Contingent Aversive Reinforcement

Bass (1985) identified the use of contingent reinforcement, both positive and aversive, as the hallmark of managers that are interested in pragmatic results and efficient operations. While emphasizing that praise, recognition and tangible rewards may improve performance, he cautioned that delaying negative feedback to spare the esteem of a subordinate can correspondingly undermine the transaction (Bass, 1985).

Assumptions and Limitations

Although inexpensive, amenable to a wide geographical coverage, and generally more uniform in presentation, questionnaires suffer from two major deficiencies: non-returns and bias caused by non-returns (Miller, 1983). Factors that contribute to increased responses to a mailed

questionnaire include follow-up mailings or telephone calls, recognizable sponsor associated with the research, short length, personalized cover letter, appeal for objective information versus subjective, interesting topic and aesthetic appeal (Becker, Cookston, & Kulberg, 2000; Rossi, Wright, & Anderson, 1983). The design of an electronic questionnaire could incorporate the same factors in an attempt to improve the rate of return (Smith, 1997).

In addition, when using survey methods to assess personality traits, different challenges to the investigator are presented than when using these methods for measuring abilities (Walsh, 1989). The use of the questionnaire is based on an assumption that the subject respondents will be agreeable to, and capable of, answering each question truthfully (Berdie, Anderson, & Niebuhr, 1986). Careful population sample selection can eliminate some failure in respondent capability by directing the questions to respondents that are likely to have information or opinions relevant to the subject area (Rossi, Wright, & Anderson, 1983). Some questionnaires will be doomed to failure, however, despite careful sample selection and a large pool of potential respondents,

because the structure of the individual questionnaire items is unclear or disparate (Rossi, Wright, & Anderson, 1983). For this reason, in addition to finding a receptive and appropriate respondent pool, it is essential that the questionnaire consist of reliable and valid individual questions (Berdie, Anderson, & Niebuhr, 1986).

Even with reliable and valid questions, there are still several different types of response bias commonly found in the administration of questionnaires. One difficulty is the respondent awareness that a trait or attitude is being measured, and a conscious or unconscious wish on their part to appear to achieve a specific preconceived positive rating when an assessment is administered (Dawes, 1972). This phenomenon has been called a reactive response to being studied, and poses difficulty with obtaining accurate data in evaluation of attitudes or traits that are known to the respondent in advance of testing (Walsh, 1989). A desire to maintain social desirability, or acquiescence on the part of the respondents, as well as a concern that somehow this information will be available for retrieval and may affect the future, may introduce distortions in the data being

collected (Walsh, 1989). By occasionally reversing the meaning of some items, or introducing contrary statements into the item mix, some acquiescence bias may be identified (Loewenthal, 1996). Prestige bias may lead respondents to claim greater abilities and understanding, and may even introduce error in demographic classification questions regarding occupation, income, and education (Oppenheim, 1966). In other cases, especially notable in military screening, some respondents take the opposite tack in order to be classified negatively and receive benefits and treatment based on falsely negative assessments (Walsh, 1989).

While some electronically administered questionnaire features are superior to the utility of surveys distributed on paper, there are also some unique limitations. In e-mail, on-line, or web-based questionnaires, respondents may believe that it is not important to respond honestly, or may discontinue participation because of technical factors that are not encountered on a paper tool (Hernon, 2000). Similar to an anonymously returned paper instrument, there is also the possibility that the intended recipient is not the actual respondent because of erroneous distribution,

outdated email addresses, or delegation of the response to a subordinate.

In addition, the use of technology to collect data may bias the population sample toward younger, computer-literate, and more educated respondents (Shen & Gresham, 2000). Fortunately, in a population sample drawn from the business sector one can expect nearly all of the organizations to have Internet connections and e-mail service (Watt, 1997).

Study Organization

While the discussion in chapter one has primarily specified the nature and background of the proposed research problem, chapter two will encompass the literature relevant to the investigation and development of the research problem. Chapter three further delineates the research problem with a discussion of the methodology selected for investigation of the questions and hypothesis identified earlier. Chapter four will communicate, scrutinize, and analyze the data resulting from the application of the research methodology. Similarly, chapter five will summarize, offer conclusions, and make recommendations from the collected data from chapter four.

Recommendations for future research will also be presented in chapter five.

CHAPTER 2. REVIEW OF THE LITERATURE

The amorphous image of a typical leader, often in stark contrast to the rendering of many of our successful historical leaders, has enticed psychologists, historians and anthropologists to contemplate the nature and origin of leadership (Haas & Tamarkin, 1992). From initially unwilling leaders assailed by divine providence, like Moses and Jesus Christ, hereditary leaders like Queen Victoria and King Henry V, revolutionaries like Malcolm X and Mahatma Gandhi, corporate raiders like Bill Gates and Jack Welch, to visionaries like Walt Disney and Pablo Picasso, there are abundant arrays of both positive and negative characteristics that can define different nuances in the faces of leadership (Kindle, 1999).

Leadership Characteristics

There are many perspectives and definitions that have been applied to ascertain a description of leadership. Leadership has been described as a group-centered function, a personality trait, the ability to persuade or influence, power, an instrument used to achieve goals, the natural outcome of group interaction, and the foundation of social

structure (Lassey & Fernandez, 1976). Many published works concentrate on the characteristics of good leaders and how these traits are effective in a particular business, culture or environment (Dilts, 1996). However, no single definition of leadership is applicable to all circumstances and contexts.

Although leadership roles may vary widely, there is generally a commonality in the dimensions of authority and power. As recently as the early 1900s it was still believed that leadership could only be inherited as a set of abilities and traits that predisposed the individual to wielding authority (Lassey & Fernandez, 1976). This theory resulted in a flood of research concerning the discovery of search criteria to identify potential leaders at an early age. Divine providence, and an inherited leadership pedigree passed from father to son, had dominated the leadership of religious and monarchical societies (Haas & Tamarkin, 1992). Highly developed interpersonal skills, an analytical mind with the ability to absorb and synthesize substantial quantities of data, intuition, clear and concise ability to communicate, confidence, motivation, charisma, and empathy have all been identified as

characteristics of born leaders (Camenson, 1998; Dilts, 1996; Haas & Tamarkin, 1992; Zimmerman, 2000). Some interesting positive correlations have been discovered between heredity and entrepreneurial success in studies performed on the influences of gender, birth order, and physical stature in business (Willax, 2000).

After the 1930s, sociologists began to develop additional theories regarding the behavioral aspects of leadership as opposed to, or in addition to, the personal characteristics already suggested (Lassey & Fernandez, 1976). During this period, sociologists identified four groups of variables that appeared to be involved in the development and foundation of leadership:

1. The characteristics of the leader
2. Attitudes, needs and other personal characteristics of the group
3. Characteristics of the organization or culture in which the group is positioned
4. Social, economic and political milieu

It became commonly accepted that leadership might not be simply an inborn set of genetically inherited skills, but rather a complex relationship among these four variables (Lassey & Fernandez, 1976).

Pertinent Literature

Burns' (1978) exploration of leadership shifted the focus from the identification of notable characteristics of leaders to the reciprocal relationships between leaders and followers. In addition, he further subdivided the interaction between leader and disciples into transactional goals, and transformational or moral leadership (Sorenson, 2001).

Transactional Leadership

Burns (1978) describes the transactions between leader and follower as a bartering of gratifications that are generally superficial, less enduring exchanges. The adaptability of the leader, and the ability to quickly provide marketable fulfillment to a "buyer", distinguishes the outstanding transactional leader (Burns, 1978). An almost mathematical formulation of the contributions of the follower to the collective, in comparison to the economic or personal inducements distributed by the leader, is calculated to balance the transactional relationship (Lassey & Fernandez, 1976). Fundamental to this system of barter is the hierarchy of needs proposed by Maslow (1954)

and his discourse regarding the influence of the various levels of human need on motivation.

Transformational Leadership

The more substantial leadership interaction, which Burns (1978) discusses at great length, is a moral and intellectual leadership that stems from mutual values that transcend the practical transaction. Burns describes intellectual leadership as that which "brings in the role of *conscious purpose* drawn from values. . . . Intellectual leadership is *transforming* leadership" (Burns, 1978, p. 142). Burns sought to shift the emphasis of the study of leadership from collective bargaining to motivation (Sorenson, 2001).

Charismatic or Heroic Leadership

In conjunction with his narrative on the subject of transforming leadership, Burns (1978) also discussed the more amorphous qualities of the charismatic, or heroic leader. The heroic leader has profound effects on the emotions and affective qualities, and may represent symbolic ideals to the followers that may build unrealistic expectations (Burns, 1978; Howell, 1997). Although the charismatic leader may possess gifts and abilities that

exert extraordinary influence on their followers, Burns cautioned that their personal investment might be ephemeral. Their place in history is strongly linked to extreme crisis and social change (Burns, 1978). The effectiveness of the charismatic leader is demonstrated most vividly in organizational turnarounds, extraordinary political upheaval, and unifying the direction of momentum in uncertain entrepreneurial ventures (Howell, 1997). Burns purported that it is only when charisma is combined with an underlying framework of ideology that the charismatic leader can exert lasting influence (Burns, 1978).

In 1985, Bernard Bass dedicated his momentous literary contribution on leadership to James MacGregor Burns, and specifically cites the influence of the earlier work of Burns on his subsequent exploration of transactional and transformational leadership. Bass recognized Burns' treatment as a revolutionary influence in leadership theory, and endeavored to expand the research and develop the tools to quantify the validity of the underlying concepts (Bass, 1985).

Bass (1985) specifies that the successful leader may attain follower (our) transformation in any one of three ways:

> 1. By raising our level of awareness, our level of consciousness about the importance and value of designated outcomes, and ways of reaching them.
> 2. By getting us to transcend our own self-interest for the sake of the team, organization, or larger polity.
> 3. By altering our need level on Maslow's (or Alderfer's) hierarchy or expanding our portfolio of needs and wants. (p. 20)

While Bass (1985) points out that much of the content of his recipe for transformational leadership is already contained in the work of Burns (1978), he also states that they differ in three areas. Burns did not represent the expansion or elevation of the followers by the leader, nor did he see the transformational process as being possible in anything other than a moral and ethical version (Bass, 1985).

Bass (1985) also differed from Burns in his concept of the relationship of the transactional leadership framework to that of transformational leadership. While Burns (1978) viewed the transactional relationship as a precursor to the

more desirable transformational bond, Bass (1985) proposed that leaders could successfully combine the elements of each framework in variable quantities.

Bass's concept of leadership in 1985 was embodied by a matrix of factors substantiated by scientific research methods including quantitative analysis and his own leadership questionnaire. The factors he identified as highly correlated in transactional and transformational leadership included charismatic leadership, contingent reward, individualized consideration, contingent aversive reinforcement (management-by-exception), and intellectual stimulation (Bass, 1985, p. 207-212). Bass (1985) sorted the factors into two groups: (a) those that are influential in transformational leadership (viz., charismatic leadership, individualized consideration, and intellectual stimulation) and (b) those that are related to transactional leadership (viz., contingent reward and contingent aversive reinforcement). He concurrently developed a leadership questionnaire based on the measurement of the leadership factors, and the similarities between successful and unsuccessful leaders (Bass, 1985).

Charismatic Leadership

While Burns (1978) downplayed the lasting importance of the heroic leader as mainly transitional, Bass (1985) identified charisma as the most influential factor of the successful leader as long as the underlying needs were authentic. Burns set his examples of charisma in a socio-political context and emphasized the inherent morality of the truly heroic figure and the associated noble cause (Cuoto, 1997). In contrast, the inspirational leader of Bass's early work encompassed both the moral influence of the ethical leader and the emotionally charged influence of the manipulative tyrant (Bass, 1985). In subsequent treatments, however, Bass became theoretically more aligned with Burns and began to emphasize the implicit morality of authentic transformational leadership (Bass, 1990; Cuoto, 1997).

Inspirational Leadership

Another of Bass's transformational factors was that of inspirational motivation (Bass, 1985). Inspirational motivation is a process of focusing on the organizational or cultural vision, and raising the expectations for achievement (Zacharatos, Barling, & Kelloway, 2000). If

people know what their goals are, and the leader does everything possible to support, encourage and coach in the process, they will produce good results (Blanchard, 1999; Murphy, 1996).

Similarly, Burns (1978) discusses the influence of the leader in directing expectations toward specific goals, and the heightened sense of unity and entitlement that might result. Burns (1978) cautions, however, that when hopes are elevated to expectations in an environment that is unlikely to spawn positive results, violence and revolution may follow.

Individualized Consideration

Bass (1985) indicates that by treating subordinates in a fair manner, the transformational leader can develop the respect and trust necessary to be accepted as leader. This idealized influence is closely tied to telling the truth, and sacrificing popularity in favor of doing the right thing (Blanchard, 1999).

When the needs and abilities of each individual follower are considered, the transformational leader plays an important role in growth and development by employing this individualized attention (Zacharatos, Barling, &

Kelloway, 2000). Subordinates may be at various developmental levels within an organization or within an individual task. The same person may need different leadership attention for various tasks and the leader needs to recognize and adapt to these needs (Blanchard, 1999).

Burns (1978) spent a great deal of time in the analysis of the uniqueness of the individual follower. He discussed their levels in terms of the hierarchy of Maslow (1954), their social and psychological setting (e.g., environment, demographics, and education), their political context, and their level of participation (e.g., leader, follower, apathetic, anomic, alienated, and excluded). He recognized that exceptional leadership would be necessary for transforming such diverse individuals, and to mobilize and motivate them to seek a common goal, albeit political in his examples (Burns, 1978).

Intellectual Stimulation

Bass (1985) emphasized the important role of the transformational leader in developing the long-term strategic thinking and intellectual processed of their subordinates. Transformational leaders use intellectual stimulation to help their subordinates to reframe old

problems in order to stimulate creative thinking and innovation (Zacharatos, Barling, & Kelloway, 2000). Studies have shown that the way in which a problem is presented has influence on the resultant decisions. These effects are due to the tendency to perceive problems differently by situational bias introduced in the presentation. By changing the mode of presentation, creative thinking and different outcomes may be roused as a result (Greenberg, 1999). This stimulation is especially helpful in the resolution of poorly defined problems (Bass, 1985).

Bass (1985) discussed the role of the intellectual leader in the manipulation of symbols and slogans in order to better communicate with followers when there are incongruities or complexities in the underlying belief-systems. A simplified message encoded in a symbol can cut across intellectual barriers, and unite followers from diverse perspectives by eliminating the distraction of their differences (Bass, 1990). Burns (1978) also recognized the influence of the symbol when he discussed the effects on Chinese youth when Chairman Mao swam in the Yangtze River. He explained that "it was a consummate

symbolic gesture by the now legendary leader of eight hundred million Chinese. . . . he was in effect inviting China's younger generation to join him in launching a new revolution" (Burns, 1978, p. 253).

Contingent Reward and Contingent Aversive Reinforcement

Burns (1978) felt that values were so fundamental to an understanding of leadership that he defined and subdivided them at great length. He stratified values into end-values (viz., goals and standards) and modal values (e.g., honesty, responsibility, and courage). He proposed that on a less evolved level, the interaction of leaders and followers with regard to modal values are defined by rewards and punishment. In addition, Burns (1978) considered that although the modal value transaction is significant, it is operating on a more superficial level than a transforming interaction.

Bass (1985) identified the use of contingent reinforcement, both positive and aversive, as the hallmark of managers that are interested in pragmatic results and efficient operations. While emphasizing that praise, recognition and tangible rewards may improve performance, he cautioned that delaying negative feedback to spare the

esteem of a subordinate could correspondingly undermine the transaction (Burns, 1985). He also suggested that contingent reinforcement could best be used in an individualized delivery using a combination of both reward and aversive feedback (Bass, 1990).

Building on the works of Burns and Bass, and in an effort to make leadership development more than a series of isolated occurrences, many organizations have established employee development opportunities based on leadership competencies that can be learned and measured (Knox, 1977; Williams & Cothrel, 1997). The competencies are similar between organizations, and frequently dominated by soft skills like intuition and rationality. The balance of attributes has taken a decidedly more feminine quality in recent years. Listening skills, relationship-building, consensus-building, and creating a nurturing environment, and a focus on unlocking the potential of the human resources are rapidly becoming established as important to the transformational leader in a learning organization (Roberts & Robins, 2000; Williams & Cothrel, 1997).

Medical Group Leadership

While many guiding business principles intersect organizational boundaries, there are some unique aspects of healthcare organizations that may create impediments for leadership (Dawson, 1990). There is a schism in opinion leaders over whether medical groups should be led by lay administrators or by managing physicians (LeTourneau & Curry, 1998). The Society of Physicians in Administration (Frank, 1997) conducted a survey to determine the degree of physician preparation for practice administration. A cohort of 176 physicians from a sample of 402 society members responded to a 10 item closed questionnaire with a seven point Likert scale. The majority (71%) indicated that their residency training did not prepare them to be competitive in the 21st century, and 74% felt that management skills training would have better prepared them for practice (Frank, 1997, para. 7). The practice of medicine may be requisite to obtaining the respect and cooperation of physicians and other health professionals, however medical training and experience do not prepare physicians and other health professionals for management careers (LeTourneau & Curry, 1998). Conversely, though the

business-trained administrator may possess many or all of the requisite skills for guiding the enterprise, the lack of clinical insight may be an insurmountable handicap (LeTourneau & Curry, 1998; Lumsdon, 1996). "*Hospital and Health Network*" conducted a leadership survey to assess readiness of healthcare administrators to handle business challenges (Greene, 1997). A random sampling of 4,620 health care executives generated 729 responses (Greene, 1997, p. 35). Fifty-five percent of group practices were placing physicians in positions of leadership, and confidence in non-physician practice executives was cited as lower because they are not the providers of patient care (Greene, 1997, p. 27).

Healthcare organizations have been traditionally viewed within a philanthropic paradigm (Dawson, 1990), but the business paradigm that has emerged in healthcare during the 1990s necessitated a greater level of expertise and leadership than earlier organizations required (Morrison, 2000). The incongruity between what was required for success in the healthcare environment of the last 10 years, and what was available, took an enormous toll on the medical industry, personnel and the leaders (Dye, 2000a).

In the new millennium, Dye (2000b, p.5) suggests healthcare organizations may require leaders that "can rebuilt trust, restore efficient processes, and ensure quality through rough organizational transitions and trends." Through infusion of empowerment into the organizational culture, this new generation of "super-leaders" should be able to foster an environment where self-leadership and follower transformation are the standards (Manz & Sims, 2001). Webb (2001) reports that physician/administrator (PAL) teams, in a shared leadership role, might be a model that addresses the peculiarities of medical group practice administration. While the duties of the PAL team members should be well delineated to mitigate internal conflict, some overlap of roles can provide a degree of leadership redundancy that can assure continuity during periods of absence of any one member (Kroken, 1996; Ross, 1992).

The size of a medical group typically alters the requirements and composition of an administration, as well as the financial resources available for assembling the requisite personnel (Jacob, 2001). A small medical group may be able to function with an office manager that has only a high school degree, but is organized and experienced

in the multi-faceted needs of the practice that employs a limited number of staff. This office manager would be likely to perform some common financial operations, supervise office staff and a few other operational duties (Jacob, 2001). The physicians in the group would perform the more complex decision-making tasks and manage the physician contingent. A larger group is likely to need an individual with experience in corporate management, a college degree and even an MBA. The large group may engage the administration in negotiating complex contractual relationships with third-party payors and healthcare systems that require knowledge of medico-legal issues, and in practice expansion activities that demand negotiating skills and experience with mergers and acquisitions (Price & Stickler, 1996). In some large groups they may even cross over into the management of the professional staff and physician practitioners. While they are strikingly more complex, larger groups also typically have a much larger capital allocation available in their budget for administration than a small group does (Morrison, 2000). They can allocate more to pay the salaries required to attract the more educated, experienced administrators who

are more likely to be successful in navigation of a convoluted environment (Hawthorne & Bolster, 2000; Top, 1997).

Research Methods and Measuring Leader Behavior

The systematic collection of data that is used to formulate an evidence report may be gathered using one or more methods (McGuigan, 1993). How the hypothetical question is answered may determine the outcome of the study, the timeline, and the expenses associated with the investigation (Miller, 1983). Ideally, the experimental methods of research are available for investigations that are appropriate for laboratory, natural and field experiments (Miller, 1993). In social and psychological research, however, hypothesis testing using experimentation is not always economically or logistically feasible, and may also be unethical (Dyer, 1995). Modern regulations and recommendations for the protection of research subjects generally prohibit covert observation experiments, which violate the requirement of informed consent established by the Geneva Convention (Convention, 1949), Belmont Report (National Commission, 1979) and the United States Food & Drug Administration Code of Federal Regulations Part 50

(1998). In some cases, non-experimental methods may be the only way to explore topics that may be of great interest and importance to scientific inquiry (Martin, 2000).

A questionnaire is a technique of data gathering that uses one or more questions, usually in printed form. Electronic questionnaires eliminate the need for printing and physical mailing. For minimal expense, it is possible to have a nearly immediate distribution of the survey tool and commencement of return data using electronic technology (Watt, 1997).

E-mail questionnaires can be sent to a population sample as text inquiries that can be answered and returned via the mail server reply function (Pitkow & Recker, 1995). While it is often simple to implement, the email survey may be difficult for data entry because of respondent error (Watt, 1997). The respondent can change the format of the email response or delete important text so that the reply cannot be easily decoded (Smith, 1997).

Web-based questionnaires utilize programming languages that can combine an esthetically appealing screen image, ease-of-user interaction, and the convenience of automatic data range-checking and electronic storage (Pitkow &

Recker, 1995). The survey can be encoded into an individual website or handled by a web organization that supports questionnaire services. While this is usually more expensive that e-mail surveys because of programming expenses (Watt, 1997), an organization called CreateSurvey.com supplies survey creation tools and services at no charge. The surveys can be programmed for various types of responses (e.g., short answer, free text, single-multiple choice, multiple-multiple choice) and will store the anonymous responses for the investigator to download later or receive immediately via e-mail. The investigator can also use the CreateSurvey.com tools to view data and statistics. The site can support the confidentiality of the respondents as well as being capable of transmitting an electronic "cookie" in order to curtail duplication of respondent submissions to the questionnaire (CreateSurvey.com, 2001).

Concern in organizations over the difficulty in identification and selection of effective leaders has generated the development of many tools that are specific for the measurement of leadership characteristics (Marshall-Mies et al., 2000). A number of investigators

have cited the importance of intelligence and communication skills in combination with meta-cognitive skills that facilitate problem solving effectiveness (Marshall-Mies et al., 2000). Focus on empowerment behavior in the manager as facilitator (Konczak, Stelly, & Trusty, 2000) and innovative behavior in the manager as entrepreneur (Lyon, Lumpkin, & Dess, 2000) have also been recognized as elements of some importance in leadership research. A distinction between management and leadership has become the motivation for different assessment tools for the evaluation and performance feedback of middle managers as contrasted with top-level executives (Bruhn & Chesney, 1994; HRDQ, 1999; Tracey & Hinkin, 1998).

Many leadership assessments are being used to benchmark current leadership while also being offered in combination with development and training programs (Butler, 1999; Delizia & Siegel, 1999; HRDQ, 1999; Lamers, 2000). Test batteries used in organizational leadership programs may range from the general to the specific, and correspondingly range from quick 15-minute assessment scales with a few dozen items (Barnett, McCormick, & Conners, 2000; Kraut, 1996), to multi-hour complex

protocols with hundreds of items (Byham, 2000; Mumford et al., 2000; Zaccaro, Mumford, Connelly, Marks, & Gilbert, 2000). Organizations that focus on establishing an environment where leaders are created use the testing to tailor education and development to the unique set of skills and limitations identified by the test batteries (Yearout, Miles, & Koonce, 2000).

Following many research studies that confirmed that transformational leadership has a more important impact on organizational performance (Hunt & Conger, 1999) than transactional leadership, Bernard Bass developed the Multifactor Leadership Questionnaire (MLQ) in order to measure transformational, transactional and laissez-faire leadership qualities (Den Hartog & Van Muijen, 1997). The MLQ (Avolio, Bass, & Jung, 1995) has been used in numerous studies and in a meta-analysis of over 100 of the studies that used the MLQ instrument the scales were found to be both reliable and valid (Lowe & Galen Kroeck, 1996).

Reliability entails ensuring that the questionnaire item will be subject to the same interpretation by all the respondents, and will yield uniform results when used multiple times (Shaw & Wright, 1967). Methods such as the

Test-Retest, Equivalent-forms and Split-half can be used to evaluate the reliability of a questionnaire measurement tool (Shaw & Wright, 1967). One of the leading causes of poor reliability is semantic ambiguity (Weisberg & Bowen, 1977). Clear, concise wording of questions is essential to communicate effectively and solicit an appropriate response (Rossi, Wright, & Anderson, 1983). Keeping it simple, fewer than 25 words if possible, avoiding technical jargon and complex phrases, and specifying alternatives rather than a single side or binary answer all contribute to development of more effective questionnaire tools (Rossi, Wright, & Anderson, 1983). Common errors in item construction include asking one question to solicit information on more than one topic (double-barreled), making assumptions about the respondent (false premise), ambiguity, alternatives for item responses that are not mutually exclusive, and double negatives (Mueller, 1986).

Validity is a measure of how well the questionnaire items gauge the topic that they have been intended to assess (Shaw & Wright, 1967). Generally, the validation of a questionnaire is a process of using the tool to gather data and correlate the outcomes with some criterion that is

presently displayed or may be exhibited in the future (Walsh, 1989). Validation may also be viewed as a comparison to theoretical predictions from prior study that is generally accepted as true (Walsh, 1989). Also, in order to be valid, a questionnaire should only be related to subject areas that it was intended to measure (Rossi, Wright, & Anderson, 1983).

The MLQ has been compared to Yukl's Managerial Practices Survey (MPS) in order to determine whether the assessment of leader effectiveness is distinct from an evaluation of managerial practices (Tracey & Hinkin, 1998). There may be some blurring between these two measurements that highlights room for improvement in future iterations of the MLQ (Tracey & Hinkin, 1998). However, the MLQ version 5X has still regularly shown alpha reliability coefficients over 0.90 in over a decade of published research, and more than adequate convergent and discriminant validity (Avolio & Bass, 1999; Avolio, Bass, & Jung, 1995; Carless, 1998; Tepper & Percy, 1994). In addition, the MLQ 5X leader short form only takes about 15 minutes for the respondent to execute (Avolio, Bass, & Jung, 1995).

In the study of human characteristics, the ideal data set would be drawn from each member, or elemental unit, of the group being studied. In this way, the information will represent the complete target population, or the entire universe being examined (Levy & Lemeshow, 1991). In reality, it is usually not feasible to study an entire population unless the group being studied is very small or the study team and financing is very large (Levy & Lemeshow, 1991). The United States decennial census in year 2000, with a budget of $4 billion dollars and a staff of nearly 200 thousand, was unable to assess the entire population being studied (United States Department of Commerce, [DOC], 1997). In fact, the Academy Panel on Census Requirements in the Year 2000 and Beyond suggested that additional funds and personnel would not lead to improved quality in the census because of limitations in the methods of data collection when such a large group is being surveyed (DOC, 1997).

Although financial considerations may be paramount when considering sample size for personally funded dissertation research, most national studies, regardless of focus, typically have population samples of over 1000

respondents (Rossi, Wright, & Anderson, 1983). Regional studies and experimental research samples are generally smaller, but may also be over 1000 when many subgroups are also being studied within the larger sample (Rossi, Wright, & Anderson, 1983).

When financial or practical limitations restrict the ability of the investigator to measure the characteristics of an entire population, the evocation of certain facts may be made using a part of the population, called a sample (Spiegel, 1975). The process of deducing certain facts about a population based on the results found in a sample is called statistical inference (Spiegel, 1975). This technique provides for a mechanism to make predictions about other persons and events that are not studied as part of the original sample (Walsh, 1989). The reliability and validity of this statistical inference depends on whether the sample is representative of the population (Phillips, 2000). The amount of error in statistical inference is related to the variability within the sample, and the size of the sample (Phillips, 2000). Sample sizes are usually determined with the intention that the investigator will be able to perform analysis and accurately deduce information

about the entire subject population and avoid errors in hypothesis testing (Edenborough, 1997). The likelihood of revealing the existence of a real effect is called statistical power, and this likelihood increases as the sample size increases (Thomas & Krebs, 1997).

There are generally two types of sampling: probability and purposive (Dyer, 1995). A research study may use a probability sample when all the members of a group are known, and all are available for data gathering. Probability samples may be simple random, systematic, stratified random or multistage cluster procedures. The simple random probability sample is the only sampling procedure that will result in a precisely known correlation to the population being investigated (Dyer, 1995).

The purposive sample is a method that can be used when the size of the population is very large, or when there may be members that cannot be accessed (Dyer, 1995). These samples are statistically less representative of the population, and the variance of the sampling distribution is generally unknown (Levy & Lemeshow, 1991). Quota sampling, judgmental sampling, opportunity sampling and volunteer sampling are all non-probabilistic sampling

methods that may offer the study investigator a sampling methodology when it is not possible to use a probabilistic method (Dyer, 1995). In sociological and psychological research, it is frequently necessary to use an opportunity sample that consists of those members of a large group who are willing to participate at the time the research is being conducted (Dyer, 1995).

Data Analysis

Once data has been gathered, regardless of the research method employed, it must be organized, stored and analyzed in order to determine if any correlations exist or if the research hypothesis is supported or refuted (Simon & Francis, 1998). Quantitative data assembly may be fairly intuitive, but qualitative data may have no inherent structure to facilitate organization. In these cases, the investigator must impose structure prior to attempting the analysis. Once the research data has been systematically organized, statistical tests are employed to provide measures of correlation and may mathematically substantiate or contradict suspected differences between groups (Miller, 1983). Descriptive statistics can be utilized to organize and summarize cumbersome quantities of data, and

inferential statistics is used to project descriptive statistical parameters to draw conclusions about the entire population from which the data is sampled (Hopkins & Glass, 1978).

Small scale research data could be statistically analyzed using paper and pencil (Hayslett, 1968), or somewhat more efficiently in a statistically empowered spreadsheet program like Microsoft Excel or Lotus 1-2-3 which can also act as a simple database for sorting and grouping data elements (Patterson, 2000). However, extensive computerized statistical manipulation of small data collections may give rise to probability errors, or replication fallacy errors, that are exacerbated by the ease of using computerized statistical software (Riniolo & Schmidt, 2000).

Larger scale data collections are unlikely to be conformant to the limitations of using manual methods or limited office suite software. In this case, it is usually necessary to use a statistical software program like Statview, SPSS, GBSTAT, or MicroStrategy in order to record and analyze research data (Simon & Francis, 1998). These statistical packages can sort and represent the raw data

using sophisticated data analysis techniques that were developed during the 1980s and 1990s (Simon & Francis, 1998). Data collections may then be displayed in a more comprehensible format using visual presentation and problem solving tools including check sheets, scatter diagrams, histograms, run charts, control charts, Pareto charts, and cause and effect diagrams (Hayslett, 1968; LeCompte, 2000; Martin, 2000).

The SPSS Student Version 10.0 for Windows is a fully featured statistical package that costs fewer than one hundred dollars and will store up to 50 variables on as many as 1500 respondents (George & Mallery, 2001). The data can be sorted and transformed, and a variety of customizable charts and graphs can be generated for straightforward identification of important relationships and correlations (Simon & Francis, 1998). Statistical manipulations include simple frequencies to tabulate and present the occurrences by category (e.g. gender, race, and age), descriptive statistics (e.g., central tendency, variability, deviation, distribution, and error), test of dependence (or independence), tests for population sample homogeneity or differences, tests for linear and

curvilinear tendencies, and tests for populations that are not normally distributed (i.e., non-parametric tests) (George & Mallery, 2001).

CHAPTER 3. METHODOLOGY

The purpose of this study was to assess the leadership qualities in administrators of group medical practices, and then compare the leadership qualities of administrators in small, medium, and large group practices. An assessment of transformational leadership factors (viz., Idealized Influence, Inspirational Motivation, Intellectual Stimulation, Individualized Consideration), transactional leadership factors (viz., Contingent Reward, Management-by-Exception), laissez-faire leadership, and leadership outcome factors (viz., Extra Effort, Effectiveness, Satisfaction) was evaluated within the context of the medical group administrators as a single entity, and then stratified by practice size in order to determine if there is a significant difference in leadership factors between practice administrators within the three subgroups.

Research Method

The research method used for this study was a non-experimental quantitative methodology. Although efforts have been made to construct field experiments and laboratory treatments for leadership research (Conger,

1998; Hunt, 1999; Wofford, 1999), most research in leadership is done with written questionnaire instruments (Schriesheim, Castro, & Cogliser, 1999).

Since this research was not funded with an unlimited budget, expense was an important factor in the research method (Levy & Lemeshow, 1991). Setting an upper limit for cost, and then choosing the method that has the greatest likelihood of addressing the research question with the largest sample and lowest error was one potential alternative considered. Conversely, the acceptable level of error may be pre-selected, so that the cost of the methodology that is likely to meet the criteria can be budgeted (Levy & Lemeshow, 1991). In either case, a quantitative survey method was more financially viable, and was logistically compatible with this investigator's assets and limitations.

Study Design

The study was conducted using non-experimental descriptive survey and correlational research methods. Correlational research does not involve manipulation of independent variables as in experimental research (Shaughnessy & Zechmeister, 1997). Instead, the leadership

and outcome factors, participant biodata, and group medical practice demography were simply measured and subsequently analyzed to determine whether there is a relationship present.

The study variables included transformational leadership factors including Idealized Influence, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration, transactional leadership factors including Contingent Reward and Management-by-Exception, Laissez-Faire leadership, and leadership outcome factors including Extra Effort, Effectiveness, Satisfaction. Biodata variables included gender, age, years of experience, years in current position and highest level of education. Practice demography variables included practice size in physician FTEs, and job title.

Population Sample

The American Medical Association (AMA) lists a census of approximately 20,000 medical group practices in the United States and 690,000 physicians (2001). The Medical Group Management Association (MGMA) membership consists of approximately 19,000 individuals representing more than 9,000 practices and nearly 200,000 physicians (2001).

Although this may be a representation of fewer than half the registered census of AMA medical practices, the MGMA is the leading organization representing medical group practice (MGMA, 2001).

Researchers that are members of MGMA are granted research access to a very large database of practice administrators from which data can be solicited. In addition, the personnel that interact with the MGMA database are able to provide random samples of the membership for research protocols conducted by MGMA members. A query of the MGMA membership database performed by the author in May of 2001 revealed the stratification of membership by number of Full-Time Equivalent physicians in the medical group practice (Table 1).

Table 1. MGMA membership stratified by physician FTEs.

FTEs	# Members	Percent
1-10	4289	36.4
11-25	1812	15.4
26-50	1183	10.0
51-75	518	4.0
76-100	385	3.3
100+	3598	30.6

Note. Query performed on MGMA website by author.

Defining group practice size stratification as fewer than 10 physician FTEs (small), 10 to 50 physician FTEs (medium), and greater than 50 physician FTEs (large), should enhance the likelihood of getting a balanced representation of medical group administrators from practices of various sizes when selecting a population sample from the MGMA membership.

With the number of medical practices in the U.S. being estimated at 20,000 (AMA, 2001), in a sample drawn from administrators of medical group practices, the sample should be somewhere between 269 and 642 when the acceptable error (confidence interval) is five percent (Table 2). If the survey technique is selected and the sample response rate is 30% (Berdie, Anderson, & Niebuhr, 1986), then the population sample should actually be between 897 and 2140 in order to achieve sufficient statistical power upon analysis (Table 2).

Instrumentation

In the exploration of specific tools for dissertation, there was gravitation to survey techniques that could be executed on a fairly substantial scale, relatively inexpensively at student rates, and could be executed by

Table 2. Sample size calculation.

Confidence Interval	5%	5%	5%
Population Size Estimate	20,000	20,000	20,000
Confidence Level	90%	95%	99%
Calculated Sample Size	269	377	642
Sample given 30% Response	269/0.3 = 897	377/0.3 = 1257	642/0.3 = 2140

Note. Sample size determined by using NCS Pearson Sample Size/Confidence Interval Calculator http://www.ncs.com.

all respondents reasonably concurrently and anonymously. Skills in computer science, mathematics and careful attention to detail are valuable in the collection and analysis of a written or electronic survey instrument (Creswell & Miller, 1997).

Conversely, interview techniques might be conducted on the telephone or in person and would require both initial contact for gaining permission and 20 to 30 minutes for each structured interview. The time expense and travel or

telephone expense would be prohibitive for the learner unless the study was limited to a handful of interviewees. In addition, an interview-based study would require training in essential interviewing techniques (Dilley, 2000). This would be necessary in order to overcome specific interviewer deficiencies including difficulty in the maintenance of neutral body language and facial expression, and bias unintentionally communicated by verbal feedback during the interview interaction.

Once the survey technique was selected over interview, the specific tool for measuring leadership was identified. The Multifactor Leadership Questionnaire (MLQ) version 5X (See Appendix A) is an established survey tool created by Bass and Avolio in 1991 in response to advances in leadership theory (Bass & Avolio, 1995). The MLQ is available in two versions, a 45-item leader form and a parallel rater form. The forms have nearly identical items, except the leader form is designed as a self-rating instrument and the rater form is crafted in terms that solicit information about another individual, usually a superior. Both versions utilize a 5-point Likert-type scale (Sommer & Sommer, 2002) to assess the magnitude of

the associated behavior (viz., Not at all, Once in a while, Sometimes, Fairly often, Frequently if not always). This tool is distributed by Mind Garden of Redwood City, California, and through their associated website http://www.mindgarden.com for a range of fees depending on the expected size and type of study.

As a result of the popularity of this tool, there are well-documented reliability and validity scores already available for the measurement of transformational, transactional and non-transactional/ laissez-faire leadership. Reliability scores for the MLQ 5X leadership scales that represented about 10% of rater form data collected at that time (n=2080, nine studies) were between 0.74 and 0.94 (Avolio, Bass, & Jung, 1995, p. 9-10). In a study of undergraduate and MBA students (n=155) employed in a variety of positions including management, the collective alpha reliability of the 5X transformational items was 0.96, and the alpha reliability of the transactional leadership items was 0.89 (Pillai, Schriesheim, & Williams, 1999, p.907-908). Convergent and discriminant validity of the MLQ have been tested using LISREL Confirmatory Factor Analysis (CFA) and Partial Least Squares (PLS) analysis

with similar results (Avolio, Bass, & Jung, 1995). The MLQ 5X is the result of the selection process of the best items from prior versions, in order to represent and measure each leadership factor while maintaining adequate convergent and discriminant validity (Avolio, Bass, & Jung, 1995). Criticism of scale inter-correlation in the MLQ 5R, an earlier version of the MLQ, has been addressed in the development and refinement in MLQ version 5X (Avolio, Bass, & Jung, 1995).

The 5X short leader form can be executed in approximately 15 to 20 minutes, and can be used independently of the associated rater form with which associates and subordinates may evaluate the leader as well (Buros, 2001). Although the leader/rater questionnaire combination would give some interesting comparative information potentially of value to acquire a broader evaluation of individual leadership skills, it is unlikely that such a large-scale assessment undertaking would fall within the limits of a small research budget and relatively short timeline. For this reason, the second best choice of the MLQ leader self-rater form to assess respondent leadership behaviors in twelve areas was selected.

If logistics and financial considerations are favorable, an adjunctive exploration of one or two conveniently located medical group practices may be conducted using both leader and rater forms. This elective sub-study may reveal additional information that could bolster the larger scale study.

Data Collection

The MLQ version 5X leader form, respondent biodata, and medical practice demography were collected using Internet technology. This investigation was a cross-sectional, comparative study. The services and web creation tools of CreateSurvey.com were utilized in order to create a web version of the MLQ. A random, purposive sampling of 3000 of the members of MGMA was drawn (by the MGMA research department), and they were contacted via e-mail letter (See Appendix A). The letter solicited participation after informed consent by return reply, and referenced a website hyperlink to the Internet address of the electronic MLQ where the questionnaire form could be accessed (See Appendix B). The electronic MLQ site maintained anonymity of the respondents while maintaining a database of the responses that could be downloaded in various file formats.

Following the data submission the respondent was transferred to a web page that expresses the investigator's gratitude (See Appendix C).

Data Analysis

Using SPSS data analysis software, the variables were analyzed using correlational and multiple regression techniques. Positive and negative correlations within linear relationships, and regression analysis in the case of curvilinear relationships, were conducted to explore the variables within the data collection (George & Mallery, 2001).

When the scores obtained from the MLQ 5X Likert-type scales (viz., Not at all=0, Once in a while=1, Sometimes=2, Fairly often=3, Frequently if not always=4) approximated a normal distribution, parametric tests were used to evaluate each of the practice size pairings proposed in the research questions (Leedy & Ormrod, 2001). In addition to the standard battery of statistics that measure central tendency and variation (e.g., mean, median, mode, standard deviation, variance), the scores from the stratified groups were analyzed simultaneously using more complex linear models (George & Mallery, 2001). Multiple leadership

factors were analyzed using a statistical technique known as the Multivariate Analysis of Variance (MANOVA) to determine whether the difference among two or more means are greater than would be expected by chance (Sommer & Sommer, 2002). When there was a statistically significant F ratio inferred from the MANOVA analysis, one then wants to know which groups are particularly different from each other.

The t-test for independent samples will test whether or not two means are significantly different from each other, provided they were the only two samples taken. On the other hand, post-hoc comparison techniques specifically take into account the fact that more than two samples were taken (George & Mallery, 2001).

The Tukey post-hoc test (i.e., multiple comparison test) was used to determine the significant differences between group means when the MANOVA hypothesis is rejected (George & Mallery, 2001). The Tukey method is generally more conservative than the Fisher test but less conservative than Scheffe's test (Hopkins & Glass, 1978). In addition to being a widely used, the Tukey Honest Significant Difference (HSD) method is also computationally

straightforward (Hopkins & Glass, 1978). This method works backward from a critical range statistic from the table of q values. The groups that have the largest differences in mean are compared first. Then the groups with the next largest difference are compared. Each observed difference in means that is larger than the HSD (i.e., calculated from the critical q value) will allow the null hypothesis to be rejected. The algorithm stops when the group comparisons have a null hypothesis that is tenable (Hopkins & Glass, 1978).

In looking for correlation between variables, simple linear regression and multiple regression techniques may be used to attempt to predict a relationship (Leedy & Ormrod, 2001). While it is emphasized that no causation can be implied, it is possible to identify both meaningful and meaningless correlations using these techniques (George & Mallory, 2001).

Another way to get an idea of which group or groups may be outliers is to use a graphical display of the means (George & Mallery, 2001). Graphic representations including scatter plots, histograms, Pareto charts and other diagrams were utilized as necessary to illustrate the

contents of data collection and relationships among the test groups.

CHAPTER 4. ANALYSIS OF THE DATA

The purpose of this study was to assess the leadership qualities in administrators of group medical practices, and then compare the leadership qualities of administrators in small, medium, and large group practices. An assessment of transformational leadership factors (viz., Idealized Influence, Inspirational Motivation, Intellectual Stimulation, Individualized Consideration), transactional leadership factors (viz., Contingent Reward, Management-by-Exception), laissez-faire leadership, and leadership outcome factors (viz., Extra Effort, Effectiveness, Satisfaction) were evaluated within the context of the medical group administrators as a single entity, and then stratified by practice size in order to determine if there is a significant difference in leadership factors between practice administrators within the three subgroups.

Three research questions were utilized to guide the analysis of the study data. Data was collected using the Bass-Avolio Multifactor Leadership Questionnaire (MLQ) version 5X self-rater form as the research instruments (Avolio, Bass, & Jung, 1995). The respondents also were

queried for biodata and medical group practice demographic data. This chapter presents the respondent population, the biodata characteristics of the respondents, the demographic characteristics of the respondents' organizations, and overall analysis of the study population, and an analysis of the study data in relation to the research questions and hypotheses.

Descriptive Data

On December 29, 2001 a solicitation e-mail was broadcast to 3000 MGMA member addresses that were provided by the research department of MGMA. Error messages were immediately returned for 291 (9.7% of 3000) e-mail addresses, with the various Internet mail servers indicating that the addresses were either incorrectly formatted or invalid. After ten days, a second e-mail was broadcast to the 2709 valid e-mail addresses as a reminder to anyone who had not previously responded and in order to obtain a higher response rate.

Data collection was conducted over a three week interval, after which the survey website was made unavailable for any further access. During the time the website was active, 373 e-mail replies serving as

documentation of informed consent were received. In addition, 30 replies from respondents that did not fit the medical group administrator profile, and subsequently declining participation, were also received.

There were 500 (16.7% of 3000) total anonymous survey responses posted to the survey website over the three week interval that the site was accessible (Table 3). The majority of the responses (80%) were posted in the first week after the initial e-mail invitation was sent. In the week following the second e-mail, transmitted late on January 6, 2001, respondents posted an additional 80 (16%) surveys. The overall response rate of 16.7% exceeded the minimum response rate in order to obtain a sample size that would provide a confidence level greater than 90% with a confidence interval of 5%. Specifically, the sample size of 500 drawn from a population of 20000, results in a confidence level of between 95% and 99% when employing a confidence interval of 5% (NCS Pearson, 2001).

Population and Demographic Characteristics

In the 500 anonymous responses posted to the leadership of medical group practice web survey site, the gender biodata returned by 498 respondents revealed a slightly larger

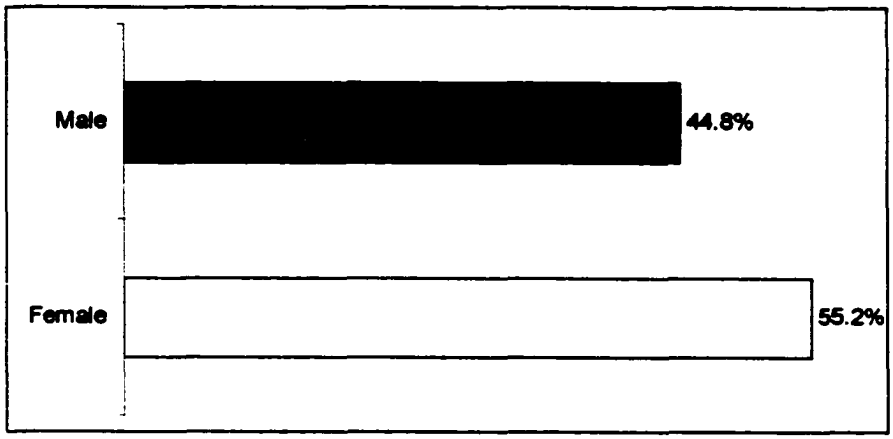
Table 3. Survey submission timeline.

Date	N	Percent
29 Dec 2001	45	9.0
30 Dec 2001	26	5.2
31 Dec 2001	159	31.8
01 Jan 2002	13	2.6
02 Jan 2002	103	20.6
03 Jan 2002	33	6.6
04 Jan 2002	17	3.4
05 Jan 2002	4	0.8
06 Jan 2002	4	0.8
07 Jan 2002	42	8.4
08 Jan 2002	11	2.2
09 Jan 2002	9	1.8
10 Jan 2002	7	1.4
11 Jan 2002	6	1.2
12 Jan 2002	4	0.8
13 Jan 2002	1	0.2
14 Jan 2002	6	1.2
15 Jan 2002	5	1.0
16 Jan 2002	4	0.8
17 Jan 2002	0	0.0
18 Jan 2002	1	0.2

Note. Total n = 500 responses

representation of females (275 of 498, 55.2%) than males (223 of 498, 44.8%) as displayed graphically in Figure 1. Two respondents did not submit gender data (0.4% of 500).

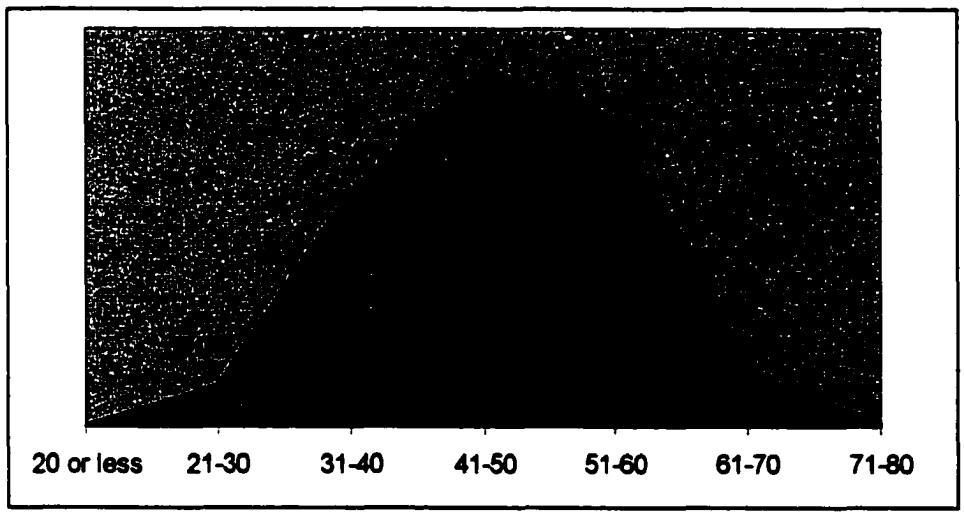
The median age of the respondent cohort was in the range of 41 to 50 years (Figure 2), with a normal distribution of survey responses around the mean (Kurtosis: -0.450, Skewness: -0.167).



Note. Total n = 498 responses, not all respondents completed all items

Figure 1. Survey respondent gender.

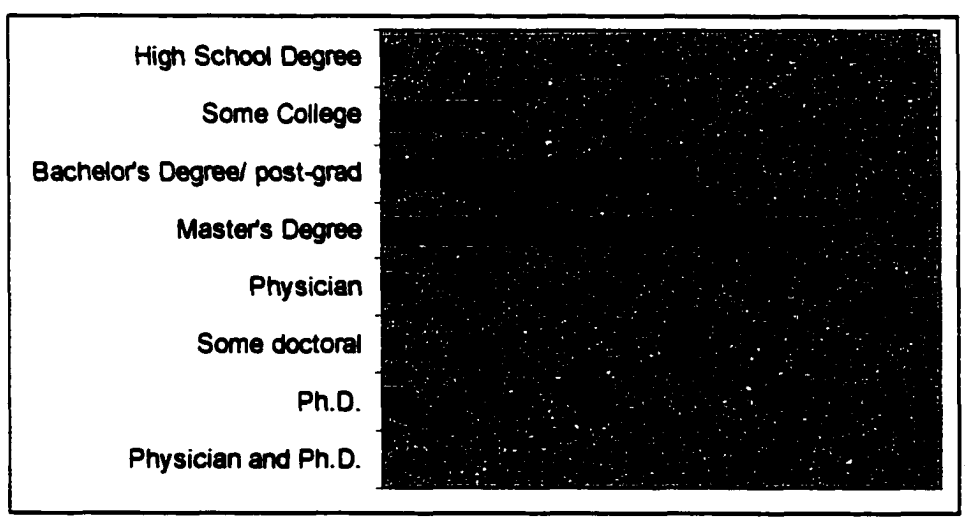
There were no respondents that indicated their age was fewer than 21 years or greater than 80 years. Only one respondent did not submit age range data (0.2% of 500).



Note. Total n = 499 responses, not all respondents completed all items

Figure 2. Survey respondent years of age ranges.

Survey respondents most frequently reported having attained education resulting in a master's degree (46.9% of 499), although the responses ranged from seven respondents that indicated a high school degree as their highest level of education (1.4% of 499) to one respondent that was both physician and Ph.D. recipient (Figure 3). One respondent did not submit educational level data (0.2% of 500). Following analysis using Pearson's bivariate correlation technique, a significant relationship between increasing size of the group practice and increased mean educational level ($p < .01$) was identified.



Note. Total n = 499 responses, not all respondents completed all items

Figure 3. Survey respondent highest level of education.

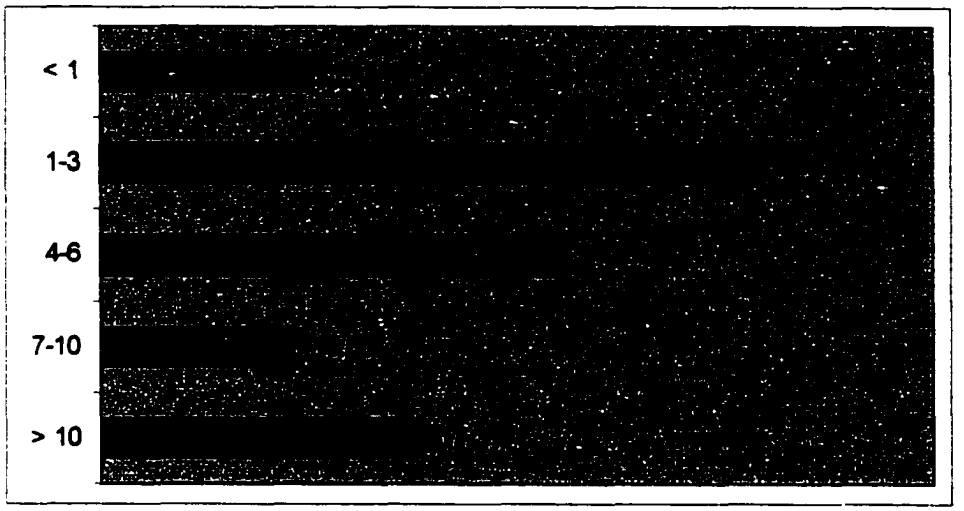
The career demographics that were collected included respondent job title. This entry was a free text field in the web survey and some latitude was allowed for slight variations in spelling. While titles varied widely in their prefixes and suffixes, and in some cases the data field contained more than one job title, all respondent titles incorporated at least one administration title keyword (MGMA, 2001). The keywords from the survey respondent job titles are listed in Table 4, sorted by frequency. When the job title response contained more than one keyword, the first keyword in the response was used for the frequency table. The most frequently included management keyword in the survey respondent job titles was "administrator" (39.5% of 484). Sixteen respondents (3.2% of 500) did not provide data regarding job title.

The majority (36% of 497) of respondents reported that they had been in their current position from 1 to 3 years (Figure 4). The median of the cohort is 4 to 6 years, with a normally distributed range of responses around the mean (Kurtosis: -0.740, Skewness: 0.488). Three respondents did not provide data regarding length of time in their current position (0.6% of 500).

Table 4. List of job title keywords ordered by frequency.

Keyword(s) in Job Title	n	%
Administrator	191	39.5
Director	102	21.1
Manager	56	11.6
CEO (Chief Executive Officer)	36	7.4
VP (Vice President)	25	5.2
COO (Chief Operating Officer)	17	3.5
President	11	2.3
CFO (Chief Financial Officer)	10	2.1
CAO (Chief Administrative Officer)	7	1.4
Consultant	6	1.2
Coordinator	5	1.0
Dean	4	0.8
Chair(man/woman/person)	3	0.6
Controller	3	0.6
Other Managerial	2	0.4
Analyst	1	0.2
CBO (Chief Business Officer)	1	0.2
CMO (Chief Medical Officer)	1	0.2
Comptroller	1	0.2
Executive	1	0.2
Leader	1	0.2

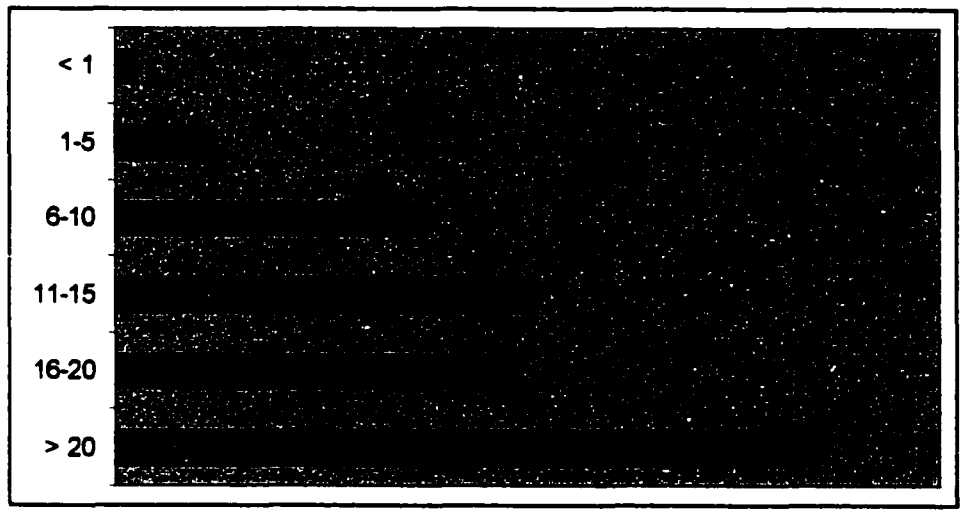
Note. Total n = 484 responses, not all respondents completed all items



Note. Total n = 497 responses, not all respondents completed all items

Figure 4. Survey respondent years in current position.

The majority (36% of 494) of respondents indicated they had more than 20 years experience in management or administration (Figure 5). The median of the cohort is 16 to 20 years, with a normally distributed range of responses around the mean (Kurtosis: -0.733, Skewness: -0.515). Six respondents did not provide data regarding the length of their experience in administration or management (1.2% of 500).

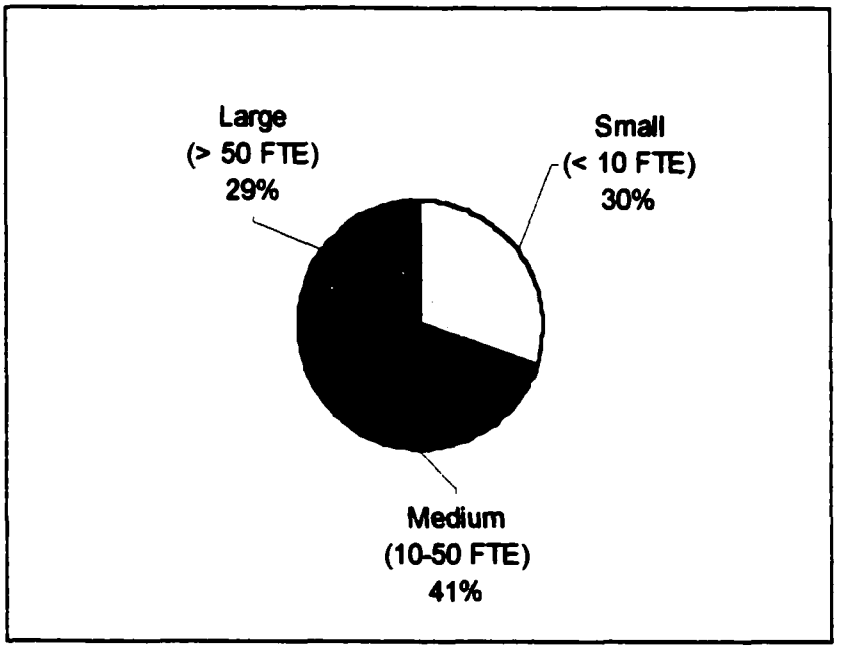


Note. Total n = 494 responses, not all respondents completed all items

Figure 5. Survey respondent years in management/ administration.

As stated earlier in the definition of terms, for purposes of this dissertation research the Medium Sized Group Practice will be defined as those organizations having between 10 and 50 physician FTEs. Small group practices will be those with physician FTEs under 10, and Large Group Practices will be those with physician FTEs over 50. When stratified by physician FTEs, the survey respondents were grouped as administrators of 146 Large (29% of 495), 199 Medium (41% of 495), and 150 Small (30% of 495) medical groups (Figure 6). Five respondents did

not provide data regarding the number of FTEs in their organizations (1.0% of 500).



Note. Total n = 495 responses, not all respondents completed all items

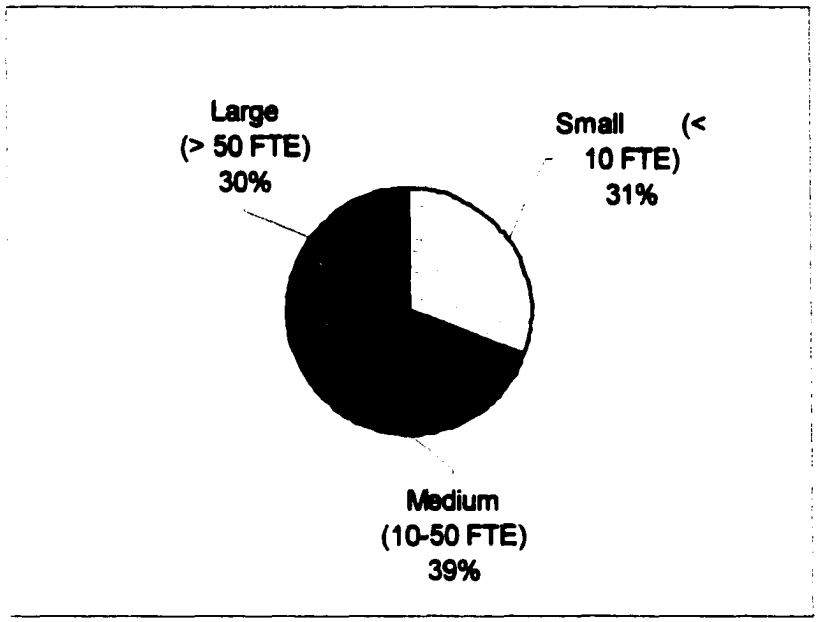
Figure 6. FTE physicians in survey respondent organizations.

Ten respondents (2.0% of 500) supplied all demographic, career and organizational data, but did not respond to the leadership questions. These surveys were not utilized for the analysis of the leadership factors for the research questions. In addition, as a result of the

critical nature of organizational size by physician FTEs with regard to the research questions, submissions from the five respondents that did not supply the size of their group practice were also not utilized in the analyses. This "listwise" or "casewise" data deletion method is the standard method of treating incomplete data by most statistical software packages (George & Mallery, 2001). Using this method, there were 485 (97% of 500) usable responses remaining for evaluation of the research questions.

When stratified by physician FTEs, the survey respondents that qualified for research question analysis both by identification of the size of their medical group, and by answering some or all of the leadership items were regrouped as administrators of 146 Large (30% of 485), 189 Medium (39% or 485), and 150 Small (31% of 485) medical groups (Figure 7).

Scoring of the survey questions that were reproduced from the Multifactor Leadership Questionnaire was performed using the scoring key provided with the paper survey tool (Avolio, Bass, & Jung, 1995) and a Microsoft Excel spreadsheet macro procedure. There were 45 survey items



Note. Total n = 485 responses acceptable for leadership analysis

Figure 7. FTE physicians in survey respondent organizations.

pertaining to leadership reproduced from the MLQ onto the web survey. Forty of the survey items were subdivided into groups of four items related to each of 10 leadership factors (viz., Idealized Influence-Attributed, Idealized Influence-Behavior, Inspirational Motivation, Intellectual Stimulation, Individual Consideration, Contingent Reward, Management-by-Exception-Active, Management-by-Exception-Passive, Laissez-faire Leadership, and Effectiveness). The Extra Effort factor had three related survey items and the Satisfaction factor had two related survey items.

In cases when one or more of the factor related survey items were submitted without a response, the associated factor was not scored for that respondent and was also eliminated from the analysis for that leadership factor. Conversely, each survey respondent of the 485 that were deemed acceptable for analysis received a score between zero and four in each of the 12 leadership factors for which they completely qualified. Incomplete data resulted in elimination of 15 responses for Idealized Influence-Attributed (3.1% of 485), 11 responses for Idealized Influence-Behavior (2.3% of 485), 8 responses for Inspirational Motivation (1.6% of 485), 10 responses for Intellectual Stimulation (2.1% of 485), 15 responses for Individual Consideration (3.1% of 485), 14 responses for Contingent Reward (2.9% of 485), 6 responses for Management-by-Exception-Active (1.2% of 485), 9 responses for Management-by-Exception-Passive (1.9% of 485), 9 responses for Laissez-faire Leadership (1.9% of 485), 12 responses for Extra Effort (2.5% of 485), 12 responses for Effectiveness (2.5% of 485), and 11 responses for Satisfaction (2.3% of 485).

The leadership factor scores may be decoded using the terminology of the 5-point Likert-type scale (Sommer & Sommer, 2002) to assess the magnitude of the associated behavior (viz., 0.0=Not at all, 1.0=Once in a while, 2.0=Sometimes, 3.0=Fairly often, 4.0=Frequently if not always). Evaluated as a whole, the mean scores of the un-stratified group practice administrator respondents, standard deviation (SD), variance (V), skewness (SKW), and kurtosis (KRT) for each factor are exhibited in Table 5.

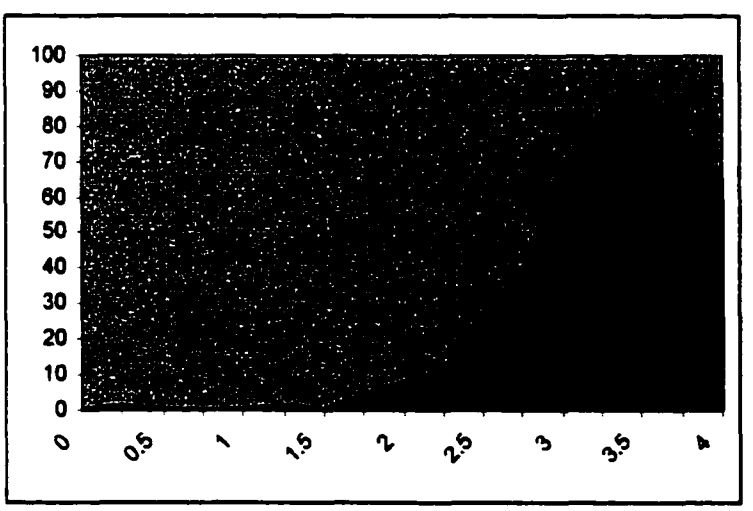
Identification of levels of kurtosis greater than ± 2 revealed that the scores for Inspirational Motivation and Laissez-faire Leadership were not normal distributions (George & Mallery, 2001). Both the distributions of the scores for Inspirational Motivation and for Laissez-faire Leadership show a flattening of the shape of the distribution as indicated by a positive kurtosis over 2. In addition, an extremely positive kurtosis value like that displayed for Laissez-faire Leadership (7.674) indicates that the tails of the distribution contain significantly more of the data points than the area around the mean (George & Mallery, 2001).

Table 5. Population sample leadership factor scores.

Leadership factor	Mean	SD	V	SKW	KRT	n
Idealized Influence (Attributed)	3.180	0.491	0.242	-0.562	0.547	470
Idealized Influence (Behavior)	3.183	0.553	0.306	-0.779	1.122	474
Inspirational Motivation	3.299	0.532	0.283	-1.024	2.203	477
Intellectual Stimulation	3.165	0.501	0.251	-0.464	0.759	475
Individualized Consideration	3.294	0.520	0.270	-0.906	1.481	470
Contingent Reward	3.175	0.534	0.286	-0.644	0.345	471
Management-by-Exception (Active)	1.700	0.737	0.544	0.278	-0.256	479
Management-by-Exception (Passive)	0.977	0.559	0.313	0.468	0.030	476
Laissez-faire Leadership	0.445	0.439	0.193	1.813	7.674	476
Extra Effort	3.003	0.580	0.337	-0.390	0.495	473
Effectiveness	3.356	0.456	0.209	-0.601	0.189	473
Satisfaction	3.311	0.555	0.308	-0.664	0.391	474

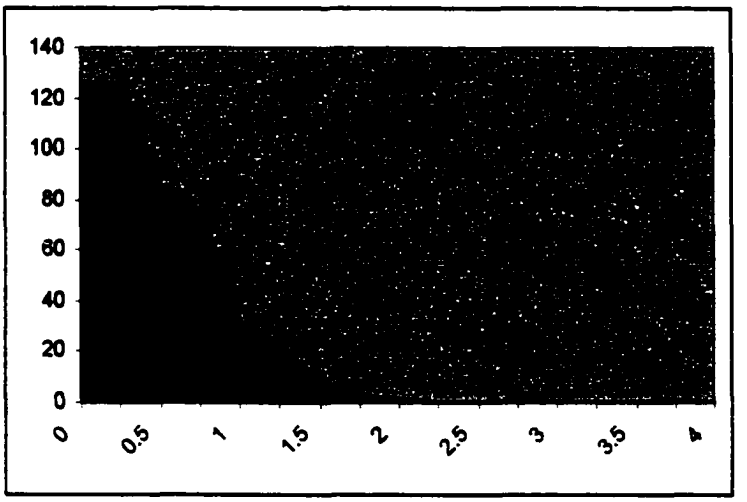
Note. Not all respondents completed all items

While all the other associated measurements of deviation from normality remain in an acceptable range for the psychometric purposes of this analysis, both of the distributions that display non-normal kurtosis also showed moderate deviation in symmetry around the mean (skewness). The distribution of scores for Inspirational Motivation is negatively skewed (greater number of large scores) and that of Laissez-faire Leadership is positively skewed (greater number of small scores). The area graphs of the distributions of the scores in these two non-normal distributions are illustrated in Figures 8 and 9.



Note. Total n = 477 responses, not all respondents completed all items

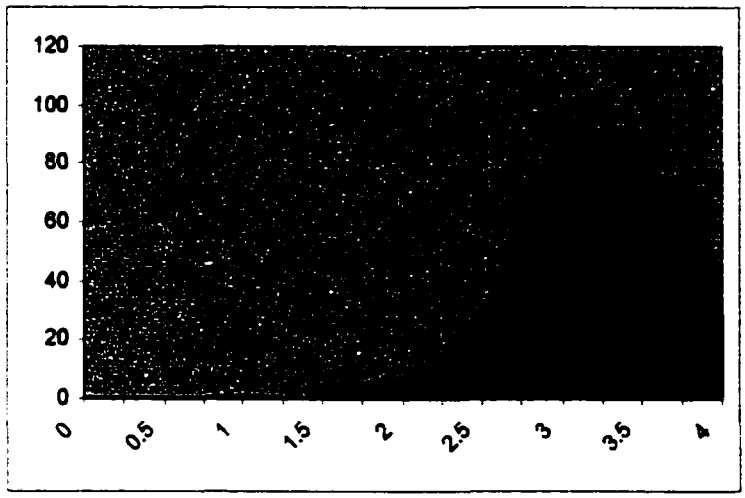
Figure 8. Area graph of scores for inspirational motivation.



Note. Total n = 476 responses, not all respondents completed all items

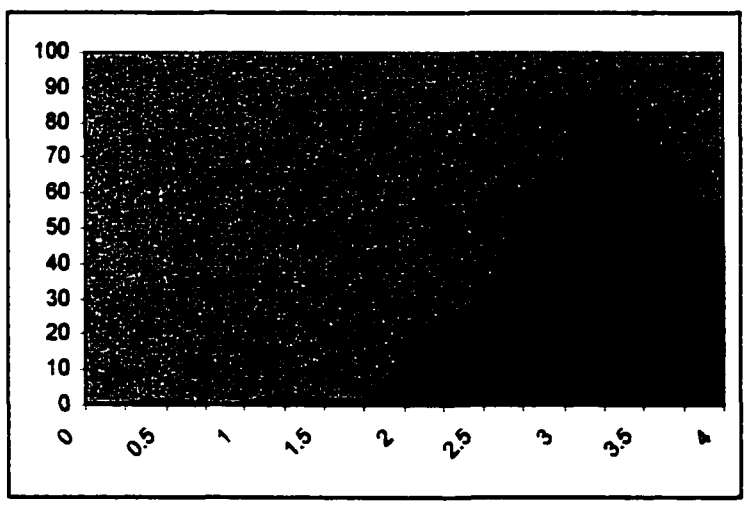
Figure 9. Area graph of scores for laissez-faire leadership.

Identification of skewness and kurtosis values that both fall within the ± 2 limits set for normality revealed that the distribution of the scores for Idealized Influence-Attributed, Idealized Influence - Behavior, Individualized Consideration, Intellectual Stimulation, Contingent Reward, Management-by-Exception-Active, Management-by-Exception-Passive, Extra Effort, Effectiveness, and Satisfaction were all normal (George & Mallery, 2001). The area graphs of the distributions of the scores in these normal distributions are illustrated in Figures 10 through 19.



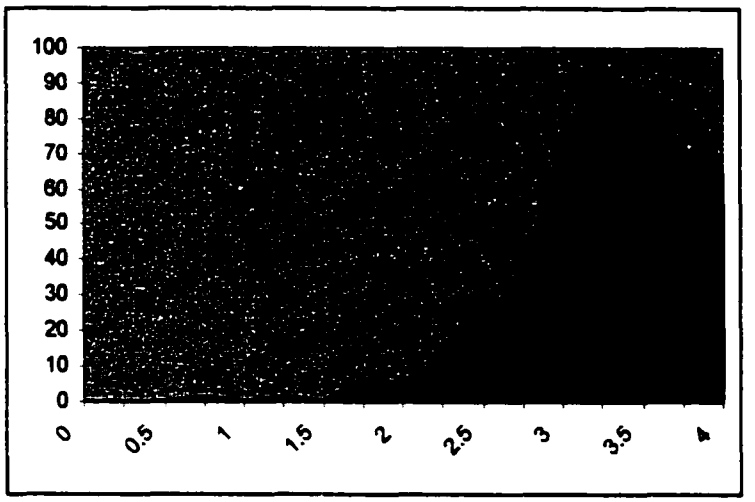
Note. Total n = 470 responses, not all respondents completed all items

Figure 10. Area graph of scores for idealized influence - attributed.



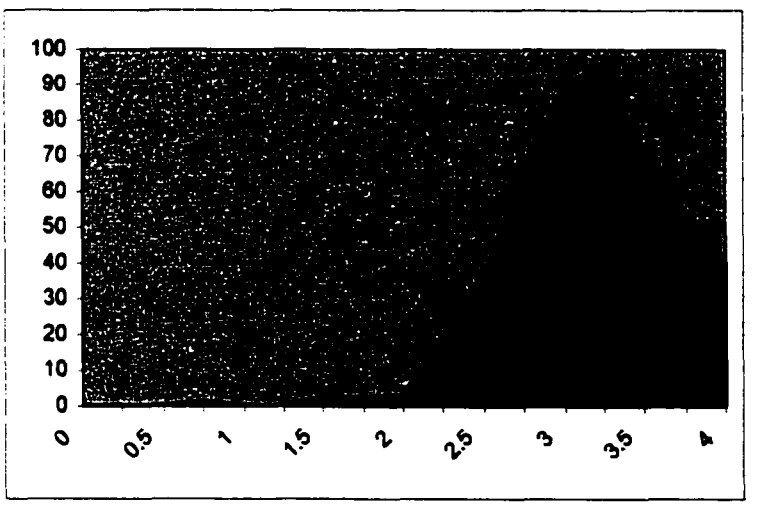
Note. Total n = 474 responses, not all respondents completed all items

Figure 11. Area graph of scores for idealized influence - behavior.



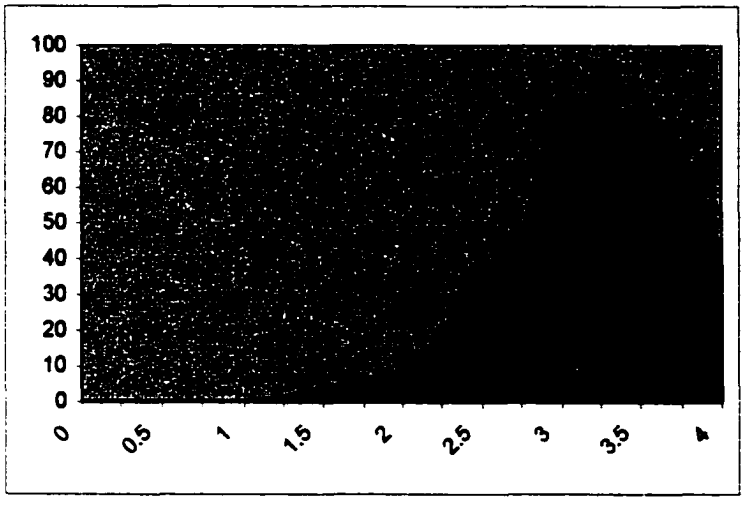
Note. Total n = 470 responses, not all respondents completed all items

Figure 12. Area graph of scores for individualized consideration.



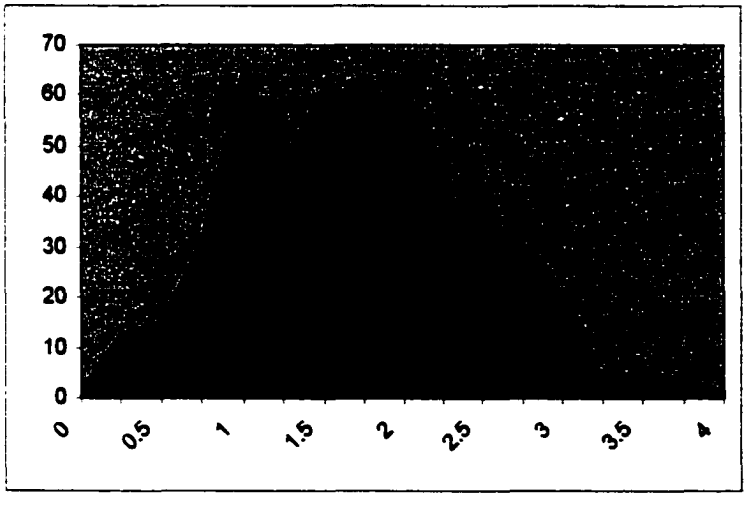
Note. Total n = 475 responses, not all respondents completed all items

Figure 13. Area graph of scores for intellectual stimulation.



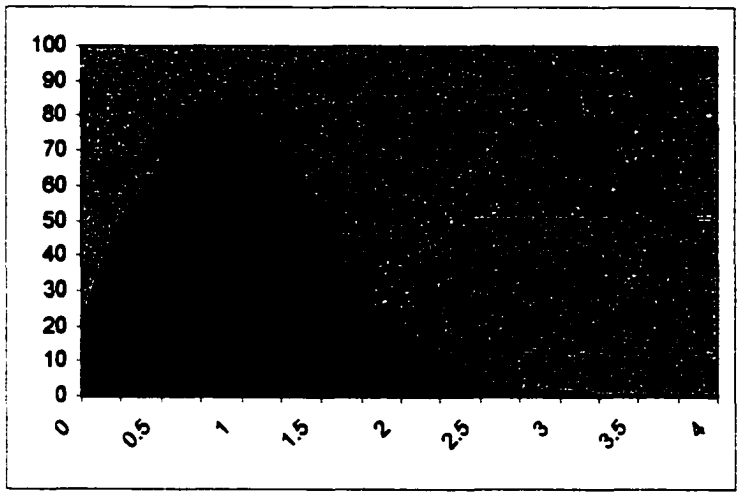
Note. Total n = 471 responses, not all respondents completed all items

Figure 14. Area graph of scores for contingent reward.



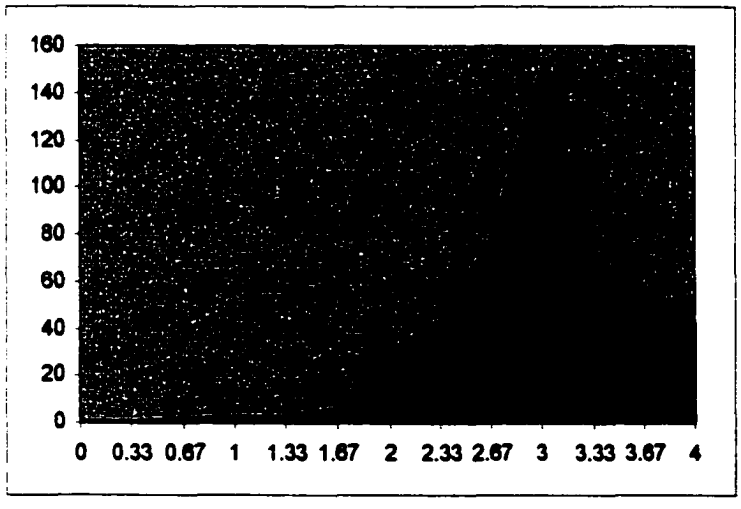
Note. Total n = 479 responses, not all respondents completed all items

Figure 15. Area graph of scores for management-by-exception active.



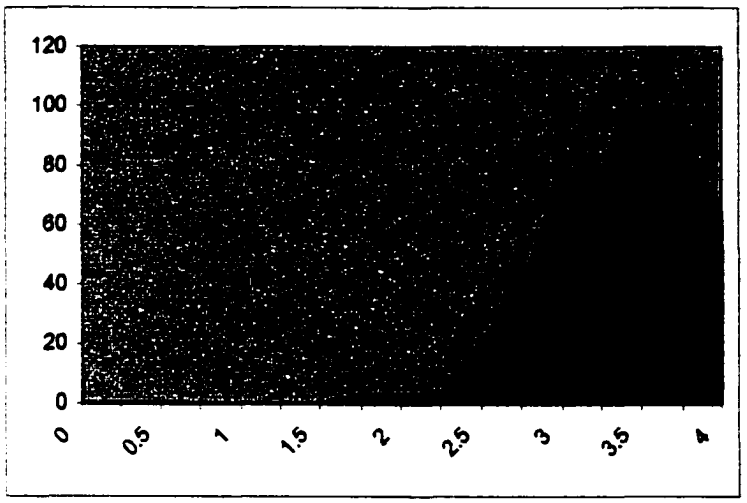
Note. Total n = 476 responses, not all respondents completed all items

Figure 16. Area graph of scores for management-by-exception passive.



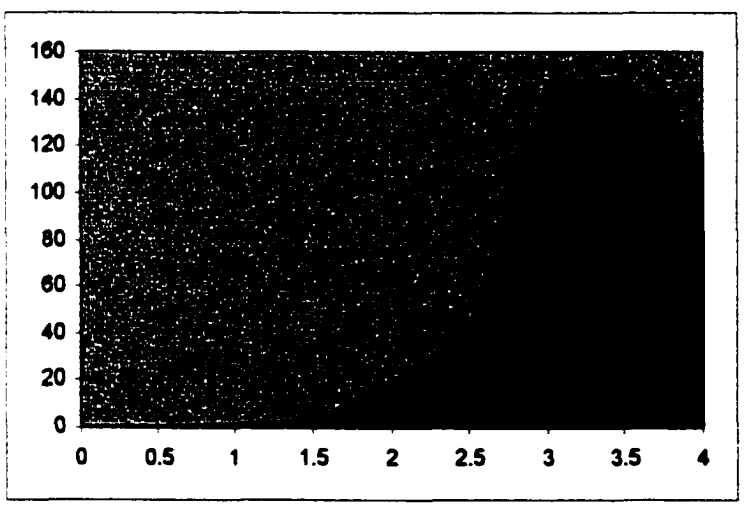
Note. Total n = 473 responses, not all respondents completed all items

Figure 17. Area graph of scores for extra effort.



Note. Total n = 473 responses, not all respondents completed all items

Figure 18. Area graph of scores for effectiveness.



Note. Total n = 474 responses, not all respondents completed all items

Figure 19. Area graph of scores for satisfaction.

Major Findings

Research Question 1

The research question asks, is there a relationship between the transformational, transactional, laissez-faire leadership factors, and leadership outcome factors in administrators of small and medium group practices?

The 485 usable survey responses included 150 responses (31% of 485) from administrators of small medical practices and 189 responses (39% of 485) from administrators of medium sized group practices. Demographic and career characteristics that were not significantly different between the groups are displayed in Table 6. Significant differences in the two subpopulations, that were found using the t-test for equality of means, were noted in both Gender ($p < .005$) and Education ($p < .002$) and are expanded in Table 7.

Table 6. Selected demographics of administrators of small/medium group practices.

Small Group Practices	Medium Group Practices
Age Median (41-50)	Age Median (41-50)
Job Median (4-6 years)	Job Median (4-6 years)
Experience Median (11-15 years)	Experience Median (16-20 years)

Note. Not all respondents completed all items; $p > .05$

Table 7. Selected demographics of administrators of small/medium group practices.

Small Group Practices		Medium Group Practices	
Male 36%	Female 64%	Male 51%	Female 49%
Education Median (Some Post-Grad)		Education Median (Master's Degree)	
High School Degree	1.3%	High School Degree	2.1%
Some College	23.3%	Some College	10.1%
Bachelor's Degree	24.0%	Bachelor's Degree	15.3%
Some Post-grad	8.7%	Some Post-grad	18.0%
Master's Degree	35.3%	Master's Degree	46.6%
Some Doctoral	3.3%	Some Doctoral	2.1%
Physician	2.7%	Physician	3.2%
Ph.D.	1.3%	Ph.D.	2.6%

Note. Not all respondents completed all items; $p < .05$

After detecting significant demographic differences between the two groups being studied, leadership scores were analyzed using t-testing and ANOVA (analysis of variance) to determine whether the overall population sample, when subdivided by either of the two significantly different demographic factors (Gender and Education), resulted in a difference in the leadership score sample means that was greater than that expected to be seen by chance (Mould, 1989). When gender was analyzed, the hypothesis that the samples came from the same population was rejected ($p < .05$) for leadership factors including Inspirational Motivation, Individualized Consideration,

Contingent Reward, Management-by-Exception (Passive), Extra Effort, Effectiveness, and Satisfaction (Table 8).

Table 8. Entire population sample leadership factor scores t-tested by gender.

Leadership factor	N Male	N Female	Mean Male	Mean Female	Sig. (2-tailed)
Idealized Influence (Attributed)	219	251	3.13	3.21	0.082
Idealized Influence (Behavior)	217	257	3.17	3.19	0.713
Inspirational Motivation	221	256	3.23	3.35	0.018
Intellectual Stimulation	220	255	3.11	3.20	0.057
Individualized Consideration	219	251	3.19	3.37	0.000
Contingent Reward	221	250	3.08	3.26	0.000
Management-by-Exception (Active)	221	258	1.69	1.70	0.861
Management-by-Exception (Passive)	220	256	1.05	0.90	0.004
Laissez-faire Leadership	220	256	0.50	0.39	0.005
Extra Effort	217	256	2.91	3.07	0.003
Effectiveness	218	255	3.29	3.40	0.007
Satisfaction	218	256	3.22	3.38	0.002

Note. Not all respondents completed all items

When educational level was analyzed, the hypothesis that the samples came from the same population was rejected ($p < .05$) by ANOVA for leadership factors including Inspirational Motivation, Contingent Reward, and Laissez-faire Leadership. Further analysis using the Tukey post-hoc test (or multiple comparison test) was used to determine the significant differences between group means when the ANOVA hypothesis was rejected (Hopkins & Glass, 1978) and sample differences were identified as shown in Table 9. The respondent that was both Ph.D. and Physician

Table 9. ANOVA of significant leadership factor scores stratified by education.

Leadership factor	Education Level 1	Education Level 2	Sig.
Inspirational Motivation	Some College	Ph.D.	.046
Inspirational Motivation	Some Post-grad	Ph.D.	.030
Contingent Reward	Bachelor's Degree	Master's Degree	.027
Laissez-faire Leadership	Some College	Ph.D.	.010
Laissez-faire Leadership	Bachelor's Degree	Ph.D.	.011
Laissez-faire Leadership	Some Post-grad	Ph.D.	.011
Laissez-faire Leadership	Master's Degree	Ph.D.	.044

Note. Not all respondents completed all items

was not included in the analysis because it is necessary for each subgroup to have more than two members for post-hoc testing (George & Mallory, 2001). All other groups qualified for the analysis.

Leadership scores from the small practice and medium practice subgroups were analyzed using a series of t-tests in order to identify whether the means of the scores of the two groups of administrators differed significantly from what would be expected by chance (Mould, 1989). This analysis resulted in the information presented in Table 10. The p values (Sig. 2 tailed) of the individual leadership factors do not offer any evidence that there are significant differences between the two samples with regard to leadership scores.

Combination scores for the transformational leadership factors (viz., Idealized Influence - Attributed, Idealized Influence - Behavior, Inspirational Motivation, Individual Consideration, and Intellectual Stimulation) and the transactional leadership factors (viz., Contingent Reward, Management-by-Exception Active, and Management-by-Exception Passive) were also analyzed using a series of t-tests in order to identify whether the means of the combined scores

Table 10.Administrator leadership factor score analysis by practice size.

Group Statistics	Size	N	Mean	SD	Sig. (2-tailed)
Idealized Influence (Attributed)	Small	142	3.229	0.493	0.328
	Medium	184	3.177	0.465	
Idealized Influence (Behavior)	Small	148	3.184	0.561	0.768
	Medium	184	3.201	0.484	
Inspirational Motivation	Small	148	3.319	0.491	0.876
	Medium	185	3.311	0.493	
Intellectual Stimulation	Small	146	3.171	0.504	0.857
	Medium	185	3.181	0.485	
Individual Consideration	Small	146	3.336	0.530	0.288
	Medium	183	3.276	0.486	
Contingent Reward	Small	146	3.144	0.576	0.751
	Medium	181	3.163	0.511	
Management-by-Exception (Active)	Small	147	1.670	0.779	0.334
	Medium	186	1.753	0.769	
Management-by-Exception (Passive)	Small	149	0.985	0.549	0.755
	Medium	184	1.004	0.564	
Laissez-Faire Leadership	Small	147	0.444	0.458	0.761
	Medium	185	0.430	0.388	
Extra Effort	Small	144	3.002	0.591	0.799
	Medium	186	3.018	0.522	
Effectiveness	Small	148	3.390	0.469	0.854
	Medium	181	3.381	0.415	
Satisfaction	Small	148	3.304	0.567	0.516
	Medium	183	3.342	0.480	

Note. Not all respondents completed all items

of the two groups of administrators differed significantly from what would be expected by chance (Mould, 1989). Respondents that did not submit survey responses for one or

more of the test items within any of the transformational or transactional factors were not included in the combination analysis. The combination analysis resulted in the information presented in Table 11. The p values (Sig. 2 tailed) of the combined leadership factors do not offer any evidence that there are significant differences between the two samples with regard to transformational or transactional leadership.

Table 11. Transformational and Transactional Leadership Combination Score Analysis by Practice Size.

Group Statistics	Size	N	Mean	SD	Sig. (2-tailed)
Transformational Leadership	Small	136	16.19	2.15	0.843
	Medium	174	16.15	1.78	
Transactional Leadership	Small	144	5.81	1.08	0.342
	Medium	177	5.93	1.15	

Note. Not all respondents completed all items

Additional analyses comparing administrators of small and medium practices stratified by gender resulted in the information presented in Table 12. While the p values (Sig. 2 tailed) of the gender stratified groups for the individual and combined leadership factors show significant differences between the genders, they do not offer any

evidence that there are significant differences between the samples with regard to transformational or transactional leadership in the subgroups divided by practice size.

Table 12. Administrator leadership factor score analysis by practice size, divided by gender.

Group Statistics	Size	Male N	Female N	Male Sig. (2-tailed)	Female Sig. (2-tailed)
Idealized Influence (Attributed)	Small	53	89	0.971	0.282
	Medium	93	91		
Idealized Influence (Behavior)	Small	52	96	0.739	0.717
	Medium	93	91		
Inspirational Motivation	Small	53	95	0.735	0.982
	Medium	95	90		
Intellectual Stimulation	Small	53	93	0.523	0.275
	Medium	94	91		
Individual Consideration	Small	53	93	0.725	0.584
	Medium	95	88		
Contingent Reward	Small	53	93	0.718	0.371
	Medium	95	86		
Management-by-Exception (Active)	Small	53	94	0.823	0.248
	Medium	95	91		
Management-by-Exception (Passive)	Small	53	96	0.870	0.691
	Medium	94	90		
Laissez-Faire Leadership	Small	53	94	0.082	0.508
	Medium	94	91		
Extra Effort	Small	50	94	0.854	0.215
	Medium	94	92		
Effectiveness	Small	53	95	0.317	0.497
	Medium	93	88		
Satisfaction	Small	53	95	0.864	0.188
	Medium	93	90		
Transformational Leadership	Small	52	84	0.915	0.786
	Medium	90	84		
Transactional Leadership	Small	53	91	0.675	0.276
	Medium	94	83		

Note. Not all respondents completed all items

Additional analyses were conducted to compare the administrators of small and medium practices stratified by education. The p values (Sig. 2 tailed) of the education stratified groups for the individual and combined leadership factors show some significant differences between respondents at some educational levels in the subgroups divided by practice size summarized in Table 13.

Table 13. Summary of administrator leadership factor score analysis by practice size, divided by educational level.

Group Statistics	Size	N	Sig. (2-tailed)
High School Degree			
Satisfaction	Small	2	0.022
	Medium	4	
Some Post-Grad			
Management-by-Exception (Active)	Small	13	0.014
	Medium	33	
Physician			
Idealized Influence (Attributed)	Small	4	0.048
	Medium	6	
Individual Consideration	Small	4	0.030
	Medium	6	
Satisfaction	Small	4	0.044
	Medium	6	
Transformational Leadership	Small	4	0.024
	Medium	6	

Note. Not all respondents completed all items, $p < .05$

Research Question 2

The research question asks, is there a relationship between the transformational, transactional, laissez-faire leadership factors, and leadership outcome factors in administrators of small and large group practices?

The 485 usable survey responses included 150 responses (31% of 485) from administrators of small medical practices and 146 responses (30% of 485) from administrators of large sized group practices. Demographic and career characteristics that were not significantly different between the subgroups are displayed in Table 14. Significant differences in the two subpopulations, that were found using the t-test for equality of means, were noted in Gender ($p < .05$), Education ($p < .001$), and Current Job Years ($p < .001$) and are expanded in Table 15.

Table 14. Selected demographics of administrators of small/large group practices.

Small Group Practices	Large Group Practices
Age Median (41-50)	Age Median (41-50)
Experience Median (11-15 years)	Experience Median (16-20 years)

Note. Not all respondents completed all items; $p > .05$

As a result of the significant demographic differences between the two groups being studied, leadership scores were analyzed using t-testing and ANOVA (analysis of variance) to determine whether the overall population sample, when subdivided by either of the significantly

Table 15. Selected demographics of administrators of small/large group practices.

Small Group Practices		Large Group Practices	
Male 36%	Female 64%	Male 50%	Female 50%
Job Median (4-6 years)		Job Median (1-3 years)	
Education Median (Some Post-Grad)		*Education Median (Master's Degree)*	
High School Degree	1.3%	High School Degree	0.7%
Some College	23.3%	Some College	7.5%
Bachelor's Degree	24.0%	Bachelor's Degree	13.0%
Some Post=grad	8.7%	Some Post=grad	9.6%
Master's Degree	35.3%	Master's Degree	63.7%
Some Doctoral	3.3%	Some Doctoral	1.4%
Physician	2.7%	Physician	1.4%
Ph.D.	1.3%	Ph.D.	2.1%
Physician and Ph.D.	0.0%	Physician and Ph.D.	0.7%

Note. Not all respondents completed all items; $p < .05$

different demographic factors (Gender, Education, and Years in Current Job), resulted in a difference in the leadership score sample means that was greater than that expected to be seen by chance (Mould, 1989). As previously discussed, when gender was analyzed, the hypothesis that the samples

came from the same population was rejected ($p < .05$) for leadership factors including Inspirational Motivation, Individualized Consideration, Contingent Reward, Management-by-Exception (Passive), Extra Effort, Effectiveness, and Satisfaction (Table 8). When education level was analyzed, the hypothesis that the samples came from the same population was rejected ($p < .05$) by ANOVA and Tukey post-hoc Test for leadership factors including Inspirational Motivation, Contingent Reward, and Laissez-faire Leadership (Table 9). When the years in current job variable was analyzed, the hypothesis that the samples came from the same population was rejected ($p < .05$) for Idealized Influence (Attributed) and Inspirational Motivation.

Leadership scores from the small practice and large practice subgroups were analyzed using a series of t-tests in order to identify whether the means of the scores of the two groups of administrators differed significantly from what would be expected by chance (Mould, 1989). This analysis resulted in the information presented in Table 16.

Table 16. Administrator leadership factor score analysis by practice size.

Group Statistics	Size	N	Mean	SD	Sig. (2-tailed)
Idealized Influence (Attributed)	Small	142	3.229	0.493	0.128
	Large	144	3.137	0.521	
Idealized Influence (Behavior)	Small	148	3.184	0.561	0.714
	Large	142	3.158	0.627	
Inspirational Motivation	Small	148	3.319	0.491	0.396
	Large	144	3.263	0.616	
Intellectual Stimulation	Small	146	3.171	0.504	0.592
	Large	144	3.138	0.521	
Individual Consideration	Small	146	3.336	0.530	0.357
	Large	141	3.276	0.553	
Contingent Reward	Small	146	3.144	0.576	0.215
	Large	144	3.224	0.519	
Management-by-Exception (Active)	Small	147	1.670	0.779	0.962
	Large	146	1.666	0.649	
Management-by-Exception (Passive)	Small	149	0.985	0.549	0.464
	Large	144	0.937	0.565	
Laissez-Faire Leadership	Small	143	0.444	0.458	0.675
	Large	144	0.467	0.482	
Extra Effort	Small	144	3.002	0.591	0.823
	Large	143	2.986	0.643	
Effectiveness	Small	148	3.390	0.469	0.080
	Large	144	3.291	0.490	
Satisfaction	Small	148	3.304	0.567	0.729
	Large	143	3.279	0.629	

Note. Not all respondents completed all items

The p values (Sig. 2 tailed) do not offer any evidence that there are significant differences between the two samples with regard to leadership scores.

Combination scores for the transformational leadership factors (viz., Idealized Influence - Attributed, Idealized Influence - Behavior, Inspirational Motivation, Individual Consideration, and Intellectual Stimulation) and the transactional leadership factors (viz., Contingent Reward, Management-by-Exception Active, and Management-by-Exception Passive) were also analyzed using a series of t-tests in order to identify whether the means of the combined scores of the two groups of administrators differed significantly from what would be expected by chance (Mould, 1989). Respondents that did not submit survey responses for one or more of the test items within any of the transformational or transactional factors were not included in the combination analysis. The combination analysis resulted in the information presented in Table 17. The p values (Sig.

Table 17. Transformational and Transactional Leadership Combination Score Analysis by Practice Size.

Group Statistics	Size	N	Mean	SD	Sig. (2-tailed)
Transformational Leadership	Small	136	16.19	2.15	0.362
	Large	135	15.94	2.35	
Transactional Leadership	Small	144	5.81	1.08	0.947
	Large	141	5.81	1.04	

Note. Not all respondents completed all items

2 tailed) of the combined leadership factors do not offer any evidence that there are significant differences between the two samples with regard to transformational or transactional leadership.

Additional analyses comparing administrators of small and large practices stratified by gender resulted in the information presented in Table 18. While the p values (Sig. 2 tailed) of the gender stratified groups for the individual and combined leadership factors show significant differences between the genders, they do not offer any evidence that there are significant differences between the samples with regard to transformational or transactional leadership in the subgroups divided by practice size.

Additional analyses were conducted to compare the administrators of small and large practices stratified by education. The p values (Sig. 2 tailed) of the education stratified groups for the individual and combined leadership factors show some significant differences between respondents at some educational levels in the subgroups divided by practice size summarized in Table 19.

Table 18. Administrator leadership factor score analysis by practice size, divided by gender.

Group Statistics	Size	Male N	Female N	Male Sig. (2-tailed)	Female Sig. (2-tailed)
Idealized Influence (Attributed)	Small	53	89	0.556	0.217
	Large	73	71		
Idealized Influence (Behavior)	Small	52	96	0.504	0.229
	Large	72	70		
Inspirational Motivation	Small	53	95	0.947	0.326
	Large	73	71		
Intellectual Stimulation	Small	53	93	0.411	0.770
	Large	73	70		
Individual Consideration	Small	53	93	0.523	0.966
	Large	71	71		
Contingent Reward	Small	53	93	0.272	0.230
	Large	73	71		
Management-by-Exception (Active)	Small	53	94	0.845	0.770
	Large	73	73		
Management-by-Exception (Passive)	Small	53	96	0.286	0.738
	Large	73	70		
Laissez-Faire Leadership	Small	53	94	0.172	0.092
	Large	73	71		
Extra Effort	Small	50	94	0.890	0.933
	Large	73	70		
Effectiveness	Small	53	95	0.638	0.128
	Large	72	72		
Satisfaction	Small	53	95	0.661	0.633
	Large	72	71		
Transformational Leadership	Small	52	84	0.689	0.565
	Large	70	65		
Transactional Leadership	Small	53	91	0.874	0.980
	Large	73	68		

Note. Not all respondents completed all items

Table 19. Summary of administrator leadership factor score analysis by practice size, divided by educational level.

Group Statistics	Size	N	Sig. (2-tailed)
Some Post-Grad			
Management-by-Exception (Active)	Small	13	0.049
	Large	14	
Effectiveness	Small	13	0.048
	Large	13	

Note. Not all respondents completed all items, $p < .05$

Additional analyses were conducted to compare the administrators of small and large practices stratified by years in current job. The p values (Sig. 2 tailed) of the years in current job stratified group with 7-10 years in their current job showed a significant difference in the score for Transactional Leadership ($p < .05$) between the administrators of small and large groups. No other groups of administrators of small and large practices stratified by years in current job showed any significant difference in leadership factors.

Research Question 3

The research question asks, is there a relationship between the transformational, transactional, laissez-faire

leadership factors, and leadership outcome factors in administrators of medium and large group practices?

The 485 usable survey responses included 189 responses (39% of 485) from administrators of small medical practices and 146 responses (30% of 485) from administrators of large sized group practices. No significant demographic and career characteristics were found between the subgroups (Table 20).

Table 20. Selected demographics of administrators of medium/large group practices.

Medium Group Practices		Large Group Practices	
Male 51%	Female 49%	Male 50%	Female 50%
Age Median (41-50)		Age Median (41-50)	
Job Median (4-6 years)		Job Median (1-3 years)	
Experience Median (16-20 years)		Experience Median (16-20 years)	
Education Median (Master's Degree)		Education Median (Master's Degree)	
High School Degree	2.1%	High School Degree	0.7%
Some College	10.1%	Some College	7.5%
Bachelor's Degree	15.3%	Bachelor's Degree	13.0%
Some Post-grad	18.0%	Some Post-grad	9.6%
Master's Degree	46.6%	Master's Degree	63.7%
Some Doctoral	2.1%	Some Doctoral	1.4%
Physician	3.2%	Physician	1.4%
Ph.D.	2.6%	Ph.D.	2.1%
Physician and Ph.D.	0.0%	Physician and Ph.D.	0.7%

Note. Not all respondents completed all items; $p < .05$

Leadership scores from the small practice and large practice subgroups were analyzed using a series of t-tests in order to identify whether the means of the scores of the two groups of administrators differed significantly from what would be expected by chance (Mould, 1989). This analysis resulted in the information presented in Table 21. The p values (Sig. 2 tailed) do not offer any evidence that there are significant differences between the two samples with regard to leadership scores.

Combination scores for the transformational leadership factors (viz., Idealized Influence - Attributed, Idealized Influence - Behavior, Inspirational Motivation, Individual Consideration, and Intellectual Stimulation) and the transactional leadership factors (viz., Contingent Reward, Management-by-Exception Active, and Management-by-Exception Passive) were also analyzed using a series of t-tests in order to identify whether the means of the combined scores of the two groups of administrators differed significantly from what would be expected by chance (Mould, 1989). Respondents that did not submit survey responses for one or more of the test items within any of the transformational or transactional factors were not included in the

Table 21. Administrator leadership factor score analysis by practice size.

Group Statistics	Size	N	Mean	SD	Sig. (2-tailed)
Idealized Influence (Attributed)	Medium	184	3.177	0.465	0.470
	Large	144	3.137	0.521	
Idealized Influence (Behavior)	Medium	184	3.201	0.484	0.489
	Large	142	3.158	0.627	
Inspirational Motivation	Medium	185	3.311	0.493	0.444
	Large	144	3.263	0.616	
Intellectual Stimulation	Medium	185	3.181	0.485	0.449
	Large	144	3.138	0.521	
Individual Consideration	Medium	183	3.276	0.486	0.991
	Large	141	3.276	0.553	
Contingent Reward	Medium	181	3.163	0.511	0.290
	Large	144	3.224	0.519	
Management-by-Exception (Active)	Medium	186	1.753	0.769	0.277
	Large	146	1.666	0.649	
Management-by-Exception (Passive)	Medium	184	1.004	0.564	0.288
	Large	144	0.937	0.565	
Laissez-Faire Leadership	Medium	185	0.430	0.388	0.438
	Large	144	0.467	0.482	
Extra Effort	Medium	186	3.018	0.522	0.620
	Large	143	2.986	0.643	
Effectiveness	Medium	181	3.381	0.415	0.075
	Large	144	3.291	0.490	
Satisfaction	Medium	183	3.342	0.480	0.315
	Large	143	3.279	0.629	

Note. Not all respondents completed all items

combination analysis. The combination analysis resulted in the information presented in Table 22. The p values (Sig. 2 tailed) of the combined leadership factors do not offer any evidence that there are significant differences between

the two samples with regard to transformational or transactional leadership.

Table 22. Transformational and Transactional Leadership Combination Score Analysis by Practice Size.

Group Statistics	Size	N	Mean	SD	Sig. (2-tailed)
Transformational Leadership	Medium	174	16.15	1.78	.381
	Large	135	15.94	2.35	
Transactional Leadership	Medium	177	5.93	1.15	.353
	Large	141	5.81	1.04	

Note. Not all respondents completed all items

CHAPTER 5. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Statement of the Problem

While it appears that leadership is recognized as an essential quality in a group practice administrator, too few organizations consider leadership skills in their selection process (Brechbill, 1998). Sometimes physician groups deliberately select an administrator that will be acquiescent so they can undermine their authority (Morrison, 2000). Other groups promote a candidate of convenience, subsequent to a practice merger and selected from limited management staffs of the former separate organizations (Wolper, 2001). Either way, by ignoring candidates' leadership abilities, the groups may also disable their organizational progress, and the progress of the employees within the medical organization. The high rate of administrative failure and attrition in medical groups creates a chaotic internal environment in addition to an already extremely challenging external healthcare milieu (Dye, 2000a). Therefore, the problem to which this study is directed is an investigation of the leadership characteristics of the administrators in group practice organizations of various sizes.

Methodology

Population and Data Collection

With the number of medical practices in the U.S. being estimated at 20,000 (AMA, 2001), a random sample of 3000 e-mail addresses was drawn from a database of administrators of medical group practices who hold membership in the Medical Group Management Association, the largest such organization in the world.

Data was collected using a web-based survey that incorporated biodata and practice variables including gender, age, years of experience in management, years in current position, highest level of education, practice size in physician FTEs, and job title, in conjunction with the 45-item Multifactor Leadership Questionnaire 5X leader form (see Appendix B) designed by Bass and Avolio (Avolio, Bass, & Jung, 1995).

On December 29, 2001, a solicitation (Appendix A) via e-mail was broadcast to the 3000 MGMA member addresses that were provided by the research department of MGMA. Return e-mails with error messages were immediately returned for 291 (9.7% of 3000) e-mail addresses, with the various Internet mail servers responding that the addresses were

either incorrectly formatted or invalid. After ten days, a second e-mail was broadcast to the 2709 valid e-mail addresses as a reminder to anyone who had not previously responded and in order to obtain a higher response rate.

There were 500 (16.7% of 3000) total anonymous survey responses posted to the associated dissertation website during the three week interval over which the site was accessible (Table 3).

Instrumentation

The Multifactor Leadership Questionnaire (MLQ) version 5X (See Appendix A) is an established survey tool created by Bass and Avolio in 1991 in response to advances in leadership theory (Avolio, Bass, & Jung, 1995). The MLQ is available in two versions, a 45-item leader form and a parallel rater form. The forms have nearly identical items, except the leader form is designed as a self-rating instrument and the rater form is crafted in terms that solicit information about another individual, usually a superior. Both versions utilize a 5-point Likert-type scale (Sommer & Sommer, 2002) to assess the magnitude of the associated behavior (viz., Not at all, Once in a while, Sometimes, Fairly often, Frequently if not always). This

tool is distributed by Mind Garden of Redwood City, California, and through their associated website http://www.mindgarden.com, for a range of fees depending on the expected size and type of study. This study was assessed a fee of $300 plus a $5 invoice fee for up to 600 responses. Reliability scores for the MLQ 5X leadership scales that represented about 10% of rater form data collected prior to 1995 (n=2080, nine studies) were between 0.74 and 0.94 (Avolio, Bass, & Jung, 1995, p. 9-10).

Summary and Discussion of the Findings

The summary and discussion of the findings are presented below, with regard to the three research questions that comprised this study:

Research Question 1

The research question asks, is there a relationship between the transformational, transactional, laissez-faire leadership factors, and leadership outcome factors in administrators of small and medium group practices?

There were 150 responses (31% of 485) from administrators of small medical practices and 189 responses (39% of 485) from administrators of medium sized group practices in the respondent cohort. Analyses were

performed using independent samples t-testing and ANOVA, employing the SPSS version 10.0 statistical software. Administrators of small practices were more likely to be female (64% vs. 49%, $p < .005$) and less educated (median of Some Post-grad vs. Master's Degree, $p < .002$) than the administrators of medium sized practices, but did not differ significantly for any other demographic or career factor survey items.

While gender stratified groups show significant inter-gender differences for the individual and combined leadership factors ($p < .05$) in the subgroups also divided by practice size, they do not offer any evidence that there are significant differences between the samples with regard to intra-gender leadership scores in these same subgroups ($p > .05$). Education stratified groups for the individual and combined leadership factors show some significant differences between respondents at some educational levels in the subgroups also divided by practice size ($p < .05$). However, when the individual leadership factors and combined transformational and transactional factor scores of the two subgroups were analyzed between subgroups stratified only by medical group size, the administrators

of small and medium sized medical groups exhibited no significant difference in transformational, transactional, laissez-faire leadership factors, and leadership outcome factors.

Research Question 2

The research question asks, is there a relationship between the transformational, transactional, laissez-faire leadership factors, and leadership outcome factors in administrators of small and large group practices?

There were 150 responses (31% of 485) from administrators of small medical practices and 146 responses (30% of 485) from administrators of large sized group practices in the respondent cohort. Analyses were performed using independent samples t-testing and ANOVA, employing the SPSS version 10.0 statistical software. Administrators of small practices were more likely to be female (64% vs. 50%, $p < .02$), less educated (median of Some Post-grad vs. Master's Degree, $p < .005$), and in their current job longer (4-6 years vs. 1-3 years, $p < .005$) than the administrators of large sized practices, but did not differ significantly for any other demographic or career factor survey items.

While gender stratified groups show significant inter-gender differences for the individual and combined leadership factors ($p < .05$) in the subgroups also divided by practice size, they do not offer any evidence that there are significant differences between the samples with regard to intra-gender leadership scores in these same subgroups ($p > .05$). Education stratified groups for the individual and combined leadership factors show some significant differences between respondents at some educational levels in the subgroups also divided by practice size ($p < .05$). Groups stratified by years in current job also showed some significant differences between respondents at some year levels in the subgroups also divided by practice size ($p < .05$). However, when the individual leadership factors and combined transformational and transactional factor scores of the two subgroups were analyzed between subgroups stratified only by medical group size, the administrators of small and large sized medical groups exhibited no significant difference in transformational, transactional, laissez-faire leadership factors, and leadership outcome factors.

Research Question 3

The research question asks, is there a relationship between the transformational, transactional, laissez-faire leadership factors, and leadership outcome factors in administrators of medium and large group practices?

There were 189 responses (39% of 485) from administrators of medium sized medical practices and 146 responses (30% of 485) from administrators of large sized group practices in the respondent cohort. Analyses were performed using independent samples t-testing and ANOVA, employing the SPSS version 10.0 statistical software. No significant demographic and career characteristics were found between the administrators of small practices and large sized practices. When the individual leadership factors and combined transformational and transactional factor scores of the two subgroups were analyzed between subgroups stratified only by medical group size, the administrators of medium and large sized medical groups exhibited no significant difference in transformational, transactional, laissez-faire leadership factors, and leadership outcome factors.

Conclusions

The purpose of this study was to assess the leadership qualities in administrators of group medical practices, and then compare the leadership qualities of administrators in small, medium, and large group practices. An assessment of transformational leadership factors (viz., Idealized Influence, Inspirational Motivation, Intellectual Stimulation, Individualized Consideration), transactional leadership factors (viz., Contingent Reward, Management-by-Exception), laissez-faire leadership, and leadership outcome factors (viz., Extra Effort, Effectiveness, Satisfaction) were evaluated within the context of the medical group administrators as a single entity, and then stratified by practice size in order to determine if there is a significant difference in leadership factors between practice administrators within the three subgroups. Based on a review of the literature and the research findings presented, the following conclusions are offered here:

1. It was concluded that while administrators of small and medium sized medical groups differ in demographic composition with regard to gender and education, they do

not differ in transformational, transactional, laissez-faire or outcome leadership qualities.

2. It was concluded that while administrators of small and large sized medical groups differ in demographic composition with regard to gender, education, and years in current job, they do not differ in transformational, transactional, laissez-faire or outcome leadership qualities.

3. It was concluded that administrators of medium and large sized medical groups do not differ in demographic composition and they do not differ in transformational, transactional, laissez-faire or outcome leadership qualities.

Implications and Recommendations for Practice

While this study did not demonstrate a significant difference in leadership when comparing the administrators of small, medium and large group practice, there is evidence of a need for leadership of group medical practices in the current literature. In light of the problems with retention and unsuccessful leadership of contemporary healthcare administrators it is recommended that the development of the skills and competencies to be a

transitional leader would ideally be incorporated into the educational curriculum beginning at the elementary level (Zacharatos, Barling, & Kelloway, 2000). Unfortunately, even if this could be possible, it does not solve the dilemma of the current dearth of leadership since it would take decades to produce the first crop of transitional leaders. Instead, the college, post-graduate, and office based business education programs should concentrated on the task of taking the business leaders already in practice to new levels of competence using techniques and curricula to meet the demands of a changing workplace (Bush & Taylor, 1993; Cunningham & Kitson, 2000). One of these techniques for leadership development is called Neuro-Linguistic Programming (McHale, 2000) and another is mentoring (McCann, 1998).

Neuro-Linguistic Programming

Neuro-Linguistic Programming, or NLP, is a term coined in 1976 by Richard Bandler and John Grinder in Santa Cruz, California to describe their technique of seeking out models of excellence to attain best practice (Molden, 1996). Bandler and Grinder developed NLP by combining techniques from the neurosciences and linguistics in order

to change limiting behavior patterns and enhancing the patterns to work favorably in various settings (McDermott & Shircore, 1998). Simply put, these NLP pioneers studied how numerous successful communicators functioned, modeled how they think and what they believe, so that others could learn and synthesize these proven skills to achieve their own goals (O'Connor, 1998). Their study focused on the patterns of communication used by successful psychotherapists of the time (viz., Fritz Perls, Virginia Satir, and Milton Erickson) in order to find the keys to achievement of improvements in communication, acceleration of learning, and enhancement of personal success and leadership in any discipline (Alder, 1996). Gregory Bateson also made early contributions to NLP theory from a perspective based in anthropology and biology. From confidence building for enhanced sport performance, to the mental strategies necessary in order to prevail over everyday business challenges, NLP proponents assert that the knowledge and skills of personal excellence can be learned (Alder, 1996).

NLP techniques are pragmatic, goal-oriented techniques for interacting with the world (McDermott & Shircore, 1998). NLP is made up of three parts:

1. Neuro - from neurology, our perceptions
2. Linguistic - from language, our communication
3. Programming - the process of gaining results

and is built on the purpose, vision and values necessary to guide the way to a successful, sustainable future (O'Connor, 1998).

NLP processing begins with modifying the passive recipient into the instigator of change (McDermott & Shircore, 1998). The first step in this metamorphosis is determining the desired outcome of the circumstance instead of looking at the situation as a problem (McHale, 2000). Outcome expectancy, and self-efficacy expectation, strengthens confidence of the individual by mobilizing greater effort to attain the desired outcome (Dilts, 1996).

The second key to success in NLP leadership development is improving rapport (McDermott & Shircore, 1998). This is related to pacing and leading other individuals during communication (Dilts, 1996). When pacing, the leader tries to step into the persona of the

collaborator by matching some language patterns during conversation. Once the identity and spirit is matched, the leading process is used to subtly shift changes in the collective vision. By establishing rapport using language, tone, tempo and physical posture, the recipients are more apt to be receptive and open to receiving new messages (Dilts, 1996).

Increased sensory acuity is the third NLP priority (McDermott & Shircore, 1998). This is the ability to recognize, using our senses, the result of behavior (Alder, 1996). The better the powers of observation, including, but not limited to, genetically inherited sensory capabilities, the more likely there can be timely and appropriate strategic changes that will bring the leader nearer to the desired outcome (Alder, 1996).

Physical and mental flexibility is the fourth critical element in NLP (McDermott & Shircore, 1998). Whether the system is the process of human interaction, or the feedback loop of an organization within a particular environment, the process of comparing the present state to the desired outcome is improved when there is behavioral flexibility (Molden, 1996). Rather than repeated effort using the same

technique, the NLP trained leader uses creativity to modify their approach and try something different in response to incrementally missing the goal (Alder, 1996).

Changing the conceptual frame, or reframing, is the technique that is used to change perception and attitude by presenting a new perspective (Molden, 1996). Reframing, the fifth NLP essential concept, may make the individual uncomfortable initially, but is a common problem-solving approach for creating a new point-of-view (Alder, 1996). A variety of reframing techniques that can be used in NLP including:

1. Slight of Mouth
2. Points of View
3. Reversal

which all use nuances of language to change the context of the environment enough to stimulate creative thinking (McDermott & Shircore, 1998).

The last essential component of NLP leadership techniques is increasing congruence (McDermott & Shircore, 1998). Congruence is the synergy between the external and internal communication processes (Alder, 1996). In the individual, matching words and actions inspired rapport and

trust (McDermott & O'Connor, 1996). Organizational congruence, or business ethics, will establish a company's relationship in society. It is self-government to enable ethical conduct on behalf of the individual, the group and society as a whole.

By combining the six keys to NLP leadership success, the limiting patterns of personal behavior can be identified, modified, and enhanced (McDermott & Shircore, 1998). Inexperienced leaders, seasoned managers, and top corporate strategists can all use NLP techniques to develop greater degrees of personal and professional excellence (Molden, 1996).

Mentoring

Modern-day corporate mentoring has been used for many years in organizations as a means of individualized orientation and socialization of junior executives (Greenberg, 1999) via one-on-one interaction with a senior person. The more experienced employee acts as the mentor, and the junior person as the protégé. Most mentor-protégé relationships grow out of a willingness and simpatico between the two parties, and not necessarily as a result of formal allocation (Fine & Pullins, 1998).

There has been substantial literature devoted to exploring the gender differences in corporate advancement, which adds further complexity to the mentoring process in organizational socialization (D'Ambrosio, 2000; Konek & Kitch, 1994). Societal factors have created an organizational environment that renders advancement into upper management and into high-level creative leadership a greater challenge for women and minorities (Chaffins, Forbes, Fuqua, & Cangemi, 1995).

Despite representing almost 50% of the work force, only 5 to 6% of women achieve top management positions in large companies (Hirschman, 1995, p. 46). Although the easy explanation is a history of chauvinism in the business-place, in many cases it is not solely to blame for hindrance of women's advancement. Some upper level executives have revealed that they just "hadn't thought of looking" for a women for top positions. Women who are surveyed generally agree that fortitude, effort, and high-level performance are the only ways to really succeed in breaking the glass ceiling of business gender discrimination (Simonetti & Ariss, 1999). However, sometimes it was possible to make a connection with someone

who could open some doors. Some contemporary studies suggest that the existence of mentoring connections seems to be an effective way to assist the advancement of worthy female executives (Gaskill, 1991).

Female management styles have often been described as positive, standard setting and empowering, but are frequently met with disparagement by male colleagues, rated lower on evaluation, and result in fewer promotions (Gibelman, 1998). In a 1996 study of human-service agencies, women were underrepresented in management, earned lower salaries that their male counterparts, and were over-represented in direct service positions (Gibelman, 1998). The participants in this study generally thought that the greatest barrier to the progress of women in administration is a mindset that does not recognize or acknowledge the opinions and expertise of outsiders to the white male cohort. They also recognized that male and female personal responsibilities might vary significantly outside the workplace, making it difficult for some women to make the commitment to fulfill the requirements of holding senior level executive positions. In addition, women may be subject to negative stereotypical labels if they adopt

traditionally male leadership styles or authoritative organizational positions (Gibelman, 1998).

Power has traditionally been defined in terms that are associated with white male temperaments, characteristics and groups (Chaffins, Forbes, Fuqua, & Cangemi, 1995). Sociologists generally define power as the ability of one person, or one group, to influence others (Ragins, 1997). Female and minority executives are less likely to readily experience the strength in numbers that white male executives enjoy in white male-dominated organizations.

The benefits to the protégé in a mentoring relationship or relationships include attaining technical job skills, increased performance, increased income, high job satisfaction, and increased job motivation (Fine & Pullins, 1998). Research indicates that the presence of a mentor is associated with enhanced protégé authority and greater positional influence (Ragins, 1997).

Recommendations for Future Research

Other areas for future study that were identified during the execution of this study include:

1. Perform a series of case studies of selected group practices of varying sizes that include both leader self-

assessment and subordinate raters utilizing the MLQ 5X rater form (Avolio, Bass, & Jung, 1995).

2. Qualitative investigation of the leadership challenges in group practices of varying sizes, and the leadership transitions following group mergers.

3. A longitudinal study that followed medical group leaders during and after NLP leadership training could be conducted.

4. A study of PAL (Physician Administrator Leadership) teams leadership qualities and whether their combined assets result in characteristics sought after in ideal transformational leaders.

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APPENDIX A

Electronic Invitation with Informed Consent

December 2001

Dear Colleague:

I am a fellow member of MGMA and a Ph.D. candidate at Capella University in the School of Business. I am writing to you in order to solicit your participation in a leadership survey that is the basis for my dissertation. I am studying leadership factors in medical group administrators.

I am hoping that you might be willing to participate in this web-based questionnaire that should not take more than 15-20 minutes of your time. Your responses will be anonymous and there will not be any mailing lists or further contact from other investigators or agencies generated as a result of your participation.

If you are willing to participate, I ask that you please do two things:

> Reply to this letter using the email reply function. This will serve as electronic documentation of your informed consent, which is required in any testing of human subjects.
>
> Visit my leadership questionnaire website by clicking on the following hyperlink:
> http://www.createsurvey.com/cgi-bin/pollfrm?s=1231&magic=9XBuuI1|8aSDlnXr
> If clicking on this link does not automatically take you to the questionnaire, you may have to cut and paste the website address into the address window of your web browser.

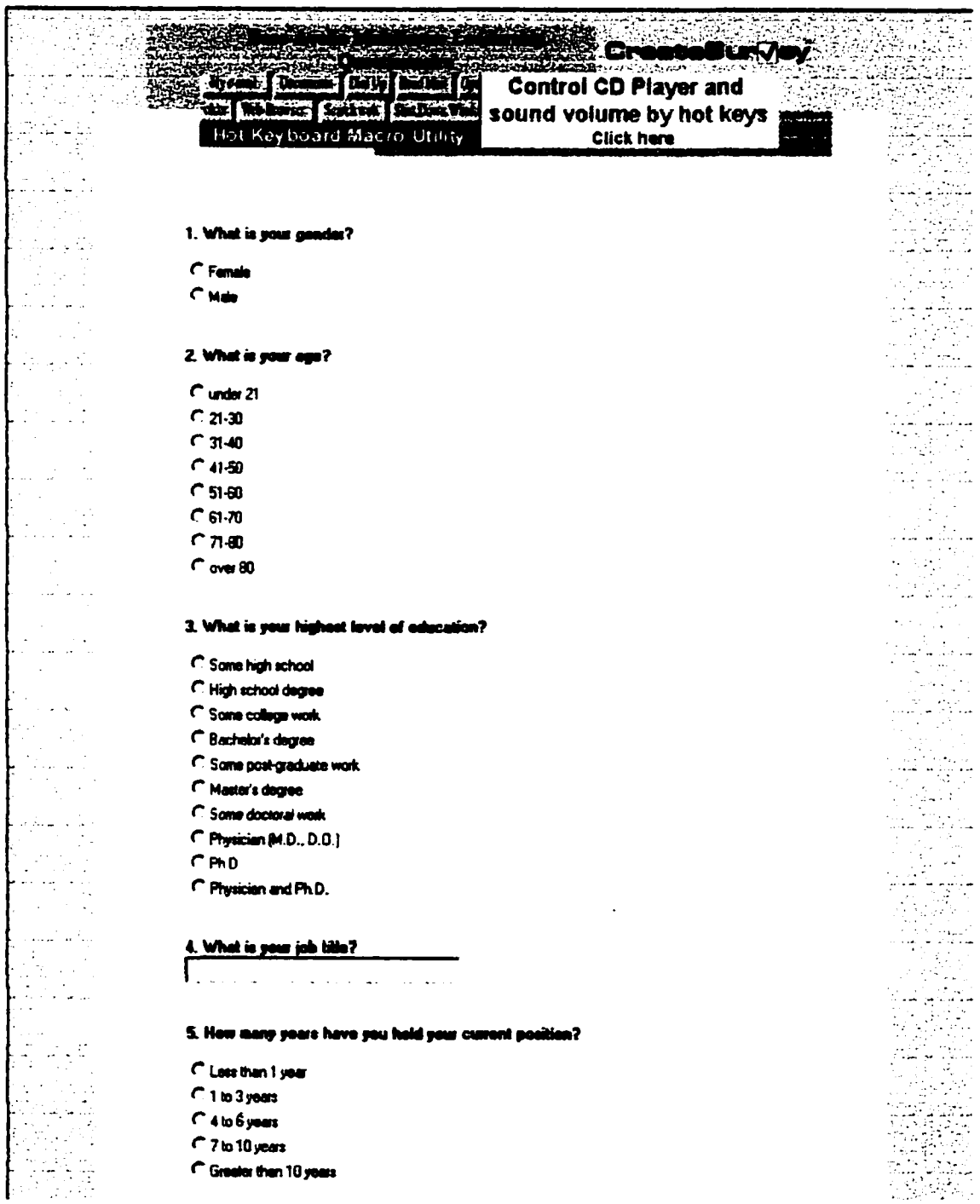
Thank you very much for your time and hopefully for your participation. I am very excited to get this research underway and analyze the results. I hope that my findings may have relevance to academic preparation of practice administrators, and to the candidate selection processes used by group medical practices.

Sincerely,

Joy M. Nonnweiler, M.S., A.B.D.
MGMA Member, Ph.D. Candidate at Capella University

APPENDIX B

Website Questionnaire



1. What is your gender?

- Female
- Male

2. What is your age?

- under 21
- 21-30
- 31-40
- 41-50
- 51-60
- 61-70
- 71-80
- over 80

3. What is your highest level of education?

- Some high school
- High school degree
- Some college work
- Bachelor's degree
- Some post-graduate work
- Master's degree
- Some doctoral work
- Physician (M.D., D.O.)
- Ph.D
- Physician and Ph.D.

4. What is your job title? _____

5. How many years have you held your current position?

- Less than 1 year
- 1 to 3 years
- 4 to 6 years
- 7 to 10 years
- Greater than 10 years

6. How many years have you worked in management or administration?

- Less than 1 year
- 1 to 5 years
- 6 to 10 years
- 11 to 15 years
- 16 to 20 years
- Greater than 20 years

7. How many FTE physicians in your organization?

- under 10
- 10-25
- 26-50
- 51-75
- over 75

8. I provide others with assistance in exchange for their efforts

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

9. I re-examine critical assumptions to question whether they are appropriate

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

10. I fail to interfere until problems become serious

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

11. I focus attention on irregularities, mistakes, exceptions, and deviations from standards

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

12. I avoid getting involved when important issues arise

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

13. I talk about my most important values and beliefs

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

14. I am absent when needed

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

15. I seek differing perspectives when solving problems

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

16. I talk optimistically about the future

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

17. I instill pride in others for being associated with me

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

18. I discuss in specific terms who is responsible for achieving performance targets

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

19. I wait for things to go wrong before taking action

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

20. I talk enthusiastically about what needs to be accomplished

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

21. I specify the importance of having a strong sense of purpose

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

22. I spend time teaching and coaching

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

23. I make clear what one can expect to receive when performance goals are achieved

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

24. I show that I am a firm believer in "If it ain't broke, don't fix it"

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

25. I go beyond self-interest for the good of the group

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

26. I treat others as individuals rather than just as a member of a group

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

27. I demonstrate that problems must become chronic before I take action

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

28. I act in ways that build others' respect for me

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

29. I concentrate my full attention on dealing with mistakes, complaints, and failures

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

30. I consider the moral and ethical consequences of decisions

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

31. I keep track of all mistakes

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

32. I display a sense of power and confidence

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

33. I articulate a compelling vision of the future

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

34. I direct my attention toward failures to meet standards

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

35. I avoid making decisions

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

36. I consider an individual as having different needs, abilities, and aspirations from others

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

37. I get others to look at problems from many different angles

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

38. I help others to develop their strengths

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

39. I suggest new ways of looking at how to complete assignments

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

40. I delay responding to urgent questions

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

41. I emphasize the importance of having a collective sense of mission

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

42. I express satisfaction when others meet expectations

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

43. I express confidence that goals will be achieved

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

44. I am effective in meeting others' job-related needs

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

45. I use methods of leadership that are satisfying

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

46. I get others to do more than they expected to do

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

47. I am effective in representing others to higher authority

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

48. I work with others in a satisfactory way

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

49. I heighten others' desire to succeed

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

50. I am effective in meeting organizational requirements

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

51. I increase others' willingness to try harder

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

52. I lead a group that is effective

- Not at all
- Once in a while
- Sometimes
- Fairly often
- Frequently, if not always

APPENDIX C

Survey Completion Web Page

Thank you for your participation in the Leadership Questionnaire.

Your contribution to the body of knowledge in group practice administration and your assistance with my dissertation research is of inestimable value!

Joy M. Nonnweiler
Ph.D. Candidate in Organization and Management