MOTIVATION AND LEADERSHIP STYLES AMONG MEDICAL PERSONNEL LOCATED IN WASHINGTON DC METROPOLITAN MILITARY MEDICAL CENTERS

by

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ABSTRACT

The purpose of this quantitative correlational study, using the Motivation and Leadership Survey (Finzel, 2004; Miller, 2005), was to test Herzberg's theory on motivation by correlating intrinsic motivators and preferred leadership styles to determine how they might affect medical personnel's performance within Walter Reed Army Medical Center and National Naval Medical Center, located near Washington, D.C. Independent variables included achievement, advancement, recognition, responsibility, and work. Dependent variables included great man, group, trait, contingency, transactional and transformational leadership styles. Two hundred seventy-eight medical personnel responded to a 33-question survey. Relevant data results showed medical personnel (a) wanted autonomy in their work area, (b) requested synergy with their leaders, and (c) preferred transformational leadership for guidance.

DEDICATION

This work was dedicated to my loving husband Wendell, who contributed all of his love and encouragement on this learning journey, and to my sons, Micheal and Christopher, who are very proud of their mother's accomplishments.

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I would like to acknowledge Jesus, who is first in my life and had provided guidance during my efforts to complete this dissertation. I would like to acknowledge my husband, Wendell W. Deal. I never would have completed this research without his love, support, and understanding. I would like to acknowledge my two sons Micheal James and Christopher Thomas who provided all their support and love. Their pride in their mother had encouraged me to complete this dissertation.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

Leaders face the complicated problem of motivating employees to contribute to job satisfaction (Miner, 2005). Motivation is a key factor in influencing workers to have a passion for their jobs (Schunk & Zimmerman, 2007). Organizational leaders must teach managers how to use their built-in leadership factors at the worksite to motivate their employees and increase productivity and profitability (Struder, 2004). Dodendorf, Deogun, Rodie, and Pol (2004) noted proper leadership and *esprit de corps* were beneficial in restoring the human resources quota and increasing retention rates.

Kabene, Orchard, Howard, Soriano, and Leduc (2006) reported human resources leaders in many health care systems worldwide focus on management personnel quotas in medical facilities. Human resources represent one of three principal health system inputs. The other two inputs are physical capital and consumables. In health care, public and individual health interventions consists of clinical and nonclinical care. The most important health system inputs are the performance of the staff and the benefits the system can deliver. Performance depends on the knowledge, skills, and motivation of the medical personnel responsible for delivering health services (Kabene et al., 2006). To guarantee a balance between human and physical resources, it is essential to maintain an appropriate mix between the different types of health promoters and caregivers to ensure the system's success. Managers must be conscious of the differences between human capital and physical capital. Human capital is handled and managed differently from physical capital.

The relationship between human resources and healthcare is complex. The number and the cost of health care consumables (i.e., drugs, prostheses, and disposable

equipment) are rising astronomically, drastically increasing the costs of health care (Kabene et al., 2006). In publicly funded systems, expenditures can affect the ability to hire and sustain effective practitioners. In government-funded and employer-paid systems, human resources management practices must have the appropriate balance of workforce supply and effective and efficient practitioners (Kabene et al., 2006).

The purpose of the current quantitative correlational study using the Motivation and Leadership survey (Finzel, 2004; Miller, 2005) was to test Herzberg's theory of motivation by correlating intrinsic motivators and preferred leadership styles. The goal was to determine how intrinsic motivators and leadership styles affected medical personnel's performance within Walter Reed Army Medical Center (WRAMC) and the National Naval Medical Center (NNMC) in the Washington, DC metropolitan area. Chapter 1 includes an overview of the purpose, problem, research approach, and design used to explore the intrinsic motivators and preferred leadership styles in WRAMC and NNMC. The next section provides the background of the study problem.

Background of the Problem

Effective leaders understand the importance of built-in motivating factors in a medical organization and possess the necessary leadership capabilities to create a positive work environment for patients and employees to generate high productivity (Struder, 2004). Managers' leadership styles greatly influence employees' motivation (Halepota, 2005). A review of past studies on motivation indicated positive feedback, recognition, and employee participation contributed significantly to employee motivation (Halepota, 2005; Schunk & Zimmerman, 2007).

Studies on the significance of motivation in the workplace originated with Herzberg in 1959 (Herzberg, Mausner, & Snyderman, 1954). According to Herzberg's motivation hygiene theory, different work factors produce job satisfaction and job dissatisfaction. Factors generating employee satisfaction (i.e., motivators) at work relate to the content of employees' jobs and include (a) achievement, (b) recognition for achievement, (c) interesting work, (d) increased responsibility, (e) growth, and (f) advancement (Herzberg, 1974). Factors causing dissatisfaction (i.e., hygiene factors) include (a) poor employee treatment, (b) company policies, (c) administration practices, (d) supervision, (e) interpersonal relationships, (f) working conditions, (g) salary, and (h) status.

Recruitment and retention of skilled medical personnel are vital in medical centers. The shortage of medical personnel working in medical organizations greatly reduces the quality of patient care health providers deliver (Dodendorf et al., 2004). The successful management of medical personnel can translate into a boost in productivity, improved performance, and an increase in accountability of employees ("Pay Is One Reason," 2004).

The need for additional medical personnel had reached a critical juncture. Factors such as high employee turnover and job dissatisfaction problems related to turnover, such as absenteeism, job dissatisfaction, job stressors, emotional exhaustion, and burnout, cause a reduction in the efficiency of patient care (Chapman, 2006; Herzberg, 1974). Leaders know it is impossible to provide superior patient care without adequate medical staff. When the quality of patient care declines, patients become disgruntled and submit complaints to the patient advocacy office (Dodendorf et al., 2004).

Job turnover rates do not relate to the content of the work but to the context of the job where *dissatisfiers* are found (Herzberg, 1974). Several theorists have offered models for employee motivation. Maslow developed the hierarchy of needs during the 1950s, Vroom presented the expectancy theory during the 1960s, McGregor created the X and Y model in 1985, and Porter and Lawler extended the expectancy theory during the 1970s (Schunk & Zimmerman, 2007).

Cummings (2006) measured and evaluated the difference between factors producing job satisfaction and factors leading to job satisfaction. Cummings examined the correlation between motivational and hygienic factors within each of the five levels of the organizational hierarchy. The overall results from the study were as follows: (a) a correlation existed between motivational and hygienic factors within each of the five levels of the organizational hierarchy surveyed; (b) factors producing job satisfaction (i.e., motivators) are separate and distinct from factors that lead to job dissatisfaction (i.e., hygienics), substantiating Herzberg et al.'s (1954) original study; (c) work values change as an individual moves up in the organizational structure; (d) motivational and hygienic factors can be identified and isolated within varied work groups; (e) managers can create motivational job satisfaction at all levels of an organization if they are willing to apply contemporary management methods; and (f) employee motivation can be successful only when top management stops manipulating.

Motivational theorists such as Herzberg et al.(1959) highlighted the problem of employees' nonmotivational characteristics. The current study included an examination of the chronic problem of built-in motivational factors and effective leadership styles at

WRAMC and NNMC. The knowledge gained can assist leaders in understanding the importance of learning and practicing preferred leadership styles in their daily business.

Herzberg et al. (1959) noted the results of Likert-type studies illustrated a positive relationship among job satisfaction, productivity, and managers. Savery (2002) discovered organizations tended to link the level of job satisfaction of an individual's salary with the amount of money earned and the productivity achieved. Herzberg et al. discovered salary was a hygiene factor with the presence of an acceptable amount of money not necessary leading to satisfaction but an amount less than acceptable possibly leading to dissatisfaction.

Many researchers supported Herzberg's findings (e.g., Hulin & Smith, 2006; Wang & Russell, 2005) and developed tools such as the Job Description Index (JDI) and the Job in General (JIG) scale by Hulin and Smith. The JDI was designed to measure employees' satisfaction with their jobs. The five facets of the JDI are work in the present job, present pay, opportunities for promotion, supervision, and coworkers. The facets serve to diagnose important aspects of the job. The JDI remains one of the most widely used measures of job satisfaction (Wang & Russell, 2005).

Kosmo and Behling (as cited in Savery, 2002) studied 84 staff nurses employed at a state hospital and reported a challenging job and a good environment contributed to job satisfaction, but when the work was not challenging, inclusion of a good environment did not increase job satisfaction. Savery conducted a comprehensive review of empirical studies of job satisfaction and concluded the conditions for job satisfaction for a majority of people include the following:

> (1) mentally challenging work with which the individual can cope successfully; (2) personal interest in the occupation; (3) rewards for performance in line with personal aspiration that are impartial; (4) working conditions which are compatible with the individual's physical needs and work; (5) high self esteem and (6) help in attaining interesting work, pay, promotions, minimizing role conflict and ambiguity. (p. 1328)

Items identified and results presented in the above studies were investigated at WRAMC and NNMC. Savery (2002) concluded items identified as intrinsic motivators and meeting expectations greatly contributed to achieving high levels of job satisfaction or at least preventing dissatisfaction for individuals. Savery further noted biographical data such as age and gender significantly influenced job satisfaction.

During changes in the health care system, sound management is critical to the survival of health care institutions. Managers must understand how to motivate employees in medical organizations. In the process of managing the complexity of businesses as well as government, strategy, structure, and systems are essential to provide focus, control, systematization of processes, and productivity (Johnson, 2005). Johnson commented, "The core principles of participatory management included intrinsic factors of motivation" (p. 3).

Statement of the Problem

Managers at WRAMC and NNMC have been challenged to create new and inspiring ways to motivate and retain medical personnel. Leadership and the leadership styles used at WRAMC and NNMC greatly influenced the motivation, recruitment, retention, and turnover of medical personnel (WRAMC Civilian Personnel Advisory

Center, 2007). According to Finzel (2004), 70% of federal employees reported their leaders were not effective in creating a motivational work atmosphere, which negatively affected productivity and efficiency.

The WRAMC Civilian Personnel Advisory Center (2007) and NNMC (2007) reported 2003 data showing only 40% of medical personnel leaders generated high levels of motivation. According to the WRAMC Civilian Personnel Advisory Center, 40% of the medical personnel employed at WRAMC or NNMC are civilian personnel, and 60% of the medical personnel assigned to WRAMC or NNMC are military. The interactions between medical personnel in medical departments such as nursing, laboratory, radiology, and pharmacy represent a superior practice of composite health care (Rabideau, 2005).

Many of the medical personnel occupy positions of high responsibility encompassing life-saving skills. Medical personnel perceive leadership as ineffective among supervisors, managers, and team leaders within both medical centers. The lack of motivation and leadership among supervisors, managers, and team leaders can result in (a) inferior quality of patient care, (b) a decrease in employee motivation, (c) a decrease in collaboration between managers and employees, and (d) an increase in employee turnover rates (Lephoko, Bezuidenhout, & Roos, 2006).

Understanding preferred leadership styles and intrinsic motivators of employees might allow leaders to create innovative, highly efficient work environments (Dodendorf et al., 2004). The purpose of the current study was to explore the possible causes and effects of intrinsic motivational factors and preferred leadership styles among medical personnel at WRAMC and NNMC. The focus was on obtaining data possibly indicating

relationships between intrinsic motivators and the preferred leadership styles of medical personnel at both WRAMC and NNMC. The data from the study provided new information for leaders in developing a motivational and creative workplace for increased productivity in medical organizations (Begley, Lee, Fang, & Li, 2002).

Purpose of the Study

The specific purpose of the quantitative correlational study using the Motivation and Leadership survey (Finzel, 2004; Miller, 2005) was to test Herzberg's theory of motivation by correlating intrinsic motivators and preferred leadership styles to determine how they might affect medical personnel's performance within WRAMC and NNMC, located in the Washington, DC metropolitan area. The predictor variables of intrinsic motivators included achievement, advancement, recognition, responsibility, and work. The criterion variables of leadership styles included great man, group, trait, contingency, transactional, and transformational. The study methodology did not include controlling for the possible intervening variables of age and gender.

The study participants came from various branches of the Armed Forces, consisting of the Army, Navy, Air Force, and Marines. Data collection consisted of face-to-face interviews at WRAMC or NNMC. Analyses of data and statistical tests included computations of means, standard deviations, and Pearson product-moment correlations (Creswell, 2003).

Significance of the Problem

The significance of the current quantitative correlational study was in adding to previous research by exploring relationships among the intrinsic motivators and leadership preferences of medical personnel at WRAMC and NNMC. There was specific

significance in understanding the preferred leadership styles that create an inspiring work environment in which medical personnel are motivated through leadership. Herzberg (Rappaport, 2004) indicated people were motivated to behave in ways that produced the highest probability of desired outcomes based on their perceptions of the situation. Medical personnel who are motivated and have an effective leader can be highly productive in medical institutions (Emery & Oertel, 2006).

Managers charged with the responsibility of motivating medical personnel in patient care encounter significant challenges within areas of nursing, laboratory, radiology, and pharmacy in medical centers. Gray (2006) maintained administrators of medical institutions have researched methods to initiate processes generating the arousal, direction, and persistence of behavior. To achieve superior patient care, supervisors, managers, and team leaders must incorporate the factors that influence the motivation of medical personnel in practices within medical centers. Requirements specified in managers' job description allow them to establish opportunities for workers through establishing motivational objectives (WRAMC Civilian Personnel Advisory Center, 2007). Researchers have explored effective motivators for employees and better leadership styles to retain medical personnel (Begley et al., 2002).

In prominent medical institutions, motivation can be the driving force behind all individuals' actions. People's needs and desires have a strong impact on the direction of their behavior (Gray, 2006). Emotions and achievement-related goals are the basis for motivation.

Different forms of motivation exist, known as (a) extrinsic, (b) intrinsic, (c) physiological, and (d) achievement (Rabideau, 2005; Schunk & Zimmerman, 2007).

Intrinsic motivation is a key factor in skilled medical performance. The current study involved an exploration of intrinsic motivational factors and the effects of preferred leadership styles among medical personnel in Washington, DC metropolitan military medical centers.

Significance of the Study to Leadership

The study contributed to leadership knowledge and literature because discovery and use of more effective leadership methods in the 21st century are key elements in maintaining a competitive edge and fostering new growth in organizations in general (Drucker, 2004) and in medical institutions in particular (Aranoff et al., 2005). Such new growth is an important driving force generating organizational expansion of businesses (Van Dam, 2005). Leaders' motivational strategies are an effective tool in the workforce, harnessing employees' energy and commitment (Thomas, 2002). The knowledge acquired from the study can be used to establish leadership training for supervisors, managers, and team leaders within the WRAMC and NNMC. The findings of the study might apply to medical institutions where quality of service can increase patients' longevity or involve life or death decisions for the customer (e.g., nursing homes, assisted living communities, pharmaceutical companies, and police and fire stations).

Nature of the Study

The purpose of the current quantitative correlational study using the Motivation and Leadership survey (see Appendix A) and Motivation and Leadership survey key (see Appendix B) (Finzel, 2004; Miller, 2005) was to test Herzberg's theory of motivation by correlating intrinsic motivators and preferred leadership styles. The specific goal was to determine how correlations between such variables might affect medical personnel's

performance within military medical facilities in the Washington, DC area. Quantitative research was well suited to the study purpose, which was to determine the significance of relationships among predictor and criterion variables in a population (Creswell & Plano-Clark, 2007). Quantitative research designs are either descriptive with one measurement or experimental with measurements before and after a treatment (Creswell & Plano-Clark, 2007).

Descriptive research is appropriate to explore associations among variables whereas experimental research is necessary to explore issues pertaining to causality (Hopkins, 2007). The quantitative approach to research concerns quantifying relationships between variables such as weight, performance, time, and treatment (Creswell & Plano-Clark, 2007). A measurement of variables on a sample from a population of participants can be tissues, cells, animals, or humans. The relationship between variables can be expressed using statistics such as means, variances, correlations, relative frequencies, or differences between means (Creswell & Plano-Clark, 2007; Hopkins, 2007).

An accurate estimate of a relationship between variables generally requires a descriptive study comprising a sample of hundreds of participants (Creswell, 2003; Creswell & Plano-Clark, 2007). Conversely, an experiment such as a crossover might require a minimum of 48 participants. The estimate of a relationship is less likely to be biased if obtained from a large sample (n) randomly selected from a population (Cooper & Schindler, 2003). In experiments, bias is also less likely if participants are randomly assigned to treatments and if participants and researchers are blind to the nature of the treatments (Creswell, 2003; Creswell & Plano-Clark, 2007).

The chosen correlational design helped accomplish the study goals to discover how medical personnel are intrinsically motivated, which leadership styles they prefer, and whether intrinsic motivational factors and leadership styles correlate and affect performance. In the current study, the following two definitions of correlational studies were used: (a) Diamond, McWilliam, Snyder, and Snyder (2004) commented, "In one sense, all analyses are correlational. Because all conventional parametric analyses (e.g., ANOVA and ANCOVA) are correlational in a sense, every quantitative study yields correlational evidence" (p. 2) and (b) correlational studies are quantitative, multisubject designs in which participants are not randomly assigned to treatment conditions (Cooper & Schindler, 2003).

Teams are not islands unto themselves. Definitive causal conclusions in quantitative research can be reached on the basis of true randomized trials (B. Thompson, Diamond, McWilliam, Snyder, & Snyder, 2005). It is important to match research questions and research designs. Bagozzi investigated job satisfaction and job performance and determined correlational research was a suitable fit for this type of study (as cited in B. Thompson et al., 2005). Correlational evidence informs evidence-based interventions when exemplary research practices are followed with regard to (a) measurement, (b) quantifying effects, (c) the avoidance of common analysis errors, and (d) the use of confidence intervals to portray effects (Creswell, 2003; B. Thompson et al., 2005).

A quantitative correlational research method was suitable for the current study involving an attempt to explore numerical data and explain relationships among variables through the numerical representation of data (Creswell, 2003; Little, Simmons, & Nelson,

2007). Conversely, qualitative research designs are appropriate to explore events or phenomena and identify variables for subsequent quantitative study (Creswell, 2003; Leedy & Ormrod, 2004). Rigorous approaches in qualitative research are achievable (e.g., Braud & Anderson, 1998). The various designs available for the qualitative approach to research facilitate the exploration of new frontiers and interpretation of participants' lived experiences (Maxwell, 2005).

Creswell (2002) noted a survey instrument was useful for gathering opinions, attitudes, and behavioral tendencies for analysis. The instrument of data collection in the current quantitative correlational study was a validated survey instrument designed by Finzel (2004) and replicated by Miller (2005). The 33-question slightly adapted Motivation and Leadership survey (see Appendix A) was used with permission granted in a signed copy of Permission to Use an Existing Survey form (see Appendix F). The survey was administered to medical personnel in the medical centers.

The WRAMC and NNMC sample consisted of 141 medical personnel from WRAMC and 141 medical personnel from NNMC who completed the 33-question survey. The participants responded to a 33-question survey organized into one set consisting of questions on intrinsic motivation and another set consisting of questions on preferred leadership styles. The first set of 15 questions addressed the following intrinsic motivational factors: (a) achievement, (b) recognition, (c) the work itself, (d) responsibilities, and (e) advancement (Herzberg et al., 1959). The second set of 18 questions addressed the following preferred leadership styles of employees: (a) great man, (b) group, (c) trait, (d) contingency, (e) transactional, and (f) transformational as defined by Bass (1990), Kouzes and Posner (2002), and Wren (1995). Participants

responded by choosing an answer from a 5-point Likert-type scale with 1 (*strongly disagree*), 2 (*disagree*), 3 (*neutral*), 4 (*agree*), and 5 (*strongly agree*) (Finzel, 2004).

A convenience sampling procedure generated the two samples of participants from two organizations for the standard multicorrelational research study. In a convenience sample, participants are selected, in part or in whole, at the convenience of the researcher (Creswell, 2003; Creswell & Plano-Clark, 2007). The samples accurately represented the larger populations of WRAMC and NNMC (WRAMC Civilian Personnel Advisory Center, 2007). Convenience sampling is a method of choosing items arbitrarily and in an unstructured manner from the frame, and many researchers employ the technique (Lunsford & Lunsford, 2005; Trochim, 2004). The nonprobability method is used in preliminary research efforts to obtain a gross estimate of the results without incurring the cost or time required to select a sample.

Research Questions

The focus of the current quantitative correlational research study was an examination of the intrinsic motivators and preferred leadership styles of medical personnel at WRAMC and NNMC. Through the administration of the quantitative correlational method, measurements were possible of the medical personnel's perspectives on intrinsic motivation and preferred leadership styles.

The basis for the two research questions was five intrinsic motivational factors and six preferred leadership styles. The quantitative correlational study included an examination of whether a relationship existed between the motivational factors and leadership styles, as illustrated in Table 1. The research questions for the study were as follows:

1. In what ways are medical personnel of WRAMC and NNMC intrinsically motivated?

2. Which leadership styles are preferable for medical personnel within WRAMC and NNMC?

Table 1

Intrinsic Motivators and Preferred Leadership Styles

	Intrinsic Motivational Factors				
Leadership Styles	Achievement	Recognition	Work	Responsibility	Advancement
Great man					
Trait					
Group					
Contingency					
Transformational					
Transactional					

Note. From *Motivation and Leadership Among Engineers in a United States Army Research and Development Engineering Center* (p. 11), by P. A. Finzel, 2004. Adapted with permission (see Appendix C).

Hypotheses

In the following hypotheses developed for the study, the null hypothesis was tested to establish whether a correlational relationship existed between the intrinsic motivational factors and the preferred leadership styles of 282 medical personnel:

$H1_0$: There is no relationship between motivational factors and the preferred leadership styles.

$H1_A$: There is at least one relationship between motivational factors and the preferred leadership styles.

$H2_0$: Great man, group, trait, contingency, transformational, and transactional leadership styles are not preferable for medical personnel within WRAMC and NNMC.

$H2_A$: Great man, group, trait, contingency, transformational, transactional leadership styles are preferable for medical personnel within WRAMC and NNMC.

Theoretical Framework

Herzberg's two-factor theory (Herzberg et al., 1959) represented the theoretical framework for the motivation variable in the quantitative correlational study. Herzberg et al. conducted in-depth interviews with 200 Pittsburgh engineers and accountants to obtain information about their on-the-job experiences and to illustrate "a time when you felt exceptionally good or a time when you felt exceptionally bad about your job" (p. 35). The participants in the current study received a copy of Herzberg et al.'s study as an example of the hygiene and motivational factors.

In terms of leadership styles, Bass (1990), Kouzes and Posner (2002), and J. T. Wren (1995) represented the traditional theories of (a) great man, (b) group, (c) trait, and (d) contingency. Kouzes and Posner defined the transformational and transactional leadership styles. The purpose of the questions in the second section of the survey was to elicit information on the participants' preferred leadership style.

The survey process involved obtaining information about the intrinsic motivation and preferred leadership styles of medical employees in WRAMC and NNMC. The data helped determine the impact of motivational factors and leadership styles on job

performance. Scott (2003) noted many organizational theorists used general systems theory as a source of ideas to improve the design of organizations. Improved designs assist in determining proper workflows, control systems, information processing, planning mechanisms, and the interrelations of such systems.

In the systems perspective, an organization is perceived as a set of interacting parts with an emphasis on the interrelatedness and interdependency of the parts. The purpose of system design is not only to describe and understand organizations but also to change and improve organizations from a managerial perspective (Scott, 2003). The overall objective of the current study was to examine the intrinsic motivation and preferred leadership styles of medical personnel in order to form a vision of the big picture. The systems framework was useful for creating solutions after the data from the survey were collected and analyzed (Fhaner, 2006; Senge, 2006).

The study involved an investigation of intrinsic motivation and preferred leadership styles through a systems perspective to determine whether motivational factors and leadership styles affected WRAMC and NNMC in a holistic manner. Within WRAMC and NNMC, numerous systems interact at all times. The interdependency of multiple departments within the medical centers can interfere with the quality of work performed. The interactions between various medical personnel in departments such as nursing, laboratory, radiology, and pharmacy form a complete picture of the work environment with actual or perceived work performance (Rabideau, 2005).

Definition of Terms

To ensure a common understanding of the terms specific to a study, definitions must "provide instructions for determining the existence of a theoretical concept in a

concrete setting" (Reynolds & Bacon, 1971, p. 52). Operational definitions are vital when individuals share ideas across interdisciplinary fields with specialized terminology. The definitions help an audience agree on the meaning of the terms used (Creswell & Plano-Clark, 2007). The following operational definitions provide clear and accurate meaning to the terms used in the context of the case study:

Achievement. Achievement is a level of success or nonsuccess. The term also means to carry out a task successfully as the result of exertion. Achievement can be positive or negative. Examples of achievement are attaining a desired end or becoming successful in reaching a certain goal (Herzberg, 1974).

Advancement. Advancement refers to accelerating the growth or progress of an organization or profession, bring or move forward, or rise to a higher rank (Thomas, 2002).

Autocratic leadership. Autocratic leadership refers to a controlling, directive, or coercive leadership style. Autocratic leaders make decisions on their own with no or very little input from their subordinates (Bass, 1990). McGregor (1985) explained, "A manager who believes that people in general are lazy, untrustworthy, and antagonistic toward him will make very different decisions [from] a manager who regards people generally as cooperative and friendly" (p. 373). McGregor maintained managerial assumptions about human nature and human behavior were all important in determining a manager's style of operating. The first set of assumptions McGregor examined was Theory X, representing the "traditional view of direction and control" (as cited in J. T. Wren, 1995, p. 373).

Contingency leadership. Contingency leadership is a leadership style with a high degree of unpredictability. The contingency type of leadership is useful in circumstances not completely foreseen. Fiedler established a contingency theory incorporating the effectiveness of task-oriented and relationship-oriented leaders, based on the circumstances on which they were dependent. Bass (1990) noted leaders focused on the least favorable worker within a team and based their opinion of the entire staff on their feelings about one worker. Relationship-oriented leaders can be effective in circumstances between the most extreme cases, least and most favorable (Yukl, 2006). When staff members discover relationship-oriented leaders are favorable toward them, the leaders acquire legitimacy and followers accomplish tasks more readily (Bass, 1990).

Group leadership. Medical organizations rely on team-based arrangements to improve quality, productivity, customer service, and the experience of work for employees. A team is a group of people who are interdependent with respect to information, resources, and skills and who combine their efforts to achieve a common goal (Gunn & Gullickson, 2005; Lencione, 2005). The following five key characteristics make a team: (a) teams exist to achieve a shared goal, (b) team members are interdependent regarding some common goals, (c) teams are bounded and remain relatively stable over time, (d) team members have the authority to manage their own work and internal processes, and (e) teams operate in a larger social system context. Teams are not islands unto themselves (L. Thompson, Aranda, & Robbins, 2000).

Intrinsic and extrinsic motivation. Some theorists maintained there was only one kind of intrinsic motivation, described as motivation to engage in activities that enhance or maintain a person's self-concept. Most theorists defined the term more broadly.

Intrinsic motivation is a highly desirable trait, and most of the activities in which human beings engage are most directly influenced by extrinsic rather than intrinsic motivational factors. Csikszentmihalyi and Hooker (2003) believed extrinsic motivators led to merely short-range activity while reducing long-range interest. Intrinsic motivators must reinforce extrinsic motivators or the individual must internalize extrinsic factors. Without the process of internalizing external motivational factors, a reduction in the very behavior leaders want to promote is likely to occur (Csikszentmihalyi & Hooker, 2003).

Organizational Goal Relevance. Another key feature of job performance is that it has to be goal relevant. Performance must be directed toward organizational goals that are relevant to the job or role. Therefore, performance does not include activities where effort is expended toward achieving peripheral goals. For example, the effort put toward the goal of getting to work in the shortest amount of time is not performance (except where it is concerned with avoiding lateness).

Performance. Campbell (1990) defines performance as behavior, which is something done by the employee. This concept differentiates performance from outcomes. Outcomes are the result of an individual's performance, but they are also the result of other influences. Campbell (1990) allows for exceptions when defining performance as behavior. Clarification of performance explains it does not have to be directly observable actions of an individual. It can consist of mental productions such as answers or decisions. Utility is another related construct which is defined as the value of a particular level of performance, effectiveness, or productivity. Utilities of performance, effectiveness, and productivity are value judgments.

Recognition. Herzberg et al. (2002) defined recognition as the act of identifying somebody or something on the basis of a past sighting or experience, the ability to do this, or the fact of being identified through having been seen or experienced before appreciation. Recognition is also appreciation of the value of an achievement or acknowledgment. Recognition can be originate from a manager, a staff member, or the leadership of an entire organization.

Responsibility. Responsibility means personal ownership of responsibilities given by another. Workers gain a higher sense of satisfaction based on the level of responsibility with which they are entrusted (Gunn & Gullickson, 2005; Herzberg et al., 2002).

Trait leadership. The focus of trait leadership is the personality and character of the leader. Bass (1990) asserted leaders were endowed with exceptional qualities that made them different from their followers.

Transactional leadership. Bass (1990) defined a transactional leader as a individual who has a relationship with followers characterized by exchanges promises for the fulfillment of a specific agreement. Examples of transactional exchanges are increases in salary, monetary awards, or fringe benefits.

Transformational leadership. McGregor (1985) noted the term transformational leadership was first introduced in his treatment of raising the bar to higher ideals and values of followers using transformational leadership. The difference between transformational and transactional leadership is in what leaders and followers offer one another. Transformational leaders offer a purpose that transcends short-term goals and

focuses on higher-order intrinsic needs, resulting in followers identifying with the needs of the leader and learning to become leaders themselves (Bass, 1990).

Work. The set of tasks assigned or work at hand comes under the term work. Workers may or may not enjoy their work. Work refers to the development or creation of what one produces or accomplishes and the labor or toil within the organization (Gunn & Gullickson, 2005).

Assumptions

Assumptions for the study included the participants understanding the need for confidentiality and anonymity and responding as honestly and accurately as possible to the study questions. The respondents received information concerning the voluntary nature of their participation, and they were expected to provide only their perceptions and input regarding their employment within WRAMC and NNMC. A primary assumption was the participants of the study represented the population being studied.

The population for the research study consisted of 450 medical personnel assigned to or employed at WRAMC and 450 medical personnel assigned to or employed at NNMC. The sample for the quantitative correlational study comprised 141 medical personnel from WRAMC and 141 medical personnel from NNMC, totaling 282 medical personnel. To achieve a desired level of reliability between the number of surveys returned and the number of surveys distributed, it was necessary to receive 268 usable surveys (95%) (Neuman, 2003).

Of the 282 surveys obtained from WRAMC and NNMC, 4 were incomplete, making the final number of completed surveys 278. Sample size carries assumptions about the variability of the population (Creswell & Plano-Clark, 2007). The results from

the data collected and analyzed could be generalized to other military medical centers, making the two facilities a sound representative sample for the nationwide population of military medical personnel.

The study was relevant because of the type of work the medical personnel provide at WRAMC and NNMC. Patient care problems related to turnover, absenteeism, job dissatisfaction, job stressors, emotional exhaustion, and burnout have caused a reduction in the efficiency of patient care. The participants gave their perceptions and input solely on the limited time frame of the study. The administration of the survey took place in face-to-face interviews in a designated area located inside each medical center. If medical personnel were unable to attend the day the survey was distributed, they received an opportunity to complete a survey later.

Scope and Limitations

The scope of the correlational study was the examination of intrinsic motivation and preferred leadership styles of employees within WRAMC and NNMC located in the Washington, DC metropolitan area. The participating organizations provide quality patient care and have been involved in the development and enhancement of the leadership infrastructure of WRAMC and NNMC. The infrastructure of an organization influences job factors such as turnover, absenteeism, job dissatisfaction, job stressors, emotional exhaustion, and burnout. Enhancing individual motivation and leadership development is crucial to effective and efficient planning and the use of limited resources at WRAMC and NNMC.

Limitations are potential weaknesses in the design and conduct of a study, and researchers must identify and acknowledge such limitations (Creswell & Plano-Clark,

2007). In the present study, one limitation was the time available to conduct the research and the honesty of the participants' responses to the survey questions. The reliability of the instrument used limited the validity of the study. Reliability refers to the dependability or consistency of a measure, and validity refers to truthfulness or how well a construct and the data collected about the construct fit together (Neuman, 2003).

According to Neuman (2003), reliability means dependability. Reliability means the numerical results produced by the indicator do not vary because of characteristics of the measurement instrument. A further limitation of the current study consisted of the potential of response bias originating in the participants' awareness. The phenomenon of reactive response occurs when participants, consciously or unconsciously, rate themselves higher to achieve a positive rating because of the awareness of being measured (Creswell & Plano-Clark, 2007).

Delimitations

In any scholarly study, delimitations restrict the scope of the study and include what was not intended (Creswell & Plano-Clark, 2007; Leedy & Ormrod, 2004). The current quantitative correlational research study was limited to the medical personnel of WRAMC and NNMC in the Washington, District of Columbia (DC) metropolitan area. The study took place between November and December 2007. The focus of the research was the intrinsic motivation of medical personnel and a possible correlation between their individual motivational factors and their preferred leadership style. Only medical personnel at WRAMC and NNMC participated in the research.

Summary

The quantitative correlational study involved examining the relationship between intrinsic motivational factors and preferred leadership styles among medical personnel at WRAMC and NNMC in the Washington, DC metropolitan area. The intent was to understand how intrinsic motivation and leadership styles of employees affect the organization in terms of retention and the development of new leaders for the future. The research study was theoretically based on Herzberg et al.'s (1959) two-factor model.

The use of the Motivation and Leadership survey facilitated measuring the intrinsic motivational factors and preferred leadership styles of WRAMC and NNMC medical personnel. The purpose of the quantitative correlational study was to examine how medical personnel of WRAMC and NNMC in the Washington, DC area might be intrinsically motivated and which leadership style employees prefer in their leaders. The focus of the study was identifying whether there was a relationship between the predictor variable of intrinsic motivation and the criterion variable of leadership style and measuring the association and its significance.

The study was an attempt at showing the correlation and the significance between leadership correlation coefficients and how they affect medical personnel at WRAMC and NNMC. The significance of the research study to leadership was the possible creation of ongoing leadership development programs in light of the findings. The goal was to discover a working solution to improve leadership and enhance motivation and productivity within military medical centers.

Two research questions and two sets of hypotheses guided the research. Because of the theoretical foundation of the two-factor model by Herzberg (Herzberg et al., 2002),

chapter 2 includes a summary of foundational theorists and provides a review of current findings as they relate to the leadership styles addressed in the survey instrument. Chapter 2 includes a discussion of intrinsic rewards as they relate to military medical personnel.

Chapter 3 consists of information about the study approach and design methodology, the data collection and analysis processes, and feasibility and reliability issues. Chapter 4 is a report of the study findings. Chapter 5 includes the study conclusions, recommendations, and future research directions.

CHAPTER 2: REVIEW OF THE LITERATURE

The purpose of the quantitative correlational study was to measure the intrinsic motivation factors and preferred leadership styles at WRAMC and NNMC. The theoretical basis of the study was Herzberg's two-factor model (Herzberg et al., 1959). The study findings expanded the field of knowledge on intrinsic motivation and leadership styles preferred by medical personnel at WRAMC and NNMC.

The correlational study involved testing Herzberg's theory on motivation by correlating intrinsic motivators and preferred leadership styles to determine how they affected medical personnel's performance at WRAMC and NNMC in the Washington, DC metropolitan area. The instrument for data collection was the Motivation and Leadership survey (Finzel, 2004; Miller, 2005). The predictor variables were intrinsic motivators of achievement, advancement, recognition, responsibility, and work. The criterion variables of leadership styles included great man, group, trait, contingency, transactional, and transformational leadership styles. The study design did not include controlling for the potential intervening variables of age and gender. The study participants came from various branches of the Armed Forces, consisting of the Army, Navy, Air Force, and Marines. The study involved an exploration of the correlation between leadership styles of health care managers and motivation of medical personnel at WRAMC and NNMC.

Chapter 2 includes a discussion of two main streams of research. One stream addresses the predictor variables (i.e., achievement, advancement, recognition, responsibility, and work). The second stream of research addresses the criterion variables

(i.e., great man, group, trait, contingency, transactional, and transformational). The review of literature begins with details of the research process and sources.

Titles Searches, Articles, Research Documents, and Journals Researched

A thorough literature review involved using major theoretical concepts from leadership and motivational factors derived from theorists including Herzberg, Maslow, Alderfer, Vroom, McGregor, and Porter and Lawler. Table 2 is an enumeration of the sources reviewed and categorized by the self-assessment academic review checklist supporting the study. The list includes journal articles, books, dissertations, and Web sites referenced, with key words relating to medical personnel, motivation, and leadership and a column for overall materials from title searches conducted. Chapter 2 begins with an initial definition of motivation followed by a review of the recent motivational theorists who laid a foundation for business organizations (i.e., Maslow, Alderfer, Vroom, Porter, Lawler). The next section includes current findings discussed in order from general to specific as related to the research questions.

Definition of Motivation

Gray (2006) defined motivation as "those psychological processes that cause the arousal, direction and persistence of behavior" (p. 1). Motivation can be perceived as the driving force behind all actions. People's needs and desires have a strong impact on the direction of their behavior. Individuals' emotions and achievement-related goals are the basis of motivation. Different forms of motivation include extrinsic, intrinsic, physiological, and achievement (Rabideau, 2005; Schunk & Zimmerman, 2007).

Table 2

Summary of Literature Reviewed by Search Topic

Theoretical Concepts and Search Topic	Journals and Articles	Books	Dissertations	Web Sites	Title Searches
Motivation	30	4	2		223
Leadership	33	7			928
Medical center's medical personnel	1			3	
Organization theory	5	1			649
Research methodology	2	5			89
Systems theory	3	5			19
Maslow	2	2			37
Alderfer	4	3			12
Vroom	9				14
Porter and Lawler	3				49
McGregor	2	1			27
WRAMC	2			1	
NNMC	2			1	

Historical Overview

The historical section includes literature about the roots and architecture of motivation. Plato, Aristotle, and many other Greek philosophers believed knowledge and will acquired through practice and experience drove behavior. Early Christian thinkers such as St. Augustine and St. Thomas Aquinas developed the dualist model of human

nature. Descartes enhanced the model by incorporating physiological determinants of the emotions (Rabideau, 2005).

Herzberg on Motivation

In more recent times, Herzberg, a clinical psychologist and pioneer of "job enrichment" (Chapman, 2006, p. 2), studied motivation. In 1959, Herzberg et al. developed Herzberg's theory of motivation in the workplace through research including a survey of 200 Pittsburgh engineers and accountants. Herzberg et al.'s ideas relate strongly to the concepts of modern ethical management and social responsibility (Chapman, 2006). Herzberg et al.'s theory of motivation in the workplace with six motivation factors and 10 hygiene factors changed managers' approach to leadership throughout the course of history (Ratzburg, 2006). Herzberg et al. (2002) explored factors supporting and inhibiting motivation for employees in organizations.

Herzberg understood the importance of motivational factors in the workplace and attempted to teach important ethical management principles lacking in many organizations (Chapman, 2006). Herzberg's concepts are as relevant in the 21st century as when Herzberg initiated them, and his study remains a fundamentally important reference in motivational research (Chapman, 2006). Chapman listed the following motivation and hygiene factors Herzberg had identified, "People are motivated by the six motivation factors of (1) achievement, (2) recognition, (3) the work itself, (4) responsibility, (5) advancement, and (6) growth" (p. 7). Chapman further noted, "The 10 hygiene factors do not motivate people and are inclusive of the following: (1) company policies, (2) supervision-technical, (3) relationship-superior, (4) working conditions, (5)

salary, (6) relationship-peers, (7) personal life, (8) relationships-subordinates, (9) status, (10) security" (p. 7).

Herzberg developed and named the hygiene and motivation factors out of concern for people's well-being in the work environment. Underpinning his theories and academic teachings, Herzberg attempted to bring more humanity and caring into the workplace. Herzberg and others did not develop their theories to be used as motivational tools but to improve organizational performance (Chapman, 2006).

Herzberg's study findings indicated all hygiene and motivation factors must be present for job satisfaction. Motivation factors are not the opposite of hygiene factors, but motivation is crucial in elevating an employee's aspirations to perform proficiently on the job (Bassett-Jones & Lloyd, 2005). Hygiene factors must be intricately woven into an organization's work policies to produce job satisfaction.

Organizational leaders who are uneducated in motivation theory possess inadequate training in management and do not recognize that addressing only hygiene needs does not motivate employees and leads to poor employee performance (Chapman, 2006). Motivation is the basic drive for all actions. Motivation refers to the dynamics of people's behavior and involves needs, desires, and ambitions in life.

Chapman (2006) stated job performance, is not a single unified construct. There are a many jobs with different performance standards. Job performance is conceptualized as a multidimensional construct consisting of more than one kind of behavior. Campbell (1990) proposed an eight factor model of performance based on factor analytic research that attempted to capture dimensions of job performance existent (to a greater or lesser extent) across all jobs, which consist of the following:

1. The first factor is task specific behaviors which include those behaviors that an individual undertakes as part of a job. They are the core substantive tasks that delineate one job from another.

2. The second behavior, non-task specific behaviors, was behaviors which an individual was required to undertake, but do not pertain to a particular job. A non-task specific behavior of medical personnel training new staff members.

3. Written and oral communication tasks refer to activities where the medical personnel is evaluated, not on the content of a message necessarily, but on the adeptness with which they deliver the communication. Medical personnel need to make formal and informal oral presentations and written presentations to various audiences in the work force.

4. An individual's performance can also be assessed in terms of effort, either day to day, or when there are extraordinary circumstances. This factor reflects the degree to which people commit themselves to job tasks.

5. The performance domain might also include an aspect of personal discipline. Individuals would be expected to be in good standing with the law, not abuse alcohol, etc.

6. In jobs where people work closely or are highly interdependent, performance may include the degree to which personnel assist in groups. This may include maintaining group goals.

7. Many jobs also have a supervisory or leadership component. The individual will be relied upon to undertake many of the things delineated under the previous factor

and in addition will be responsible for meting out rewards and punishments. These aspects of performance happen in face a face to face manner.

8. Managerial and administrative performance entails those aspects of a job which serve the group or organization but do not involve direct supervision. A managerial task would be setting an organizational goal or responding to external stimuli to assist a group in achieving its goals. In addition a manager might be responsible for monitoring group and individual progress towards goals and monitoring organizational resources (Campbell, 1990).

Abraham Maslow

Maslow (1908-1970) is a key theorist of human basic needs. An early humanist psychologist, Maslow built on Henry Murray's work to form the theory of motivation. A pyramid represents Maslow's hierarchy of needs with humans' more primitive needs at the base. Maslow's hierarchy of needs consists of five levels with the lower levels grouped as deficiency needs associated with physiological needs and the top level including growth needs associated with psychological needs (Huitt, 2004). Litwack (2007) found,

> Although deficiency needs must be met, growth needs are the quest for personal growth. The basic concept was the higher needs in the hierarchy only come into focus once all the needs that are lower in the pyramid are entirely satisfied. (p. 10)

After an individual moves past a level, the needs are no longer prioritized (Litwack, 2007). If a lower set of needs is continually unmet, an individual temporarily reprioritize the needs, causing the individual to drop down to the lower level until the

lower needs are satisfied. Innate growth forces constantly create upward movement in the hierarchy unless basic needs remain unmet indefinitely.

The basic needs relate to one another and are arranged in a hierarchy of "prepotency," meaning urgency of the drive (Wren, 1995, p. 281; see also Huitt, 2004). The basic drives are physiological, and they are satisfied, prepotency diminishes and the next higher need emerges to dominate behavior. Once a need is gratified, it no longer motivates behavior. Maslow's theory explains that people move up the pyramid of needs as each level is satisfied. The top of the pyramid is the top of the hierarchy called self-actualization. "What a man can be, he must be" (Maslow, 1943, p. 2). Self-fulfillment is the attainment of what a person has the potential of becoming.

According to Maslow, an individual is only ready to act upon growth needs when the deficiency needs are met. Maslow's initial conceptualization included one growth need, self-actualization. Huitt (2004) maintained self-actualized people exhibited the following characteristics: (a) problem focused, (b) ongoing freshness of appreciation of life, (c) concern about personal growth, and (d) ability to have peak experiences.

Huitt (2004) noted achievement motivation was based on reaching success and achieving all aspirations in life. Achievement goals can affect the way a person performs a task and represent a desire to show competence. The basic physiological motivational drives affect one's natural behavior in different environments.

Most goals are based on incentives and can vary from basic hunger to the need for love and the establishment of mature sexual relationships. Motives for achievement can range from biological needs to creative desires or realizing success in competitive ventures. The concept of motivation is important because it affects people's lives every

day. An inner drive to succeed influences all behaviors, actions, thoughts, and beliefs (Huitt, 2004).

The physiological motivational drive affects employees' behavior in different environments. Workers' goals are based on incentives and can vary from satisfying creative desires or realizing success in competitive ventures. Motives directly involved in an individual's behavior are implicit and explicit motives. Implicit motives are spontaneous impulses to act, known as task performances and are aroused through incentives inherent to the task. Explicit motives are expressed through deliberate choices and are stimulated by extrinsic factors. Ratzburg (2006) stated intrinsic and extrinsic factors in Herzberg's theory influenced employee motivation.. Intrinsic factors motivate and lead to job satisfaction based on a need for growth and self-actualization.

According to Herzberg, extrinsic factors (i.e., hygiene factors) relate to job dissatisfaction (Ratzburg, 2006). Extrinsic factors include determinants such as (a) company policies, (b) administrative policies, (c) supervision, (d) salary, (e) interpersonal relations, and (f) working conditions. Some extrinsic factors associated with WRAMC and NNMC medical personnel are company and administrative policies such as the medical organizations' standard operating procedures (SOP), the Health Insurance Portability and Accountability Act (HIPAA), the Occupational Safety and Health Administration (OSHA) to prevent work-related injuries, illnesses, and deaths, and the Joint Commission requirements (Joint Commission, 2007). Supervision and medical personnel have a working relationship with supervisors at multiple levels of supervision. the Army and Navy hierarchies consist of the immediate, mid, and senior levels.

Medical personnel salaries do not vary in the military, including the salaries of civilians working for the government. Rank structure is the basis of medical personnel salary. WRAMC and NNMC are contingency hospitals, and the medical personnel are trained for combat readiness and to be mission essential within the scope of their practice at all times although the mission does not include civilians working for the government. Work conditions can become an unpleasant environment (WRAMC Civilian Personnel Advisory Center, 2007).

Medical personnel do not have the privilege of acquiring a company car but are allowed to drive military commercial and tactical vehicles for various assignments. Medical personnel acquire status by obtaining secret and top secret clearances when working for the U.S. government. Security of the job pertains to the job descriptions for medical personnel (WRAMC Civilian Personnel Advisory Center, 2007).

Military medical personnel are required to sign a contract to provide service to the U.S. government for an allocated number of years. Incidents have occurred in which medical personnel were dissatisfied with their occupation after signing a contract for a particular medical occupation (WRAMC Civilian Personnel Advisory Center, 2007). The relationships of supervisors and medical personnel with subordinates vary and depend on the work situation, conditions, and environment (WRAMC Civilian Personnel Advisory Center, 2007).

Clayton Paul Alderfer

Alderfer was an American psychologist who expanded Maslow's hierarchy of needs by categorizing the hierarchy into the ERG theory. Alderfer attempted to revise Maslow's hierarchical theory of human needs and eliminated the hierarchical aspect of

Maslow's system, reducing its components from five to the three of (a) existence, (b) relatedness, and (c) growth (Mausner, 1972). Alderfer categorized the lower physiological and safety order needs into the existence category. Maslow's interpersonal love and esteem needs were set into the relatedness category. The growth category contained the self-actualization and self-esteem needs (Mausner, 1972).

Alderfer's ERG theory appeared in 1969 in a *Psychological Review* article titled, "An Empirical Test of a New Theory of Human Need." In a reaction to Maslow's well-known hierarchy of needs, Alderfer created a model with the following three categories of human needs influencing a worker's behavior: (a) existence needs as physiological and safety needs such as hunger, thirst, and sex, a combination of Maslow's first two levels; (b) relatedness needs as social and external esteem such as involvement with family, friends, coworkers, and employers, Maslow's third and fourth levels; and (c) growth needs as internal esteem and self-actualization such as desires to be creative and productive and to complete meaningful tasks, Maslow's fourth and fifth levels.

Managers must recognize employees have multiple needs to satisfy, a condition identified as the frustration-regression principle. Alderfer realized if employees did not receive growth opportunities, they could regress to relatedness needs and socialize more with coworkers. If managers recognize the condition early, they can take steps to satisfy the frustrated needs until the subordinate can pursue growth again (Ratzburg, 2006).

A parallel relationship exists among Herzberg's, Maslow's, and Alderfer's theories. Herzberg provided a different managerial perspective in the industry, instilling humanity, fortitude, and compassion in the workplace. Herzberg's hygiene or extrinsic factors lead to job dissatisfaction and motivational or intrinsic factors lead to job

satisfaction (Ratzburg, 2006). The hygiene and motivation factors concern the well-being of people in a work environment.

Herzberg identified two factors that affect satisfaction and dissatisfaction within the workplace. Herzberg's hygiene factors are dissatisfiers and pertain to extrinsic working conditions such as the social environment of work, safety, pay, procedures, status of work, and quality of supervision. Herzberg discovered taking care of hygiene factors prevented job dissatisfaction but did not cause job satisfaction (Ratzburg, 2006). Motivators are satisfiers and pertain to intrinsic aspects of work performance such as achievement, autonomy, responsibility, recognition for job performance, the work itself, and opportunities for growth. Motivators produce satisfaction, and their absence results in no job satisfaction rather than in job dissatisfaction (Chapman, 2006).

A pyramid represents Maslow's hierarchy of needs, with individuals' primitive needs identified on the lower level of the pyramid. Maslow assumed the lowest needs were the most dominant. Once a need level is satisfied, the individual attempts to satisfy the next higher level need (i.e., the satisfaction-progression hypothesis) (Chapman, 2006). According to Maslow's hierarchy of needs, as a person elevates in needs, the individual moves to the next level, termed growth needs and associated with psychological needs. The higher needs in the hierarchy only come into focus when all the needs on the lower levels of the pyramid are satisfied (Huitt, 2004).

Like Maslow, Alderfer developed a need hierarchy. Alderfer's notion consisted of three levels of (a) existence needs referred to the most basic survival needs, (b) relatedness needs referred to as the desire for meaningful interactions and relationships, and (c) growth needs referred to as the needs for creativity and productivity. The key

premise of the ERG theory was (a) the satisfaction-progression process, indicating people progress to the next highest need level only after the lower need levels are satisfied as in Maslow's theory and (b) the frustration-regression process indicating people revert to trying to satisfy the next lower need level when satisfaction of the higher needs is prevented because higher level needs increase in importance only as they are met (Mausner, 1972). Maslow's and Alderfer's theories differed in the fact that Maslow hypothesized access to the higher level of the pyramid required satisfaction in the lower level of needs whereas Alderfer hypothesized the three ERG areas were not on several levels. Alderfer recognized the order of importance of the three categories can vary for each individual.

Vroom's Theory of Motivation

Two other theorists who explored the motivational theory were Victor Vroom of the Yale School of Management who developed the expectancy theory of motivation and Lyman Porter and Edward Lawler who developed the Porter-Lawler theory of motivation. The expectancy theory concerns motivation and employee management. Vroom suggested the relationship between employees' behavior at work and their goals was not as simple as imagined by other scientists. Vroom realized the basis of performance was individual factors pertaining to a person's personality, knowledge, skills, abilities, and experience (Vroom & Jago, 2007).

Vroom's theory assumed an employee's behavior was a result of conscious choices among alternatives. The purpose of the choices was to maximize pleasure and minimize pain. Collaborating with Lawler and Porter, Vroom suggested the expectancy

theory was initially proposed as an explanation of work behavior. The focus of Vroom's research was issues of motivation and leadership in organizations.

Vroom predicted individuals choose the work behaviors they engage in on the basis of the interaction between (a) the valences individuals perceive to be associated with the outcomes of the behavior under consideration and (b) people's subjective estimate of the probability that their behavior will indeed result in the outcomes. According to expectancy theory (Rappaport, 2004), people are motivated to behave in ways that produce the highest probability of desired outcomes based on their perceptions of the situation. Critical to the magnitude of motivation are the variables of expectancy, instrumentality, and valence.

Expectancy is individuals' perceptions of the probability they can successfully accomplish a task (Emery & Oertel, 2006). Instrumentality is an individual's perception of the probability the successful completion of a task will lead to desired rewards or valences (Emery & Oertel, 2006). Employees with high uncertainty avoidance require rules clearly stating the relationship between accomplishments and rewards. Workers with high-power distance scores believe they will be rewarded or not rewarded at the discretion of top management. Individuals with a long-term view of time are more likely to believe in the connection between task accomplishments and reward (Emery & Oertel, 2006).

Valence is the value an individual places on the desired outcome. The motivation potential of pursuing a particular behavior is calculated as expectancy (E) times instrumentality (I) times valence (V). The study included the proposal that culturally biased perceptions can moderate an individual's E, I, and V (i.e., motivation) (Emery &

Oertel, 2006). Vroom used the following formula to predict job satisfaction, individuals' occupational choice, the likelihood of staying on a job, and the effort an employee might expend at work (Emery & Oertel, 2006): Motivation = Valence × Expectancy (i.e., instrumentality).

People's perceptions and value system influence their motives, and motivational potential is the product of an individual's perception of expectancy times instrumentality times valence (Emery & Oertel, 2006). Because people's value systems influence their perceptions, it seems reasonable to believe culture-based values might moderate the values of people's expectancies, instrumentalities, and valences and have an effect on motivation. Vroom's expectancy theory of valence, expectancy, instrumentality was first proposed as an explanation of work behavior in 1964. A critical element to increasing productivity was employee motivation. Vroom's expectancy theory is still the most popular of the motivation process theories.

According to the expectancy theory, motivation was the product of a person's valence (i.e., the value of an individual goal), expectancy (i.e., probability of successfully accomplishing a task), and instrumentality (i.e., probability that the successful accomplishment of the task will result in achieving a desired goal). In practice, managers should attempt to understand workers' valences, expectancy, and instrumentality for each task to influence the workers' motivation. According to the theory, individuals choose work behaviors on the basis of the interaction between (a) the valences perceived to be associated with the outcomes of the behavior under consideration and (b) a subjective estimate of the probability that the behavior will indeed result in the outcomes (Emery & Oertel, 2006). As worldwide competition increases, corporations feverishly seek ways to

increase productivity, and a critical element to increasing productivity is employee motivation.

Managers should attempt to understand a subordinate's valences, expectancy, and instrumentality and incorporate them into the person's job description to influence motivation. Managers should instill motivation within the workplace, along with the company's values, beliefs, and needs. When managers incorporate employees' valences, expectancy, and instrumentality, they assist new employees in aligning with an organization's policies.

The task of understanding and influencing employees' motivation was often made easier when company leaders selected people with specific values, beliefs, and needs aligned with the values, beliefs, and needs of the organization (Emery & Oertel, 2006). Gray (2006) reported,

> In other words, a good 'cultural fit' may be an important prerequisite for motivation. More specifically, a company should consider the candidate's perceptions of expectancies, instrumentalities, and valences against the organization's environment for the best "motivational fit.' Most managers will agree that the essence of management was to influence employees to accomplish organizational goals. (p. 14)

Medical organizations can consider the candidate's perceptions of expectancies, instrumentalities, and valences against the organization's environment for the best "motivational fit" (Emery & Oertel, 2006, p. 14). The basis of Vroom's expectancy theory was motivation and management (Latham & Pinder, 2005).

> Vroom theorized behavior results from conscious choices among alternatives whose purpose was to maximize pleasure and minimize pain. Vroom collaborated with Edward Lawler and Lyman Porter and suggested that the relationship between employees' behavior at work and their goals was not as simple as initially imagined by other scientists. Vroom realized that an employee's performance was based on individual factors such as personality, skills, knowledge, experience and abilities. (p. 487)

Vroom's research focused on issues of motivation and of leadership in organizations. Vroom's 1964 book, *Work and Motivation*, was regarded as a landmark in the field and continues to be widely cited by scholars (Emery & Oertel, 2006). In 1971, Vroom collaborated with Professor Edward Deci in writing the book, *The Field of Work Motivation* (Gray, 2006). In the field of leadership, Vroom authored *Leadership and Decision Making* and *The New Leadership*. The two books are widely cited as breakthroughs in the study of organizational behavior (Gray, 2006).

In 1973, Vroom began work on leadership with the publication of *Leadership and Decision Making*, written with Phillip Yetton (Emery & Oertel, 2006). Vroom's most recent book on leadership, *The New Leadership: Managing Participation in Organizations*, was coauthored by Arthur G. Jago and published by Prentice Hall in 1988 (Vroom & Jago, 2007). Vroom's expectancy theory was first proposed as an explanation of work behavior (Vroom & Jago, 2007).

Porter and Lawler's Theory of Motivation

Lawler and Porter defined the foundational principles in modern thinking about employee motivation (Hamlin, 2005). According to the Porter-Lawler expectancy theory,

people are motivated based on their perception of how likely their work is to lead to successful performance. Porter and Lawler acknowledged organizations must be designed so individuals will perceive the connection between performing well and obtaining rewards they value. Porter and Lawler used the term *line of sight* to captures the concept that, to be a motivator, a reward must be considered important and obtainable by the employee (Hamlin, 2005).

Lawler design work for an important impact on motivation, job satisfaction, and performance (Hamlin, 2005). Lawler encouraged the use of joint labor and management employee involvement committees and researched their effectiveness. The work performed on the participation leadership model led to the identification of four features characterizing employee involvement: (a) power, (b) information, (c) knowledge, and (d) rewards. How organizations distribute the four elements defines whether the organization is one of hierarchy or empowerment (Hamlin, 2005).

Hamlin (2005) described a central principle in Lawler's work, "Participative management systems have a positive impact on productivity, quality of product or services, worker satisfaction, and competitiveness" (Hamlin, 2005, p. 3). The focus of Lawler's career was designing compensation systems to reinforce behaviors that would achieve business strategies, including performance appraisals, pay for performance, and rewarding team performance. Lawler's recent work focused on skill- or competency-based pay systems and chief executive officer compensation. Lawler insisted organizational leaders must use both intrinsic and extrinsic rewards to motivate employees.

Motivational Theories

The validity of motivational theories is closely tied to a society's culture in terms of values, beliefs, and norms (Spony, 2003). One of the most popular motivational theories, Vroom's expectancy theory, embodies the notion that performance relates to perceptions and values. Vroom suggested performance motives reflected persistent characteristics or perceptions of reality.

According to the learned needs theory, needs are acquired from one's culture and learned at an early age through coping with the environment. Learned needs become the focus of employees' motivation and help create employees' value system. Three of the learned needs are the need for achievement, the need for affiliation, and the need for power. When jobs do not allow people's needs to be fulfilled, they reduce productivity and often exhibit behavioral problems (Emery & Oertel, 2006).

Douglas McGregor's Theory X and Theory Y

In 1959, McGregor, an American social psychologist, formulated a new concept of management. McGregor maintained, "A manager who believes that people in general are lazy, untrustworthy and antagonistic toward him will make very different decisions [from] a manager who regards people generally as cooperative and friendly" (as cited in Wren, 1995, p. 372). McGregor believed a manager's assumptions about human behavior determined the manager's style.

Based on their assumptions about subordinates' behavior, managers can motivate, lead, and control people. McGregor formed two sets of assumptions about human behavior, Theory X and Theory Y (Wren, 1995). Theory X represents an authoritarian management style, the "traditional view of direction and control" (McGregor, 1985, p.

185). McGregor's opinion of people and how they felt about work was as follows: (a) people have an inherent dislike of work and will avoid it if they can; (b) because of the human characteristic of dislike of work, most people must be coerced, controlled, directed, or threatened with punishment to get them to put forth adequate effort toward the achievement of organizational objectives; and (c) the average human prefers to be directed, wishes to avoid responsibility, had relatively little ambition, and wants security above all (Wren, 1995). McGregor believed Theory X assumptions prevailed in industrial practice and maintained no fundamental shift in assumptions or managerial philosophies occurred.

Theory Y represents a participative management style, "a modest beginning for new theory with respect to the management of human resources" (Wren, 1995, p. 374).

> (1) The expenditure of physical and mental effort in work was as natural as play or rest. The average human being does not inherently dislike work. (2) External control and the threat of punishment was not the only means for bringing about effort toward organizational objectives. Man will exercise self-direction and self-control in the service of objectives to which he was committed. (3) Commitment to objectives was a function of the rewards associated with their achievement. The most significant reward was the satisfaction of ego and self-actualization needs and can be direct products of effort directed toward organizational objectives. (4) The average human being learns, under proper conditions, not only to accept but to seek responsibility. Avoidance of responsibility, lack of ambition, and emphasis on security are generally consequences of experience, not inherent human characteristics. (5) The capacity to exercise a relatively high degree of

> imagination, ingenuity, and creativity in the solution of organizational problems were widely, not narrowly, distributed in the population. (6) Under the conditions of modern industrial life, the intellectual potentialities of the average human being are only partly utilized. (Wren, 1995, p. 374)

Theory X and Theory Y are referred to commonly in the field of management and motivation. McGregor's Theory X and Theory Y remain valid basic principles from which to develop positive management style and techniques and are central to organizational development and improving organizational culture. Most managers agree the fundamental nature of management is to influence employees to accomplish organizational goals (Wren, 1995).

Since 1997, the research on methods to improve employee or organizational motivation has taken the two general directions of (a) creating motivation and (b) selecting motivation. The notion of creating motivation requires a supervisor to understand each employee's extrinsic and intrinsic needs, and leaders must provide educational opportunities for the supervisor so he can satisfy the needs. Although the research approach is the most popular, it provides little new information or improvement for organizational productivity, satisfaction, and learning.

The largest organizational improvements appear to stem from new research on better selection methods, "getting the right people on the bus" (Rabideau, 2005, p. 7) or getting a maximum of "emotional intelligence" (Rabideau, 2005, p. 8). A key factor in "getting the right people on the bus" (Rabideau, 2005, p. 7) was to ensure the employees fit with the organization's motivation systems. Only the individuals who will be motivated by the company's existing motivational systems should be selected. The

approach has several advantages over trying to tailor motivational techniques to each worker. First, motivation depends on the manager's skill at understanding the employee's needs and the manager's skill at providing opportunities to satisfy those needs. Second, motivation allows the company to focus on being the best at providing a smaller array of rewards. The company is able to become the employer of choice for a certain type of individual. The essence of Rabideau's study was to predict a worker's perceptions of motivational factors.

Current Findings

The Current Findings Section includes a discussion of the six preferred leadership styles great man, group, trait, contingency, transactional, and transformational included in the survey instrument (see Appendix A). The approach to reviewing the literature on leadership was to initially define the term leadership and subsequently define each type of leadership style. The analysis of the literature consisted on analyzing the effectiveness, applicability, and disadvantages of each style for the practice of leadership.

Some of the United States' current and past presidents' leadership styles have been analyzed in terms of motivational theories. Bass (1990) defined leadership as follows:

> [Leadership] is the focus of group processes, as a matter of personality, a matter of inducing compliance, as the exercise of influence, as particular behavior, as form of persuasion, as power relation, as an instrument to achieve goals, as an effect of interaction, as a differentiated role, and as initiation of structure, and as many combinations. (p. 11)

Vroom and Jago (2007) stated, "We see leadership as a process of motivating people to work together collaboratively to accomplish great things" (p. 3). Practicing leadership involves not only influencing others but also doing so in a manner that enables the organization to attain its goals. Accordingt o Wroom and Jago, leaders who practice leadership effectively engage in a process of "meaning making" (p. 1). Emery and Oertel (2006) defined the term leadership in the following terms:

> [Define] leadership organizationally and narrowly as the ability of an individual to influence, motivate, and enable others to contribute toward the effectiveness and success of the organizations of which they are members. Leadership was the ability of an individual to set an example for others and lead from the front. It was an attitude that influences the environment around us. (pp. 69-70)

According to Graham (2007), leadership is recognizing a goal and having the motivational power to influence a group toward achieving the goal. Goal achievement by leaders and their employees determines successful leadership. Leadership fits into a general management theory that focuses on the attainment of organizational goals by working with people and other resources. Various terms such as directing, actuating, and supervising describe some functions of leadership (Wren, 1995).

Autocratic Leadership

The WRAMC and the NNMC are major medical centers in the Washington, DC metropolitan area. The two medical centers have medical technicians employed in many different areas. The WRAMC is an Army Medical Center whereas the NNMC is a Navy Medical Center.

One essential element required of both medical centers is to employ highly qualified and motivated medical technicians. Despite the increasing importance of superior medical care, the number of employees employed by the Army and Navy has steadily declined. In both medical centers, the Army and the Navy practice an autocratic leadership style.

The U.S. military system uses an autocratic leadership approach structured toward punishing individuals who do not produce results. The autocratic leadership approach to supervising medical personnel in both military installations is based on hierarchy. Finzel (2004) and Miller (2005) did not study the autocratic leadership style in their research although the first 5 of Finzel's 30 leadership questions are about the autocratic style of leadership (Finzel, 2004). The current study did not include the autocratic style. O'Moore and Lynch (2007) defined autocratic leadership as a hard approach to leadership.

The autocratic leadership style is effective when there is limited time to make a decision, so the U.S. Army uses autocratic leadership during training. Soldiers are trained to obey commands without question. The first U.S. Army inspector general, Baron Von Steuben, strongly influenced the shaping of the Noncommissioned Officer Corps by instituting the Regulations for the Order and Discipline of the Troops, commonly called the Blue Book. The intent was to build a modern army upon the principles of personnel management, leadership, motivation, and training (ArmyStudyGuide.com, 2007). Autocratic leadership is also used when (a) new and untrained employees do not know how to perform newly assigned tasks, (b) only orders and instruction are effective in supervision, (c) employees do not respond to other leadership styles, and (d) work must be integrated with other departments (Johnson, 2005).

There is applicability of the autocratic style in entrepreneurial organizations and small businesses that develop from the ideas and entrepreneurial spirit of one person who is responsible for the organizations and makes all the decisions. The nature of small companies and the lack of formalization explain why owners commonly use the autocratic style. Small companies typically operate in rapidly changing environments with limited stability, and decisions regarding all aspects of the business are made quickly and boldly (Johnson, 2005).

Autocratic leaders preserve the maximum amount of power over their subordinates, all decisions are derived from the leader, and no consultation takes place. The applicability of an autocratic leadership style in contemporary organizations is a traditional approach to management that relies on threats and punishment to influence employees (Murphy, 2005). Characteristics of autocratic leadership are evident in Korean management where authoritarian leadership had existed for many years (O'Moore & Lynch, 2007). According to Son-Hing, Boboceal, and Zanna (2007), the leadership style in South Korea is high in power distance and low in individualism. Korean leaders are autocratic and group focused. Several researchers of Korean leadership have indicated the characteristic of leadership in Korea is hierarchically authoritative and paternalistic.

In Korea, authoritarian persuasion manifests itself in organizations in many ways, including controlling people and being conscious of authority. Hierarchy has a positive role in some aspects (e.g., quick decision making and regulation of behavior), yet autocratic leadership can restrict open communication between leaders and followers, and it can limit flexibility in management. The abuse of power is observed in the blind obedience to autocratic leaders.

Zunes (2006) claimed the autocratic style of leadership was despotic. Autocratic leadership defines all human relationships in terms of a hierarchical order, such as superior rather than subordinate and ruler as opposed to ruled, and the hierarchy involves gender and age. High respect for authority is elicited in various firms through well-defined organizational hierarchies.

The autocratic styles in organizations is not effective when (a) employees expect to have their opinions heard; (b) employees become dependent upon the manager; (c) there is low morale, high staff turnover, and absenteeism; and (d) employees become fearful, tense, and resentful (Johnson, 2005). Low morale, high staff turnover, and absenteeism exist at WRAMC and NNMC among the medical personnel.

Autocratic leadership has become impractical in the workplace. Steers, Bischoff, and Higgins (2002) described the following five reasons for ineffectiveness and low productivity among employees: (a) unappealing rewards, (b) weak reference to performance rewards, (c) distrust of management, (d) desire to have greater job control, and (e) lack of involvement. Workers resent autocratic leaders and authoritarian rule (Johnson, 2005).

Employees feel excluded and unimportant, like machine parts, and they often express their feelings by subconscious intentional resistance, unenthusiastic minimum compliance with orders, low morale and productivity, and sometimes sabotage, work slowdowns, or stoppage and strikes. Characteristics of autocratic management are total leadership control, lack of consultancy, and mutual distrust. A strong correlation exists between productive work and style of leadership; autocratic leadership styles result in

reduced productivity. Modern employees are more resistant to exerted influence and power, and this was reflected in their work (Johnson, 2005).

Great Man Leadership

According to Gehring (2007), the great man theory was the first recorded theory of leadership. In ancient times, scholars attempted to capture the essence of great leaders and focused on characteristics or traits predominantly considered personal characteristics such as intelligence, values, and appearance. Gehring noted society believed leaders must be individuals born with superior abilities that enabled them to effectively control and influence others. The study of trait theory focused on personal traits such as intelligence, task orientation, and flexibility.

Researchers have examined the specific traits, skills, and competencies required for effective leadership (Lewis, 2005). Gehring (2007) explained many societies attribute leadership ability to generic traits and believed leadership abilities could be passed through the bloodlines of royal families. Ancient Egyptians attributed the three qualities of authority, discrimination, and justice to their king as attributes of divinity. Similar concepts about the "superior individual" resulted in the "great man" theory (Gehring, 2007, p. 45).

The great man theory represented leadership characterized by "a sudden act by a great man [that] could change the fate of the nation" (Gehring, 2007, p. 45). In modern times, the practice of leadership is still based on the great man theory. Gehring stated leaders emulate individuals who had a significant impact on history, such as Fredrick the Great, Napoleon Bonaparte, Benito Mussolini, Winston Churchill, Franklin D. Roosevelt, and Henry Ford.

Bass (1990) supported the four reasons that resulted from his leadership studies and concluded, "If the leader is endowed with superior qualities that differentiate [him] from his followers, it should be possible to identify these qualities" (p. 38). The concept was further supported by comparing Stogdill's traits surveys in 1948 and 1970 (Gehring, 2007). Stogdill reported both surveys indicated leaders are characterized by a great need for achievement and responsibility.

Gehring (2007) found no documentation of the theory applied to project management. When the purpose of a study is determining whether leadership requires a core set of traits or competencies, it is possible to determine the personality type preferences toward these traits by using the Myers-Briggs Personality Type Indicator. The first theorists began to research the concept of leadership in 1900 and started with an intuitive and common sense hypothesis based on human behavior, inner traits, and effective leadership behaviors. Gehring noted leaders' traits were deeply ingrained in their personality and characteristics such as intelligence, aggressiveness, and physical appearances.

The great man leadership traits include inherited characteristics and acquired traits such as attitudes, self-confidence, and ethical integrity (Gehring, 2007). The research method applied in studying leaders consisted of comparing the traits of well-known successful leaders and identifying a finite set of traits common to all of the leaders (Gehring, 2007). Hundreds of research studies were conducted in the early 1900s seeking a common definition of leadership but none was found. The *Merriam-Webster Collegiate Dictionary* (2005) defined the word trait as a distinguishing feature or a distinguishing characteristic or quality that was fixed or genetic.

Many researchers reported certain traits such as intelligence or high energy levels were common in all successful leaders examined whereas other scholars believed successful leaders did not portray traits of intelligence or a high energy level. After decades of research, theorists acknowledged a single, universal set of leadership traits did not exist. Some successful leaders had one set of traits and other equally successful leaders had an entirely different set of traits (Gehring, 2007).

Group Leadership Style

Karriker (2005) defined group leadership as the behaviors of a group of individuals forming an intact social entity and working together toward a common goal. Group leadership styles are useful to manage relationships and exchanges across organizational boundaries. Group leaders exercise control and power, aimed at either maintaining the interpersonal relationships in the group or prodding the group to achieve its task. Groups can have two leaders, one for the social dimension and one for the task dimension. The three main perspectives on leadership applicable to groups are (a) leaders are born with traits conducive to influencing others, (b) leaders select an appropriate leadership style for specific tasks, and (c) leaders are born with leadership traits, but they also learn how to become effective leaders and develop strategies appropriate to given situations (Borchers, 2007).

Karriker (2005) used the terms *group* and *team* interchangeably, based on the assumption a team was a specific, goal-oriented type of group. L. Thompson et al. (2000) noted,

> Groups have worked together to accomplish organizational goals for many years. The concept and use of teams as a central element of decision-making and

> performance are more recent. [An example is] Johnsonville Sausage Company, where team management and empowerment have shown dramatic results. Other organizations such as AT&T have reaped the benefits of using teams as decision-making and implementation tools. The company had used cross-functional teams to address the needs of its customers. Team members have the responsibility to solve problems and manage themselves. The results have been quicker response time and an increase in satisfied customers. (pp. 54-55)

During the1960s, researchers theorized groups passed through a standard sequence of five stages labeled (a) forming, (b) storming, (c) norming, (d) performing, and (e) adjourning. A large amount of uncertainty about the group's purpose, structure, and leadership characterizes the initial forming stage. According to L. Thompson et al., in the forming stage, members are "testing the waters" (2000, p. 53) to determine which behaviors are acceptable.

The storming stage represents an intragroup conflict (L. Thompson et al., 2000). Members accept the existence of the group, but there is resistance to the constraints the group imposes on individuality, and there was conflict over who will control the group. When the storming stage ends, a clear hierarchy of leadership has emerged within the group. In the norming stage, close relationships develop, and the group demonstrates cohesiveness (L. Thompson et al., 2000). There is a strong sense of group identity and camaraderie. The norming stage is complete when the group stage solidifies and the group assimilates a common set of expectations of what defines correct member behavior.

The fourth stage is the performing stage in which the structure of the group is fully functional and accepted. Group energy moves from getting to know and understand each other to performing the tasks at hand (L. Thompson et al., 2000). For permanent work groups, performing is the last stage of development (L. Thompson et al., 2000). With temporary committees, task forces, teams, and similar groups with limited tasks to perform, the adjourning stage is the last stage. In the adjourning stage, the group prepares for disbandment.

Karriker (2005) noted the characteristics of a team were structural, procedural, and psychosocial. Team characteristics developed in networks established between traditional hierarchical forms and market structures. The work of teams emerges from postbureaucratic organizations and is noted for its fluidity, flexibility, and exchange across various organizational boundaries. The pattern for teams provides a structural context in which leaders emerge (Karriker, 2005).

In autonomous teams, leadership is largely a recycling through the group development and leadership emergence process in which different leaders emerge at different times, based on situations, tasks, and group composition (Karriker, 2005). In an autonomous team, not only might single leaders emerge at different points in time based upon situational or task concerns but also more than one leader can emerge at any time. One leader might be task-oriented whereas another might focus on interpersonal matters, and the two share leadership functions (Karriker, 2005).

According to Edwards, Rode, and Ayman (1989), theorists who did not believe traits determined leadership effectiveness investigated which behaviors, characteristics, and situations enhanced leadership effectiveness. Such theorists focused on situations

rather than innate traits. In additional studies performed to identify successful leadership traits associated with specific work situations, the research efforts ended in failure to find universal sets of traits because of the maze of differences in specific work situations ("Employee Turnover," 2005). Three categories of approach were identified: (a) trait theory, (b) behavioral theory, and (c) situational (contingency) theory.

Trait Leadership

The applicability of trait theory had a significant impact on leadership study and practice in the early 1900s. Bass (1990) identified early theorists who attributed specific personality traits as desired for effective leadership. Gehring (2007) created a list of 79 leadership traits developed from 20 leadership trait studies. Many social scientists spent much effort trying to correlate the personal traits of powerful leaders and traits that help distinguish leaders from followers (Gehring, 2007).

Bass (1990) completed significant work on the trait theory. According to Gehring (2007), the trait theory was not an effective method for determining the successful characteristics of a leader. Gehring conducted research to determine whether the trait theory required a core set of traits or competencies and whether it was possible to determine the personality type preferences toward the traits using the Myers-Briggs Personality Type Indicator. The results of the questionnaire Gehring used included a self-assessment of a manager's abilities, an assessment of traits a successful manager should have, and a personality assessment to determine the manager's personality type. The analysis of the results consisted of identifying clear patterns indicating distinct common traits.

Gehring (2007) elaborated on the disadvantages of the trait theory and noted it was not an effective method of determining the successful characteristics of a leader. The results of Gehring's research were (a) none of the various studies attempting to identify common personality or physical and mental characteristics of leaders were successful and (b) none of the studies were successful at differentiating leaders from nonleaders. Scholars abandoned the trait theory and replaced it with modern theories focused on leaders' behaviors rather than leaders' traits. Gehring listed four possible reasons for not finding a universal trait of leadership:

> (1) the studies were often limited to school and college populations; (2) the experimental studies were distinctly unequal in merit and were not properly controlled; (3) the studies were based on the prevailing notion of leaders; and (4) undesirable traits were not included. (p. 46)

Researchers identified the contingency factor when searching for a single, universal set of leadership traits common and essential to all effective leaders apart from time or circumstances (Gehring, 2007). The contingency theory of leadership replaced the great man theory. The basis of the contingency theory is leaders respond to particular situations or contingencies at a given time (Gehring, 2007).

Contingency Leadership

Edwards et al. (1989) contended the contingency model of leadership was developed through the use of the Fiedler's Least Preferred Coworker scale to measure the affective reaction of leaders to their least preferred coworker with a series of bipolar items. Leaders with low scores on the Least Preferred Coworker scale are considered task

oriented whereas leaders with high scores are considered relationship oriented. An emphasis on work and worker orientations emerged from the Ohio State Studies.

The applicability of contingency leadership led to an investigation of two other models of leadership for the current study, the Ohio State Studies and Blake and Mouton's managerial grid model incorporating two orthogonal dimensions, the concern for production and people and a concern for motivation within the workplace. Hersey and Blanchard's tridimensional leadership effectiveness model includes task behavior and relationship behavior in addition to follower maturity (Edwards et al., 1989).

Another aspect of the contingency model theory is that leader-member relations, task structure, and position power dictate a leader's contingency (i.e., situational) control. Leader-member relations include the levels of loyalty, dependability, and support a leader receives from employees. Leaders perceive and measure the collaborative status of all employees. When a manager is perceived to be in a favorable relationship, the manager has a high task structure and can reward the employee.

In an unfavorable relationship, the task is usually unstructured, and the leader possesses limited authority (Edwards et al., 1989). Positioning power measures the amount of power or authority the manager perceives an organization had given for the purpose of directing, rewarding, and punishing subordinates. Contingency leaders do better in situations with good leader-member relationships and structured tasks.

The four models classifying leadership styles in terms of work as opposed to worker orientations had applicability although many differences existed between the models. Blake and Mouton (2005) proposed a single style for effective leadership; in contrast, task-oriented styles are defined as favorable and unfavorable. Blake and Mouton

took into account situational moderator variables before prescribing a leadership style. The Ohio State model (Hemphill & Coons, 1957) involves descriptions of leadership rather than prescriptions for any specific effective style. The focus of the tridimensional, managerial grid, and the Ohio State model was leader behaviors as opposed to leadership as a stable construct in the contingency and Ohio State models (Edwards et al., 1989).

Behavioral models cannot completely explain leadership styles, placing researchers at a disadvantage. The situation in which a group operates determines the style of leadership adopted (Vecchio, 1988). According to Vecchio, the following four models explain the relationship between style and situation: (a) Fiedler's contingency model, (b) Hersey and Blanchard's situational theory, (c) path-goal theory, and the (d) Vroom-Yetton leadership model.

Fiedler's Contingency Model

The assumption underlying Fiedler's contingency model is that group performance depends on a leadership style focused on task and relationship motivation. Situational favorableness determines the three factors of (a) leader–member relations as the degree to which group members accept and support a leader, (b) task structure as the extent to which the task was structured and defined with clear goals and procedures, and (c) position power as the ability of a leader to control subordinates through reward and punishment (Vecchio, 1988). The most favorable situations have high levels of the three factors, and the least favorable situation have low levels of the three factors.

Relationship-motivated leaders are most effective in moderately favorable situations. Task-motivated leaders are most effective at either end of the scale. Fiedler

posited it might be easier for leaders to change their situation in order to achieve effectiveness than to change their leadership style (Vecchio, 1988).

Hersey and Blanchard's Situational Theory

Blank, Weitzel, and Green (1990) explained situational leadership theory focused on two primary types of leaders, leaders focused on task behaviors and leaders focused on relationship behaviors. Hersey and Blanchard (1973) contended behaviors were similar to the consideration and initiation of structure well grounded in leadership literature. Task and relationship behaviors are operationalized in a manner that closely parallels existing operationalizations of consideration and initiation of structure. Vecchio (1988) used the Leader Behavior Descriptive questionnaire to measure task and relationship behaviors.

Blank et al. (1990) stated the focus of situational leadership theory was subordinate maturity as the key situational characteristic bonding the relationship between leader behaviors in tasks and relationships and leader effectiveness. Subordinates' maturity levels in the work relationship are the "ability and willingness of employees to take responsibility for directing their own behavior" (Hersey & Blanchard, 1973, p. 73). Medical personnel at WRAMC and NNMC are trained to take on responsibility and not having to be directed in every task after 2 years in their occupation (NNMC, 2007).

Blank et al. (1990) stated,

> Hersey and Blanchard (1973) argue that subordinate maturity consists of two dimensions: psychological maturity and job maturity. Psychological maturity was defined in Hersey and Blanchard's (1973) recent work as a willingness or

motivation to do something and as having to do with confidence and commitment. (p. 157)

Examples of the operationalization of situational leadership focus on willingness to take responsibility, achievement motivation, and commitment to an objective.

In earlier works, psychological maturity was defined in terms of subordinates' relative independence, achievement motivation, and ability to take responsibility. Hersey and Blanchard believed the relative independence component derived from an individual's self-sufficiency. The achievement motivation component reflects the work of McClelland (1962). Job maturity is defined in terms of the "ability to do something" (Hersey & Blanchard, 1973, p. 157) and is seen as strongly related to educational and job experience.

A premise of situational leadership theory is that leader effectiveness results from appropriate amounts of task and relationship behaviors provided for subordinates at different levels of maturity (Hersey & Blanchard, 1973). There is a linear relationship between subordinates' psychological and job maturity and task behavior. Hersey and Blanchard claimed leadership styles should be matched to subordinates' maturity level. The assessment of maturity in relation to a specific task is based on (a) psychological maturity, or self-confidence, ability, and readiness to accept responsibility and (b) job maturity, or relevant skills and technical knowledge.

As subordinates' maturity increases, leaders should become more relationship oriented than task oriented. The following are four levels of maturity in leadership style, ranging from mature to immature: (a) delegating to subordinates, (b) participating with subordinates, (c) selling ideas to subordinates, and (d) telling subordinates what to do

(Vecchio, 1988). When the maturity levels of subordinates are low, leaders must provide high amounts of task behavior. When the subordinates' maturity is high, leaders should provide low amounts of task behavior. The relationship between subordinate maturity and relationship behavior is complex and curvilinear.

> Blank et al. (1990) conducted a test on situational leadership theory and reported,
>
> One-way MANOVA was used with performance, supervisor and work satisfaction as the dependent variable and fit/not fit as the grouping variable. To test whether or not fit added to variance contributed by task behavior, relationship behavior, and subordinate maturity, analysis of covariance was run with fit as the grouping variable and task behavior, relationship behavior, and subordinate maturity as covariates. All combinations of fit were tested against all combinations of no fit. Results indicate a multivariate result for fit between leader style and subordinate maturity. An examination of the one-way analysis of variance results for each criterion variable indicates the significant MANOVA was primarily due to work satisfaction ($F = 9.46$, 1,347 dr, $p = .002$). (p. 6)

Although all means are in the expected direction, the result did not provide much more support for situational leadership theory. The same analyses were conducted using the self-ratings and leader ratings of maturity. There were significant relationships using the self-rating. A significant multivariate result was found using the leader's rating with the one-way analyses being insignificant (Blank et al., 1990).

Ken Blanchard wrote the *One Minute Manager* series, and Paul Hersey created a model for situational leadership in the 1960s for managers to analyze the needs of the work situation and implement the appropriate leadership style (Zigarmi, Blanchard,

O'Connor, & Edeburn, 2005). Hersey and Blanchard (1973) characterized leadership style in terms of the amount of direction and support leaders provide their followers and created a simple grid. In the grid, directing leaders define the roles and tasks of followers and supervise followers closely. Directing leaders make and announce decisions through one-way communication primarily.

Coaching leaders define roles and tasks but seek ideas and suggestions from followers. Decisions remain the leaders' prerogative, but communication tends to be two way. Supporting leaders make day-to-day decisions such as task allocation and processes to followers. The leaders facilitate and take part in decisions, but followers have control (Vecchio, 1988). Delegating leaders are involved in decisions and problem solving, but followers have control. The followers decide when and how the leaders will be involved. Effective leaders are versatile and able to move around the grid according to the situation, using several styles. Managers tend to have a preferred leadership style. In applying situational leadership, managers must understand which leadership style works best (Blank et al., 1990).

The correct leadership style depends on the type of employees. Hersey and Blanchard (1973) extended the model to include the developmental level of followers. Hersey and Blanchard reported the competence and commitment of followers should drive the leader's style (see Table 3).

Developmental levels are categorized as situational. Subordinates might be skilled, confident, and motivated in their job, but drop to Level D1 when faced with a task requiring skills they do not possess. Managers are at Level D4 when collaborating

with the day-to-day operations of their department but move to D1 or D2 when handling a sensitive employee issue (Hersey & Blanchard, 1973).

Path-Goal Theory

According to path-goal theory, leaders can affect the performance, satisfaction, and motivation of a group in the following three ways: (a) offering rewards for the achievement of performance goals, (b) clarifying paths toward the goals, and (c) removing performance obstacles (Blank et al., 1990).

Table 3

Hersey-Blanchard Competence Model

Category	Competence level	Experience level
D4	High competence High commitment	Experienced at the job and comfortable with the ability to do it well. Might even be more skilled than the leader.
D3	High competence Variable commitment	Experienced and capable but might lack the confidence to do the job alone or the motivation to do the job well or quickly.

Table 3 (*continued*)

D2	Some competence Low commitment	Might have some relevant skills but will not be able to do the job without help. The task or the situation might be new.
D1	Low competence	Generally lacks the specific skills required for the job

Low commitment	in hand and lacks any confidence or motivation to tackle it.

Vroom-Yetton Leadership Model

The basis of the Vroom-Yetton model is the selection of a leadership style for making a decision. The following are five decision-making styles: (a) autocratic 1 to solve the problem using information already available, (b) autocratic 2 to obtain additional information from the group before making a decision, (c) consultative 1 to discuss the problem with subordinates individually before making a decision, (d) consultative 2 to discuss the problem with the group before making decisions, and (e) group to act as chair while the group make decisions regarding the problem (Blank et al., 1990). In the model, leaders choose a style was through a decision tree based on seven questions (Vecchio, 1988).

Transactional and Transformational Leadership

Transactional leadership. Bass (1990) defined transactional leadership as a trading of benefits. The leader provides a benefit by directing the group toward desirable results. In return, the followers provide the leader with status and the privileges of authority, influence, and prestige. The leader can demand from the followers what the employees regard as an excessive expenditure of their energy. The workers' compliance might decrease if the desired outcomes do not match the perceived effort required.

The basis of leader–follower relationships is a series of exchanges between two parties. Contingent reward leadership is an active and positive exchange between leaders and followers in which followers receive rewards for accomplishing agreed-upon objectives. Leaders can transact actively or passively with followers by focusing on

mistakes, delaying decisions, or avoiding situations until a problem arises. Bass (1990) referred to such behavioral exchanges as management by exception.

Leaders at WRAMC and NNMC use the transactional leadership style. Medical personnel receive additional duties, usually requiring extended work hours. In return, supervisors give medical personnel specific time off from their worksite (NNMC, 2007; WRAMC Civilian Personnel Advisory Center, 2007). Effective transactional leaders work within the framework of the self-interest of their constituency. Bass (1990) reported, "Burns classified transactional political leaders as opinion leaders, bargainers or bureaucrats, party leaders, legislative leaders, and executive leaders" (p. 23).

In support of the effectiveness of transactional leadership, researchers have found the contingent reward variable had a positive impact on the performance of subordinates (Moideenkutty, Blau, Kumar, & Nalakath, 2005). Moideenkutty et al. conducted a meta-analysis in 16 of their primary research papers to explore the issue of transactional leadership. Bass, Jung, Avolio, and Berson (2003) applied meta-analysis approach to their research on the issue of empirical transactional leadership and identified a positive impact on subordinates' performance. Farh, Zhong, and Organ (2004) focused their research on the leaders and employees of Chinese enterprises. Farh et al. indicated contingent reward had a positive impact on the relationship among job satisfaction of subordinate, organizational commitment, organizational performance, and organizational citizenship behavior.

Murphy (2005) commented on research by Cheng and Shea. The findings in Cheng and Shea's study revealed leaders were strict and fair in rewarding and punishing employees and had a positive impact on leadership satisfaction, organizational

commitment, team effectiveness, and individual and organizational performance. Research of a salesman and methods of conducting business transactions demonstrated the applicability of transactional leadership.

If leaders are not strict and fair in issuing rewards and punishments, a negative impact on team effectiveness results. Because transactional leadership is a social exchange behavior, the leader always evaluates the performance and response of subordinates before making an appropriate distribution of rewards (Bass, 1990; Burns, 2006; Moideenkutty et al., 2005). Bass purported transactional leadership behavior covered the two dimensions of (a) contingent reward and (b) management by exception. If subordinates foresee positive feedback resulting from their future efforts, they might contribute much more of their ability to achieve an organizational goal. High achievement characterized medical personnel in departments at WRAMC such as the emergency department, the intensive care units, and the laboratory (WRAMC Civilian Personnel Advisory Center, 2007).

In these particular worksites, the medical personnel can express assertive viewpoints and show higher spirit to the team. If leaders do not issue contingent rewards fairly, they negatively affect employee morale and reduce job motivation and performance. Workers no longer have the desire to achieve the team goal. According to previous research, contingent reward has a positive impact on team effectiveness, but management by exception has no significant influence on team effectiveness (Bass, 1990).

Management by exception requires leaders to manipulate the mechanism of punishment correctly toward any subordinate who does not achieve the organizational

mission or exhibits aberrant behavior. Because of the weaknesses of human beings, subordinates do not like criticism or blame. Management by exception promotes a stronger negative feeling to team members (Bass, 1990).

The disadvantage of transactional leadership is in the reactive approach and support of the status quo (Bass, 1990). Murphy (2005) contended the merits of transactional leadership were few, but Murphy thought transactional leaders could offer prompt solutions for immediate staff needs, particularly under stressful conditions. Active management by exception might increase stressors in the workplace.

Transformational Leadership Styles

Burns's (2006) theory of transformational leadership derived from Bass's thesis of transactional and transformational political leaders. Transformational leaders have specific personality traits and are willing to share power with followers. Transformational leaders seem to emerge during organizational decline and revitalization and a renewed vision are needed. Transformational leaders bring a vision of the major changes needed in the organization's structure. Henri Fayol suggested traits such as drive, energy, initiative, honesty, integrity, self-confidence, and adaptability characterized transformational leaders (Wren, 1995).

Leaders who understand transformational leadership elicit extraordinary efforts from followers (Bass, 1990). In contrast to transactional leaders, transformational leaders elevate followers to high levels, develop followers into leaders, and bring about changes in the culture of the organization. Although transactional and transformational leaders are two distinct types of leaders, the same individual can exhibit characteristics of both styles to differing degrees (Bass, 1990).

Bass et al. (2003) noted transformational leadership resulted in followers performing beyond expected levels as a result of the leader's influence. Followers commit to their leader, develop intrinsic work motivation and maturity, and have a sense of purpose that drives them to excel beyond ordinary limits. By delineating a vision and shared values, transformational leaders can help teams maximize performance. Team members who are open to innovation and risk taking might respond well to transformational leadership (Bass & Avolio, 1994).

Bass et al. (2003) stated transformational leadership produced organizational change through emphasis on new values and a vision of the future transcending the status quo. Bass et al.'s central argument was transformational leaders develop followers intellectually, stimulating and inspiring followers to put aside their own interests for a collective purpose. According to Bass et al., transformational leadership comprises the following four conceptually distinct factors: (a) charisma or idealized influence attributes and behaviors), (b) intellectual stimulation, (c) individual consideration, and (d) inspirational motivation (as cited in Gellis, 2002).

Bass claimed transformational behaviors could be learned in organizations (Purvanova, Bono, & Dzieweczynski, 2006). Charisma refers to a leader's ability to arouse devotion and articulate a vision through personal dynamics such as self-confidence and emotional appeal. When subordinates identify with and develop higher order goals, they acquire respect and loyalty for the leader (Gellis, 2002). The charisma factor consists of idealized behaviors and attributes (Bass, 1990).

The applicability of transformational leadership lies in intellectual stimulation and a leader's ability to understand and solve problems to "break with the past" (Gellis, 2002,

p. 3). Individual consideration refers to the leader's ability to treat each subordinate with care and concern (Bass, 1990). Through inspirational motivation, leaders orient subordinates toward action, build confidence, and inspire belief in a cause (Gellis, 2002).

Transformational leaders are effective in elevating followers' needs to higher levels, developing followers into leaders, and bringing about changes in the culture of the organization (Bass & Avolio, 1994). Bass (1990) noted transformational leadership would result in followers performing beyond expected levels of performance as a consequence of the leader's influence. Subordinates' level of extra effort might be a result, in part, of their commitment to the leader, their intrinsic work motivation, their level of development, or their sense of purpose driving them to excel beyond ordinary limits (Purvanova et al., 2006). Transformational leaders are effective because they have charisma, which is the ability to arouse devotion in subordinates and articulate a vision through personal dynamics such as self-confidence and emotional appeal. A charismatic leader stimulates followers to identify with the leader's goals and acquire respect and loyalty for the leader. The charisma factor consists of idealized behaviors and attributes (Bass et al., 2003).

Gellis (2002) conducted a study of 234 subordinates from 26 hospitals located in a large urban setting with a population of 2.5 million. The study followed a cross-sectional survey design with a single questionnaire. The hospitals contributing to the sample were diverse in size and included 10 academic teaching hospitals and 16 community hospitals. Each participant received the questionnaire and consent form with a cover letter at their workplace.

Gellis was present in the hospitals at prearranged times to answer questions about the study and ensure confidentiality. No identifying information was requested on the questionnaires. Previous evidence supported increased reliability and validity of self-reports when confidentiality was ensured. One hundred eighty-seven completed and usable questionnaires were returned for a response rate of 80%. The identified leaders for the study were the participants' direct managers in their respective healthcare organizations (Gellis, 2002).

Transformational leadership plays an important role in many outcomes of interest to organizational researchers. The outcome of Gellis' study in 2002 was consistent with previous research findings. Other studies demonstrated ratings of leadership effectiveness related positively and significantly to transformational leadership factors and negatively to management. Gellis noted transformational leadership had a greater effect on a follower's performance in organizations experiencing change and in unstable work environments. The results have ramifications for human services administration and supervision (Gellis, 2002).

American Presidents' Leadership Styles Compared With Motivational Theories

Burns and Dunn (2007) observed leadership styles through the following two types of lenses: (a) their role as presidential biographers studying the leadership habits of many presidents and (b) their role as social scientists observing, analyzing, and hypothesizing about human behavior and leadership. The study of Franklin D. Roosevelt caused Burns to develop and coin the terms transformational leadership (Burns, 2006) to describe Franklin D. Roosevelt's evolution from the transactional to the transformation style. Franklin D. Roosevelt had a great transformational effect on the people he was

leading (Murphy, 2005). Burns (2006) recognized charisma as an attribute of successful leadership and stated, "At best, charisma is a confusing, undemocratic form of leadership. At worst, it is a type of tyranny" (p. 27). Bass (1990) reported on many transformational leaders such as Abraham Lincoln, Franklin D. Roosevelt, and John F. Kennedy.

According to Burns and Dunn (2007), many republicans recognize Franklin D. Roosevelt as the greatest president of the 20th century. President George W. Bush was very different in terms of politics, economic, and social philosophy from Franklin D. Roosevelt, the architect of the New Deal. The two presidents differed in their leadership styles. Franklin D. Roosevelt believed in strong, collective leadership, and his cabinet was broad and inclusive. He appreciated experimentation and the competition of ideas. Franklin D. Roosevelt took talent where he could find talent (Burns & Dunn, 2007). Burns and Dunn commented President Bush would have been wise to use Andrew Jackson's tactics called the "kitchen cabinet," (p. 2) enabling presidents to work closely with a small group of advisers drawn from their formal cabinet and from outside sources (Burns & Dunn, 2007). Leaders with diverse points of view and relatively public behaviors are successful.

Presidents John F. Kennedy and Lyndon Johnson used their office to provide charismatic leadership. William McKinley's assassination catapulted Theodore Roosevelt, another charismatic leader, into the White House. Theodore Roosevelt set the Republican Party on a new, radical course. John F. Kennedy's success in the 1960 election resulted from running his campaign with his own organization rather than leading a democratic party effort, and in the process, "[he] engineered a new route to the presidency" (Burns & Dunn, 2007, p. 2).

Burns (2006) commented failures in presidential leadership were further compounded by attempts to solve 20th and 21st century problems using an 18th century constitutional system of checks and balances that stymied action. Burns and Dunn (2007) contended,

> Beginning with Congress on Trial (1949), detailing legislative frustrations, through his work on leadership (1978) calling for transformational national leadership, and his 1992 work, the democrats must lead (with political studies of Franklin D. Roosevelt, John F. Kennedy and Senator Edward Kennedy). From 1932, it was the era not only of great Democratic presidents but of brilliant collective leadership, generations of committed, creative reformers that reached from the West Wing of the White House. Lyndon Johnson, on the other hand, before the party fragmentation over Vietnam, demonstrated how a president and his party, empowered by values and by the hopes and demands of people in need, could govern together to accomplish an enduring change. (p. 3)

Burns and Dunn (2007) favored opportunists such as John F. Kennedy who chose Lyndon Johnson to balance the ticket toward the South and the political center. Richard M. Nixon, the master opportunist, energized social and cultural polarization to make republican inroads in the South. Ronald Reagan communicated a vision, and Jimmy Carter and Bill Clinton were crusading centrists who pressed for health legislation and social justice issues while seeking a "Third Way" (Burns & Dunn, 2007, p. 4).

Summary

Motivation explains why people behave the way they do. Process theories of motivation are explanations of how individuals are motivated. Content theories of

motivation are explanations of what motivates people. Four important process theories that describe how motivation occurs are (a) Herzberg's theory of motivation, (b) Vroom's expectancy theory, (c) Maslow's theory, and (d) the Porter-Lawler theory.

Herzberg's theory focused on how to motivate employees at work. Vroom's expectancy theory hypothesized needs drove human behavior and motivation strength depended on an individual's desire to perform a behavior. According to the equity theory (Maslow, as cited in Litwack, 2007), perceived equities could lead to changes in behavior. The Porter-Lawler theory was a more complete theory of motivation because it stressed (a) intrinsic and extrinsic rewards, (b) task requirements and ability, and (c) the perceived fairness of rewards (Litwack, 2007).

Chapter 3 includes details of the methodology used in the study. The data collection in the quantitative correlational research study was the Motivation and Leadership Survey, a validated survey instrument previously utilized by Miller (2005). The chapter includes a detailed discussion of the instrument in terms of its validity and reliability in the study, details of the study population in terms of primary responsibilities and varied demographics, details of the data collection and analysis processes, and a discussion of the feasibility and appropriateness of the study.

CHAPTER 3: METHODOLOGY

The purpose of the quantitative correlational study using an adapted Motivation and Leadership survey (Finzel, 2004; Miller, 2005) was to test Herzberg's theory of motivation by correlating intrinsic motivators and preferred leadership styles and their potential impact on medical personnel's performance at WRAMC and NNMC, located in the Washington, DC metropolitan area. In 2003, Finzel developed and tested the survey tool used in the current study. Tests of the instrument generated high validity and reliability, supporting the validity and reliability of the current study.

Finzel's Motivation and Leadership survey was used in a similar research study with government engineers. The criteria used in the development of the survey instrument are (a) each variable is addressed by three questions, (b) distinct and balanced responses are available (i.e., *strongly disagree*, *disagree*, *neutral*, *agree*, and *strongly agree*), and (c) the 5-point Likert-type scale supported readability statistics. The current study literature review included journals and articles, books, dissertations, Web sites, and title searches. The topics researched included the concepts of motivation and leadership, medical personnel in medical centers, organization theory, research methodology, systems theory, Maslow, Alderfer, Vroom, Porter and Lawler, McGregor, WRAMC, and NNMC. A thorough literature review included major theoretical concepts from leadership and motivational factors derived from Herzberg, Maslow, Alderfer, Vroom, McGregor, and Porter and Lawler.

Chapter 3 includes a detailed overview of the research approach, methods, and procedures used to achieve the purpose of the study. The chapter includes a description of the outline of the design, the data gathering methods, and the rationale for the use of the

selected design and methods to achieve the study goals. The approach was to collect quantitative data in the form of responses to the Motivation and Leadership survey. Chapter 3 includes descriptions of sampling and data collection techniques and the survey used (Finzel, 2004; Miller, 2005), a discussion of internal and external validity, and a summary of the statistical data analysis procedure applied to the survey results.

Research Methods and Design Appropriateness

The current research study involved the quantitative correlational method of analysis (Creswell, 2002). Eleven variables consisted of five intrinsic motivators as predictor variables and six preferred leadership styles as criterion variables. According to Creswell, a quantitative study is a systematic scientific investigation of quantitative properties and phenomena and their relationships. The objective of quantitative research is to develop and employ mathematical models and hypotheses pertaining to natural phenomena.

The process of measurement is central to quantitative research because it provides the fundamental connection between empirical observation and mathematical expression of quantitative relationships. Creswell (2003) noted a correlational study involves measuring the association or covariation of two or more dependent variables. Theories of motivation and leadership styles are based on previous research findings and observations of the phenomena. Some researchers believed data might have revealed a positive correlation between work itself and transformational leadership styles, and leadership style might correlate positively with work environment.

To test correlations in the quantitative correlational study required computing (a) means and standard deviations and (b) the Pearson product- moment (*r*). Cooper and

Schindler (2003) explained the mean was the average of the collected data and the standard deviation summarizes the distance of the data from the mean. The current quantitative correlational research study was based on data from a 5-point Likert-type scale survey to explore the relationships between the six preferred leadership styles and the five intrinsic motivational factors among medical personnel at WRAMC and NNMC. The research study involved the quantitative correlational method of analysis (Creswell, 2003).

The 11 variables consisted of five intrinsic motivators and six leadership styles. The predictor variables of intrinsic motivators were achievement, recognition, work, responsibility, and advancement. The criterion variables of leadership styles were transformational, transactional, group, contingency, great man, and trait. The data collection methods included administering a Likert-type survey to the population at WRAMC and NNMC. The phenomenon of interest was the measure of the relation between two or more variables. The speculation about the influence relations of motivation and leadership styles originated in previous research findings and theory.

Finzel (2004) validated the survey and Miller used the instrument in 2005. The administration of the survey took place during face-to-face interviews. The survey ranking scale included: (a) *strongly disagree*, (b) *disagree*, (c) *neutral*, (d) *agree*, and (e) *strongly agree* (see Appendix A). The first set of 15 questions from Question 1 to Question 15 concerned intrinsic motivation with three questions for each of the five motivational factors.

The five motivational factors became the predictor variables. The three motivation questions assessed the importance of each of the five following factors to the

participant in the performance of the medical personnel jobs: (a) potential for achievement, (b) potential for recognition, (c) work that I enjoy, (d) having a responsible position, and (e) possibility for advancement. The key for linking Questions 1 through 15 to a motivational factor is in Appendix B.

The second set of questions in the survey (see Appendix A) addressed leadership styles. Questions 16 through 33 were used to define the preferred leadership styles of medical personnel working at WRAMC and NNMC. The respondents were asked to answer the survey questions as if they were the managers of their area. There were three questions for each of the six leadership styles, for a total of 18 questions. The respondents were to specify which leadership characteristics would most effectively motivate employees at their worksite in their daily jobs.

Questions on preferred leadership style included the following leadership models: (a) transformational, (b) transactional, (c) group, (d) contingency, (e) great man, and (f) trait as defined by Bass (1990), Kouzes and Posner (2002), and Wren (1995). The key for linking Questions 16 through 33 to a leadership style is in Appendix B. Each leadership style was tested for a potential correlation to each intrinsic motivational factor.

Methodology Appropriateness

A quantitative approach was appropriate to accomplish the goals of the study. Quantitative research designs can be descriptive, correlational, experimental, and causal-comparative in nature (Creswell, 2003). The research method for the current study was quantitative and correlational. The study involved identifying possible correlations between intrinsic motivation and leadership styles. The goal was to improve the motivation and retention of key medical personnel located in Washington, DC

metropolitan military medical centers. Quantitative research designs are either descriptive with a single measurement or experimental with measurements before and after a treatment. A descriptive study establishes associations between variables while an experiment establishes causality. To obtain an accurate estimate of the relationship between variables, a descriptive study requires a sample of hundreds or thousands of participants (Creswell, 2003; Wagner, Christiansen, & Neuman, 2007).

The population in the quantitative correlational study conducted at WRAMC and NNMC consisted of 450 medical personnel from WRAMC and 450 medical personnel from NNMC. The estimate of the relationship was less likely to be biased if there was a high participation rate (Kabene et al., 2006). Convenience sampling is appropriate in research when an inexpensive approximation of the truth is sought (Creswell, 2003). In convenience sampling, the sample is selected because it was convenient.

The nonprobability convenience sampling method is often used during preliminary research efforts to obtain a gross estimate of the results without spending the money or time required to select a random sample (Creswell & Plano-Clark, 2007). The current survey consisted of selecting medical personnel from the WRAMC and NNMC populations. The basis of quantitative research is on "testing theory composed of variables, measured with numbers, and analyzed with statistical procedures in order to determine whether the predictive generalizations of the theory hold true" (Bielefeld, 2006, p. 398).

Quantitative research is useful in determining the relationship between an independent or predictor variable and a dependent or criterion outcome variable in a population (Creswell & Plano-Clark, 2007; Hopkins, 2007). Another rationale for

choosing quantitative methods over qualitative methods is the use of survey tools. Finzel's (2004) survey tool assisted in solidifying the motivation theory in the current study. With a qualitative design such as phenomenology, researchers seek to understand or explore the lived experience of participants through face-to-face semi-structured interviews with open-ended questions.

The qualitative design did not fit the study goal, which was to discover the intrinsic motivators and preferred leadership styles of medical personnel and provide insight on motivation and retention. Qualitative research studies include ethnography, phenomenology, hermeneutics, and case studies (Creswell & Plano-Clark, 2007; Sogunro, 2002). A quantitative method involves the collection of hard data requiring a passive interaction, useful during analysis.

A qualitative method requires soft data collection and an active interaction with the population (i.e., observation by active participation) (Creswell & Plano-Clark, 2007; Sogunro, 2002). Quantitative studies can include collecting data before and after training or experimentation whereas qualitative methods include ongoing observation and primary data collected during interviews. Quantitative relationships with participants are distant and short term whereas qualitative relationships often are intense and long-term. In quantitative research, the context is controlled (Braud & Anderson, 1998; Creswell & Plano-Clark, 2007; Sogunro, 2002).

Quantitative data analysis includes descriptive or inferential statistics (Simon, 2006). Conversely, qualitative data lead to content or interpretive analyses to elicit themes, patterns, and narrative syntheses through coding and descriptive statistics, including ranking, frequency, and percentages (Sogunro, 2002). Qualitative research

findings are inductive through creativity and critical reflections, and quantitative research findings are deductive through inferences from data (Sogunro, 2002). The current study involved deriving logical conclusions from premises assumed to be true.

Quantitative researchers use questionnaires, computers, and calculators for research instruments and tools to abstract data from studies. Qualitative researchers use interview guides, tape recorders, transcribers, and qualitative software to sort the data, once the data are coded (Creswell, 2003). The interpretation of information in a quantitative study occurs by objective interpretivism and positivism whereas qualitative researchers use a subjective method of inquiry (Creswell, 2003; Sogunro, 2002).

Quantitative research involves a search to measure observable data on variables whereas qualitative research involves a search to understand the participants' experiences. Neuman (2003) described quantitative research as specific and narrow. A quantitative study involves the collection of data on a specific area such as correlating intrinsic motivators and preferred leadership styles in the current study. A qualitative research study is general and broad. In quantitative research, investigators ask specific, narrow questions to obtain measurable data on the variables of interest (Creswell & Plano-Clark, 2007). Objectivity, deductiveness, generalizability, and numbers are features associated with quantitative research.

Quantitative research is objective and involves the collection of data from validated survey instruments (Creswell & Plano-Clark, 2007; Sage, 2005). Qualitative research often involves a subjective element. In the process of gaining, analyzing, and interpreting quantitative data, researchers can remain detached and objective (Cooper & Schindler, 2003). The deductive approach in quantitative research is useful to test

theories while qualitative research is inductive and generates theory. Quantitative designs of research produce results that can be generalized to larger populations. Qualitative studies produce results not easy to generalize (Cooper & Schindler, 2003).

The quantitative approach is appropriate to answer who, what, when, and where questions whereas qualitative studies address why and how questions and rely on open-ended questions (Creswell, 2003; Neuman, 2003). Qualitative methods would not satisfy the goal of a researcher to identify correlations between variables. A quantitative method was most appropriate for the current research study. Bielefeld (2006) stated,

> In the broadest sense, two basic approaches to understanding the social world can be distinguished in the social sciences. They are based on paradigms that contain assumptions about the nature of the social world; how science should be conducted; and what constitutes legitimate problems, solutions, and criteria of "proof." (p. 398)

Correlational Designs

The current quantitative study involved a correlational design considered the best choice for determining what degree of relationship exists between two or more interval or ratio variables (Wagner et al., 2007). The variables already occur in the group or population and are not controlled by the experimenter. The measurement of the correlational relationship occurs between positive and negative values (Wagner et al., 2007). To run a correlation, information must be gathered using the chosen measure (e.g., intrinsic motivators and preferred leadership styles in the current study to determine how they might affect medical employees' performance within WRAMC and NNMC). The information is converted to numbers so statistical analyses can be conducted, and a test of

correlation is run using a statistical package to obtain a correlation coefficient (Creswell, 2003).

Correlation Coefficient

The correlation coefficient is a number ranging from -1 to +1 (Creswell, 2002; Sage, 2005). A positive correlation is a direct relationship in which both variable increase. In a negative correlation, as the amount of one variable increases, the levels of another variable decrease. In both types of correlation, there is no evidence that changes in one variable cause changes in the other variable. A correlation indicates there is an association between two variables, without indicating causality (Wagner et al., 2007).

The correlation coefficient explains the direction of the association between two variables. Correlation coefficients between 0 and +1 indicate a positive association. As one variable increases, the other variable also increases. Correlation coefficients between 0 and -1 indicate a negative association. As one variable increases, the other variable decreases. The magnitude (i.e., strength) of the correlation (i.e., association) between two variables indicates correlation coefficients are closer to 1, either positive or negative, and indicates a stronger association between the two variables (Wagner et al., 2007).

In experimental designs with two variables, one variable is the independent variable and the other the dependent variable. The independent variable is also the predictor variable whereas the dependent variables is the outcome or criterion variable (Wagner et al., 2007). Researchers manipulate the independent variable to study its effect on the dependent variable.

Correlational studies assist in the search for relationships among variables. The following three types of correlational outcomes exist: (a) positive, (b) negative, and (c)

no association. Positive and negative correlations often suggest direct relationships. In positive associations and relationships, the amount of one variable increases, and the amount of a second variable also increases (Wagner et al., 2007).

Correlational researchers attempt to determine the relationships between two or more variables (Wagner et al., 2007), and the degree of the relationship is expressed as a correlation coefficient. In the current study, the goal was to determine the relationship between intrinsic motivation and preferred leadership styles at WRAMC and NNMC. If the variables are highly related, a correlation coefficient near +1.00 is obtained, and the variables are positively related. If the two variables are not related, a correlation coefficient near 0 is obtained. If the correlation coefficient is near -1.00, the variables are inversely related. The results of the current correlational study cannot demonstrate whether medical employees' performance increases or decreases motivation. Other variables might play a role, including social relationships, cognitive abilities, personality, socioeconomic status (Wagner et al., 2007).

Three types of correlational research exist. The first type is causal research in which a scientific experiment is conducted to unambiguously demonstrate cause-and-effect relationships in terms of the effect of one or more predictor variables on one or more outcome variables (Creswell, 2002; Wagner et al., 2007). In causal research, one determines whether a variable causes another variable to occur or change.

The second type of correlational research is descriptive research in which results depict what already exists in a group or population. An example is an opinion poll to determine for which supervisor candidate employees plan to vote in the next staff

election. Descriptive studies involve describing variables, not measuring the effect of variables (Creswell, 2002; Wagner et al., 2007).

The third type of correlational research is relational. Relational research investigates connections between and/or among two or more variables. The variables compared are generally already present in the group or population (e.g., achievement, recognition, work, advance, and responsibility) (Creswell, 2002; Wagner et al., 2007).

Measures

Creswell (2002) maintained measures were the third element of a research study and the tools and methods used to obtain information about the behavior being studied. The researcher must consider issues concerning access, amount, distortion, reliability, and validity.

Data Analysis

A standard, multicorrelational approach was used in the current quantitative correlational research study. The specific problem addressed was the retention of vital medical personnel at WRAMC and NNMC through determining the intrinsic motivation and leadership styles preferred by the medical personnel at WRAMC and NNMC, in the Washington, DC metropolitan area. A standard, multicorrelational study involves inferential statistical analyses derived from their ability to allow (a) generalized findings from samples to populations and (b) an exploration of the nature of the relationships between variables of interest (Creswell & Plano-Clark, 2007).

A standard, multicorrelational study allows a researcher to explore the practical and statistical significance of the findings. To use multicorrelational tests for generalizing beyond the particular sample in the study to the population as a whole, certain

assumptions regarding the sampling methods employed must be made in addition to the specific assumptions made about a particular test. With a standard, multicorrelational study, a researcher emphasizes the importance of statistical significance and fully explores the strength of the relationship between the significant variables (Creswell & Plano-Clark, 2007).

Sage (2005) contended that, in choosing an appropriate inferential statistical test, researchers need to consider a number of factors, including the levels of data associated with the variables, the nature of the hypothesized relationship between the variables, the distribution of the variables in the parent population, and specific assumptions regarding the use of a particular test. The selection of a statistical test is inextricably linked to the methods and hypotheses employed within a given study (Sage, 2005).

The current quantitative correlational research involved explicitly measuring how intrinsic motivators affect employee performance within WRAMC and NNMC. The data from the study provided new information for leaders in both medical organizations to develop a motivational and creative workplace for increased productivity. The data came from a survey instrument. The questionnaire allowed the researcher to determine to what degree a relationship existed between the two variables (Creswell, 2003).

The survey instrument consisted of two sections. One section contained questions on intrinsic motivators, and the other contained questions pertaining to leadership styles (Finzel, 2004; Miller, 2005). The intrinsic motivation questions addressed the concepts of (a) achievement, (b) recognition, (c) work, (d) responsibility, and (e) advancement (Herzberg et al., 1959). The second section contained questions on the following leadership styles: (a) transformational, (b) transactional, (c) group, (d) contingency, (e)

great man, and (f) trait (Bass, 1990; Kouzes & Posner, 2002; Wren, 1995). Data were collected through a 5-point Likert-type scale in which respondents selected their answers from the following choices: (a) *strongly disagree*, (b) *disagree*, (c) *neutral*, (d) *agree*, and (e) *strongly agree*.

The participants took approximately 15 minutes to answer the 33 questions by selecting a predetermined answer. The syntax of the questions was tested to ensure all ethnic backgrounds would have an understanding of the questions and the participants would derive correct meanings for each question. The WRAMC and NNMC census is large and contains a diverse population of cultural backgrounds. The quantitative correlational research design helped accomplish the study purpose and assisted the researcher in revealing intrinsic motivators and preferred leadership styles to determine how they might affect medical personnel's performance at WRAMC and NNMC.

Regression

Glenberg and Andrzejewski (2008) commented that regression studies are based on relationships between variables. A perfect relationship exists when one value of the dependent variable corresponds to each value of the independent variable. Regression is a test to describe the relationship between two samples. There is a relationship only if the samples correspond to each value of the independent variable.

Population

The two medical organizations selected for the study were WRAMC and NNMC. The two medical centers represent the finest in medical care and research in the Washington, DC metropolitan area and represent the Army and Navy branches of the

U.S. Armed Forces (NNMC Satellite Personnel Office, 2007). The population comprised 450 medical personnel at WRAMC and 450 medical personnel at NNMC.

The population of interest consisted of civilian medical personnel employed at WRAMC and armed services medical personnel assigned to WRAMC and NNMC. Medical personnel can have assignments in the nine major divisions of nursing, radiology, laboratory, pharmacy, allergy/immunology/asthma/immunization, managed care, and the departments of medicine, psychiatry, and psychology (WRAMC Civilian Personnel Advisory Center, 2007). There was no attempt made to control the variables of race, ethnicity, gender, and religion present in the sample population.

The sample size selected for the current study was sufficient to minimize the differences between the sample and the entire population (Creswell, 2002). The sampling frame was 30% of the 450 medical personnel at WRAMC and 30% of the 450 medical personnel at NNMC (Neuman, 2003). Neuman recommended a sample size for populations under 1,000 of approximately 30% of the entire population. Using these guidelines, a sample size of 141 medical personnel was selected for both medical centers because it exceeded the 30% recommended by Neuman. The survey was administered to 141 men and women from WRAMC and 141 men and women from NNMC.

The men and women were from diverse cultural backgrounds, a wide variety of age groups, various positions within the medical Department, and many educational backgrounds. Medical personnel of WRAMC and NNMC worked in nine major divisions (see Table 4) consisting of nursing, radiology, laboratory, pharmacy, allergy/immunology/ asthma/immunization, managed care, and the departments of

medicine, psychiatry, and psychology (WRAMC Civilian Personnel Advisory Center, 2007).

The primary responsibility of staff in the medical department is to provide superior medical care to patients. The staff is involved in the development of the mission, vision, and other related guidance for the organization (WRAMC Civilian Personnel Advisory Center, 2007). The medical department has primary responsibility for a seamless transition to support wartime missions and operations other than war, balanced technical and tactical training programs, and coordination and communication with the two components of joint interaction training and leveraging constrained resources (WRAMC Civilian Personnel Advisory Center, 2007).

The WRAMC and NNMC medical personnel assist professionals in providing quality medical care to all patients and assist in complying with the Joint Commission (WRAMC Civilian Personnel Advisory Center, 2007). Staff in the department of nursing provides patient education and advocacy activities, encourages participation in nursing education and nursing research, and ensures compliance with standards of nursing care and research protocols. The Department of Nursing plays a key role in the emergency room, ambulance section, and aeromedical section air evacuation (WRAMC Civilian Personnel Advisory Center, 2007).

Table 4

Areas of Responsibility of the Department of Medicine

Department	Location
Nursing	Nursing personnel in 17 clinics, the emergency room, ambulance section, aeromedical section
Radiology	Diagnostic radiology, radiation oncology service, nuclear medicine service
Laboratory	Surgical pathology, cytopathology, electron microscopy, immunohistochemistry, autopsy services
Pharmacy	Pharmacy technicians, Red Cross volunteers, military and civilian prescriptions, inpatient and outpatient pharmacy
Allergy/immunology/ asthma/immunization	E-immune, vaccine healthcare
Managed care	Care continuum, utilization management, patient appointments, referral coordination
Specialty departments	Cardiology, dermatology, endocrinology, diabetes clinic, gastroenterology, general medicine, hematology, oncology, infectious disease, nephrology, rheumatology, outpatient IV infusions, faculty development
Psychiatry	Adult inpatient and outpatient psychiatric service, Child and Adolescent Psychiatry Service (CAPS)
Psychology	Neuropsychology, health psychology, clinical psychology, pediatric psychology, behavioral health clinic

Note. WRAMC Civilian Personnel Advisory Center, 2007.

Ambulatory care is a healthcare specialty responsive to the needs of patients who seek attention on an outpatient basis. The responsibility of the ambulance section is to respond to all on-post emergency situations requiring ambulance transports. The air evacuation section provides medical specialists to escort patients to and from the flight line at Andrews Air Force Base (WRAMC Civilian Personnel Advisory Center, 2007). The Department of Radiology provides diagnostic radiology, radiation oncology service, and nuclear medicine services to active duty, active duty dependents, and retired personnel (WRAMC Civilian Personnel Advisory Center, 2007).

Laboratory and pathology services provide primary patient care to active duty, active duty dependents, and retired military personnel. Laboratory services are provided on an inpatient and outpatient basis. Specimen collection services are provided in the main laboratory for ambulatory patients whereas laboratory teams provide inpatient phlebotomy services to the nursing care units (WRAMC Civilian Personnel Advisory Center, 2007).

Pharmacy services provide online prescription refills, U.S. Army Center for Health Promotion and Preventive Medicine, military and civilian prescriptions, and inpatient and outpatient pharmacy services (WRAMC Civilian Personnel Advisory Center, 2007). Managed care provides care continuum and utilization management services and ensures patients' appointments and referral coordination. The specialty department provides specialized medical care in the areas of cardiology, dermatology, endocrinology, diabetes clinic, gastroenterology, general medicine, hematology, oncology, infectious disease, nephrology, rheumatology, and outpatient IV infusions (WRAMC Civilian Personnel Advisory Center, 2007).

The psychiatry department provides adult inpatient psychiatric service, adult outpatient psychiatric service, Child and Adolescent Psychiatry Service (CAPS), and information for individuals dealing with trauma or disasters (WRAMC Civilian Personnel Advisory Center, 2007). The psychology department provides high-quality, integrated behavioral healthcare through technological advancements and the staff conducts research and development (WRAMC Civilian Personnel Advisory Center, 2007).

The WRAMC and NNMC collaborate with surrounding communities in the Washington, DC metropolitan area to provide superior quality patient care. Improvement projects and public services for the families of men and women who lost their lives in war or were missing in action support the infrastructure (WRAMC Civilian Personnel Advisory Center, 2007). The projects and services are accomplished through the application of Joint Commission regulations (Joint Commission, 2007).

Sampling

The convenience sampling method (Creswell & Plano-Clark, 2007) generated the sample of participants for the standard multicorrelational research study. The samples were an accurate representation of the large population of WRAMC and NNMC (NNMC, 2007; WRAMC Civilian Personnel Advisory Center, 2007). Convenience sampling is a method of choosing items arbitrarily and in an unstructured manner from the frame. Convenience sampling is commonly employed in many studies and is impossible to treat rigorously (Lunsford & Lunsford, 2005; Trochim, 2004).

The nonprobability method (Creswell & Plano-Clark, 2007) is often used during preliminary research efforts to obtain a gross estimate of the results without incurring the cost or time required to select a random sample. Researchers must note whether the

people who were left out of the sample might behaved differently from the participants in the convenience sample. In the current study, for example, an interview of medical personnel in outlying ambulatory clinics (subclinics of WRAMC and NNMC) would exclude nonambulatory patients. If research outcome measures were not strongly related to the factor, the study results would not be substantial. Findings from convenience samples require definitiveness and replication in a controlled setting. In the study, the WRAMC and NNMC medical personnel worksites were controlled settings.

Population, Sampling, Informed Consent, and Data Collection Procedures and Rationale

Population

The population consisted of medical personnel at WRAMC and NNMC, and the research process involved identifying the characteristics of the medical personnel. All medical personnel are required to possess a medical certification and obtain special training before practicing in their specified medical field. Excluded occupations were in hospital administration, hospital finance, hospital information and technology, hospital librarian, medical equipment repair, facility maintenance, and logistics personnel (Creswell & Plano-Clark, 2007).

Sampling Frame

The medical personnel completed a survey for the quantitative correlational study (see Appendixes A and B) (Creswell, 2003). Medical technicians were initially selected at WRAMC and NNMC to reflect the population of medical personnel. The population consisted of 450 medical personnel at WRAMC and 450 medical personnel at NNMC (NNMC, 2007; WRAMC Civilian Personnel Advisory Center, 2007).

Neuman (2003) suggested the sample size for populations under 1,000 should be approximately equal to 30% of the entire population. Using these guidelines, a sample size of 141 medical technicians was selected for the study from WRAMC, and a sample size of 141 medical technicians was selected from NNMC since the sample exceeded the 30% recommended by Neuman and equaled the generally accepted number suggested by Creswell (2003). It was imperative that the sample size selected for the current study be sufficient to minimize the differences between the sample and the entire population (Creswell, 2002). The sampling technique involved choosing a number of individuals large enough to conduct statistical procedures and draw valid inferences with some confidence that the sample reflected the characteristics of the entire population if the entire population could be studied (Creswell & Plano-Clark, 2007).

Sampling Method

The sampling method used in the current study was convenience sampling, also known as grab or opportunity sampling (Creswell & Plano-Clark, 2007). Items are chosen arbitrarily and in an unstructured manner from the frame. Creswell (2003) contended the procedure for selecting the sample consists of sending a survey and collecting data from the participants who choose to complete the survey. In the current research study, all medical personnel in the nine areas of the department of medicine of WRAMC and NNMC participated.

Medical personnel received a letter outlining the purpose of the research study and requesting their participation. The letter outlined the research project in terms of the specific data that would be obtained through the survey instrument and how the data

would be used. The letter reiterated the voluntary and confidential nature of individual participation.

Informed Consent

All participants in the research study were volunteers. Employees of the WRAMC and NNMC received a copy of the consent form, and the department director was aware no coercion occurred in soliciting employees for the study. A copy of the consent form is in Appendix C. Each participant signed the consent form before completing the survey instrument and had an opportunity to ask questions and express any concern. The participants were informed that the results of their answers would be used in a published study, and by signing the consent form, they granted permission to share the results with the directors of WRAMC and NNMC. The data were aggregated based on the categories of demographics developed in the survey instrument. The results will be maintained in a locked safe for 3 years.

Data Collection

Creswell and Plano-Clark (2007) commented on the selection process for participants using a random or nonrandom selection technique. The convenience sampling technique was used in the current quantitative correlational study. Creswell (2003) explained a population is a set of persons with a common observable characteristic, and a sample is a subset of a population. Descriptive, characteristic parameters summarize the set of observations.

The same characteristics pertain to a sample, called a statistic, for researchers to draw. In the current study, the sample included medical personnel from which to draw inferences. Random sampling is a means of controlling bias. Creswell (2003) indicated

random sampling was a means of randomization, and the use of a random number table ensures each individual in the population had an equal chance of being selected. Creswell contended the technique meets some of the important assumptions underlying several statistical methods and makes possible the estimation of error.

The focus of the study was the essential aspect of the sample described in the research plan (Creswell, 2003). The total sample consisted of 141 medical personnel from each participating medical center. The sample included medical technicians employed or assigned to nursing, radiology, laboratory, pharmacy, allergy and immunology, managed care, specialty departments, psychiatry, and psychology. The medical personnel in the sample completed the Motivation and Leadership Survey (Finzel, 2004).

Specific characteristics of male and female individuals were represented in the sample. The sample reflected the true proportion of individuals with certain characteristics of the population. The military medical population consisted of enlisted personnel specifically trained at Army and Navy technical schools. The civilian and contracted medical personnel were nonprofessionals who were trained at technical schools in their specific field (WRAMC, 2007).

Creswell (2003) maintained it is important to control population parameters to ensure a match of participants by certain traits. In the current study, the traits included working under supervision or management, providing medical care, working at either WRAMC or NNMC, education level, age groups, positions in occupation, ethnicity, pay band, and gender. Medical technicians in all fields were men or women at WRAMC or NNMC.

The qualifications for medical personnel positions at both medical centers consisted of meeting and surpassing the established qualifications of the Armed Forces medical technicians. Salaries ranged between $40,000 and $50,000 per year in the Washington, DC metropolitan area (WRAMC Civilian Personnel Advisory Center, 2007). Samples generated within each stratum contained individuals with characteristics in the same proportion as the characteristics appearing in the entire population. The population was selected from lists of personnel supplied by the human resources office for civilian and contractor personnel and the hospital administration for military personnel, using a random number table.

The research used the correlational study method and a survey instrument containing 33 questions. One section contained questions concerning intrinsic motivation, specifically (a) achievement, (b) recognition, (c) the work itself, (d) responsibilities, and (e) advancement (Herzberg et al., 1959). The second section of the survey contained questions concerning employees' preferred leadership styles defined by Bass (1990), Kouzes and Posner (2002), and Wren (1995) as (a) great man, (b) group, (c) trait, (d) contingency, (e) transactional, and (f) transformational leadership.

Randomization was used within the context of the correlational study method. The participants employed or assigned as medical personnel to WRAMC or NNMC completed the surveys based on a schedule outlining the expected dates for administration. The Department of Clinical Investigations of WRAMC and NNMC approved the study, and all medical directors received official notice of the date when the study was initiated.

The use of a survey instrument was an acceptable approach in a quantitative correlational study. The convenience sample involved all portions of the questionnaire, which was a source of evidence of a true experiment (Creswell, 2003). Individuals who wished to participate in the survey had an opportunity to elaborate on their opinions within the survey.

An unstructured interview was used to clarify specific issues medical personnel raised in their responses. The questions in the survey instrument were organized into two distinct sections focusing on intrinsic motivational factors and preferred leadership styles. The instrument involved using a 5-point Likert-type scale in which respondents reviewed and made a selection from the following choices: (a) *strongly disagree*, (b) *disagree*, (c) *neutral*, (d) *agree*, and (e) *strongly agree*.

Creswell (2002) noted there were advantages in using specifically designed surveys, including an economy of design and a rapid turnaround in the collection of data. The survey took approximately 15 minutes to complete by ranking items. The questions were verified and tested to ensure the participants derived the correct meaning of each question despite ethnic background or language.

If the participants interpreted the questions incorrectly, the incorrect answers could have skewed the data. Precise meanings were documented for each question to ensure understanding of each question. Providing a precise meaning for each question was important. There was a high percentage of diversity and a cross-section of individuals from various cultural, ethnic, and national backgrounds.

The findings of the quantitative correlational study were compared to Finzel's (2004) and Miller's (2005) findings, and a parallel theory resulted. The intent was to

explore and compare intrinsic motivators in the current and Finzel's and Millers' study in order to verify the existence of a relationship between the preferred leadership styles of department-level employees and intrinsic motivators. Creswell (2003) identified the following four types of data collection: (a) self-administered questionnaires; (b) interviews; (c) structured record reviews to collect financial, medical, or school information; and (d) structured observations. Data collection in the current study involved a face-to-face interview for the completion of the surveys (Creswell & Plano-Clark, 2007). The data collected will assist managers in understanding the level of built-in motivational factors among employees in WRAMC and NNMC.

Built-in motivational factors are not considered essential for the infrastructure of WRAMC or NNMC. Walter Reed Army Hospital was constructed and authorized by congressional legislation on May 1, 1909 (Kelly, 1907). The Naval Medical Research Center was established in 1941. Both medical centers are historical institutions. When WRAMC and NNMC were established, neither facility instilled built-in motivational factors as part of the managerial infrastructure (The Naval Medical Research Center, 2007). The older of the two medical centers, WRAMC, is over 98 years old.

Human resources departments have a one-dimensional approach to complex human-based ordeals on the job and can only solve an immediate problem, but human resource departments can exacerbate long-term needs (Hatcher, 2007). Schwind, Das, and Wagar (2004) posited, “Human resource management aims to improve the productive contribution of individuals while simultaneously attempting to attain other societal and individual employee objectives” (p. 3). The human resources discipline is based primarily on the assumption that employees are individuals with varying goals and needs and

should not be thought of as basic business resources such as trucks and filing cabinets. The use of a survey assisted in acquiring a better understanding of how employees' work fulfills internal needs and the use of employees' tacit knowledge might assist managers in improving their leadership (Hatcher, 2007).

Strengths in using data collection in the study included the use of Herzberg's theory. Herzberg et al. (2002) asked, "What do people want from their jobs?" (p. 4). Herzberg et al.'s study involved the exploration of factors that motivate and inhibit motivation of organizational employees. The use of a survey assisted managers in learning what WRAMC and NNMC medical personnel want from their jobs.

Instrument

The research involved using a motivational leadership survey to describe trends in a large medical population at one Army medical center and one Navy medical center. Creswell and Plano-Clark (2007) defined a survey as a form of data collection (e.g., self-administered questionnaire, interviews, structured record reviews, and structured observation). Data collection included a face-to-face interview. The survey instrument used to collect data in the research study was the Motivation and Leadership Survey (Finzel, 2004).

Finzel (2004) developed, piloted, and validated the survey later used in a case study by Miller (2005). The questions in the survey measured the intrinsic motivational factors and the preferred leadership styles with a Likert-type scale (Creswell, 2003). The instrument identified the specific intrinsic motivator and preferred leadership style for each respondent. The findings can assist organizational leaders, supervisors, and

managers in identifying the intrinsic motivators for their staff and help develop a better understanding of how intrinsic motivators relate to their preferred leadership styles.

Validity

Creswell (2003) explained, when using an existing instrument, researchers must describe the validity and reliability of scores obtained from past use of the instrument. The validity established by Miller (2005) consisted of obtaining data from an analysis originating from the survey instrument input and collecting various elements of demographics for a comparison of the results regarding (a) age, (b) ethnicity, (c) number of employees supervised, (d) full-time employment, (e) length of time in present position, (f) gender, (g) level of education, (h) length of service, (i) pay band, (j) current position, and (k) current career intention. The data were stored in a statistical software program, SPSS Version 13, and each instrument was assigned a control number to ensure consistency in data transfer between the survey instrument and the statistical program.

The study findings provide meaningful inferences from scores on the instrument. The following three facts ensured validity was intact: (a) the use of multiple sources of evidence during the data collection process, (b) the establishment of a chain of evidence, and (c) a review of the case study report (Finzel, 2004; Miller, 2005). Finzel's study showed a valid relationship between intrinsic motivation and preferred leadership styles of employees surveyed in 28 of 30 cases in which the factors were explored. Through the proper level of examination, reflection, and application of the survey instrument, the construct validity of the variables was consistent and valid.

Creswell (2003) indicated the three traditional forms of validity to look for are content validity (i.e., Do the items measure the content they were intended to measure?),

predictive or concurrent validity (i.e., Do scores predict a criterion measure? Do results correlate with other results?), and construct validity (i.e., Do items measure hypothetical constructs or concepts?). Creswell noted scores resulting from the past use of the instrument demonstrate reliability. The issue of reliability was a major factor in the studies conducted by Finzel (2004) and Miller (2005). Finzel tested the survey instrument for reliability before using it in his study.

The reliability of the survey instrument concerns whether the instrument measures the proper (i.e., adequate) scores based on the formulation of the questions' answers. Construct validity and reliability are closely related. The reliability of the survey instrument depends on how the instrument is administered. The entire instrument can be reviewed in Appendix A.

Creswell (2003) posited the demographics and closing instructions should be added in the major content sections of an instrument. The type of scale used to measure the items on the instruments was continuous, ranging from *strongly disagree* to *strongly agree*. The Finzel (2004) survey used a continuous scale; a categorical scale was not used in the study.

Internal Validity

Cooper and Schindler (2003) explained there are several different types of validity, but only the two major types were considered in the study, internal and external validity. Questions asked in reference to internal validity were the following: Do the conclusions drawn demonstrate an experimental relationship that truly implies cause? With external validity, does the observed causal relationship generalize across persons,

settings, and times? Each type of validity had threats the researcher must guard against (Cooper & Schindler, 2003; Creswell, 2003).

Internal validity threats are experimental procedures, treatments, or experiences of the participants that threaten a researcher's ability to draw correct inferences from the data in an experiment. The threats involve using inadequate procedures (e.g., changing instruments during the experiment), aspects, or problems in applying treatments (e.g., diffusion effect when members of the experimental and control groups communicate with each other). The threats can arise from characteristics of the participants, such as participants maturing during the experiment and changing their views, becoming wiser or more experienced (Cooper & Schindler, 2003; Creswell, 2003).

External Validity

External validity threats arise when experimenters draw incorrect inferences from the sample data to other persons, other settings, and past or future situations. External validity was not a concern with the current research study; both medical centers are teaching institutions and have stipulations set in place regarding how all studies within the institution must be conducted. All studies must be reviewed by the Department of Clinical Investigations (Department of Clinical Investigations, 2007a, 2007b).

Threats to external validity arise when a researcher generalizes beyond the groups in the experiment to other racial or social groups not under study (Cooper & Schindler, 2003; Creswell, 2003). Other threats include statistical conclusion validity arising when experimenters draw inaccurate inferences from the data because of inadequate statistical power or the violation of statistical assumptions. Threats to construct validity occur when investigators use inadequate definitions and measures of variables (Creswell, 2003).

Finzel (2004) conducted a study in which he found a valid relationship between intrinsic motivation and preferred leadership styles of surveyed employees in 28 of 30 cases in which the factors were explored. The construct validity of variables was consistent and valid as a result of the proper level of application of the survey, reflection, and examination.

Data Analysis

The data obtained for analysis was gathered from medical personnel at WRAMC and NNMC using a survey instrument (see Appendix A). Each completed survey was collected in person. There were no names on the surveys. The data were analyzed, documented, and stored in a timely fashion (Creswell, 2002). The participants provided demographics data on (a) gender; (b) age; (c) highest level of education completed; (d) race/ethnicity; (e) length of service in military, civilian, or contracting sector; and (f) current position. The initial step in performing an analysis of quantitative correlational data was to compute descriptive statistics of each group in the study (Creswell, 2002).

Two statistical computations were required to test the quantitative correlational study: (a) group mean and standard deviation, and (b) Pearson product moment correlation (r). According to Glenberg and Andrzejewski (2008), the mean test is a summation of all the observations in the sample, divided by the sum of the number of observations. The analysis of means assisted in finding the average number of respondents participating in the study. The standard deviation provides a picture of how data are spread in a curve. The standard deviation is the square root of the variance in the observations. The variance is computed by squaring each deviation from the mean, summing them, and dividing their sum (Glenberg & Andrzejewski, 2008).

Glenberg and Andrzejewski (2008) stated correlation is used to describe the strength of the linear relationship. Correlation is a measure of how well the best fitting straight line actually fits. The Pearson product moment correlation was obtained by dividing the covariance of the two variables by the product of their standard deviations (Cooper & Schindler, 2003). In the current study, the Statistical Package in the Social Sciences (SPSS) Version 17 was used to calculate means, variances, standard deviations, and correlation coefficients.

The first set of questions addressed the following intrinsic motivational factors: (a) achievement, (b) recognition, (c) the work itself, (d) responsibilities, and (e) advancement (Herzberg et al., 1959). The second set of questions addressed the following preferred leadership styles of employees: (a) transformational, (b) transactional, (c) group, (d) contingency, (e) great man, and (f) trait leadership as defined by Bass (1990), Kouzes and Posner (2002), and Wren (1995). The collection of data assisted in examining statistically whether a relationship existed between intrinsic motivational factors and preferred leadership styles.

Summary

The quantitative correlational study involved exploring whether a relationship existed between intrinsic motivational factors and the preferred leadership styles of medical personnel within WRAMC and NNMC in the Washington, DC metropolitan area. The current study replicated studies by Finzel (2004) and Miller (2005) focused on army engineers in a research and development organization and employees within the Department of Planning and Development in the Seminole County government located in Central Florida. The basis of the study was trifold. First, the study was an attempt to

further the work of Herzberg who explored the basic question, "What do people want with their jobs?" (Herzberg et al., 2002, p. 113). Through his work, Herzberg developed the two-factor motivation model through researching motivation and hygiene factors on engineers and accountants. Second, Finzel (2004) used Herzberg's model as the basis to explore cause-and-effect relationships between intrinsic motivational factors and preferred leadership styles among engineers. Third, Miller (2005) utilized Herzberg's model as the basis to explore whether a relationship existed between intrinsic motivational factors and the preferred leadership styles of employees of the Department of Planning and Development of the Seminole County government in Central Florida.

Data collection was accomplished using the Motivational and Leadership Survey (see Appendix A) designed by Finzel (2004). The survey was administered to a random sample of 141 medical personnel at WRAMC and 141 medical personnel at NNMC. Chapter 4 is a report of the study findings and an exploration of insights into organizational issues relevant to intrinsic motivators and preferred leadership styles.

CHAPTER 4: RESULTS

The WRAMC and NNMC medical personnel play an important role in the vision, mission, and goals of the two medical centers' quality of medical care (WRAMC Civilian Personnel Advisory Center, 2007). The purpose of this correlational study using the Motivation and Leadership Survey (Finzel, 2004; Miller, 2005) was to test Herzberg's theory on motivation by assessing possible significant relationships among intrinsic motivators and preferred leadership styles for medical personnel's performance within WRAMC and the NNMC, located in the Washington, D.C. metropolitan area. Chapter 4 begins with a brief review of the research questions and hypotheses put forth in chapter 1, followed by a discussion of the study. The next section contains a discussion of the validity of the current study. The remainder of the chapter includes the results of the information collected during the study.

The two research questions were based on the five intrinsic motivational factors and six preferred leadership styles. The research questions for the study are as follows:

1. In what ways are medical personnel of WRAMC and NNMC intrinsically motivated?
2. Which leadership styles are preferable for medical personnel within WRAMC and NNMC?

The hypotheses for this study consisted of the following:

$H1_0$: There is no relationship between any motivational factors and preferred leadership styles.

$H1_A$: There is at least one relationship between motivational factors and preferred leadership styles.

$H2_0$: Neither great man, group, trait, contingency, transformational, nor transactional leadership styles are preferable for medical personnel within WRAMC and NNMC.

$H2_A$: One or more of the great man, group, trait, contingency, transformational, and transactional leadership styles is preferable for medical personnel within WRAMC and NNMC.

Chapter 4 includes analyses of data collected between November 6, 2007 and January 8, 2008. The data collection process consisted of obtaining permission from WRAMC and the NNMC Department of Clinical Investigation. Data were collected from 141 medical personnel at WRAMC and 141 medical personnel at NNMC. Participants were issued a 33-question survey using a Likert-type 5-point scale. A face-to-face meeting was used to distribute the surveys and collect responses.

The surveys were distributed to participants in the departments of nursing, radiology, laboratory medicine, pharmacy, allergy and immunology, managed care, specialty departments, psychiatry, and psychology. A scheduled time for each work section was established and participants were asked to assemble in an assigned conference room. Surveys then were distributed to participants in their assigned conference rooms and collected after completion.

Data Collection Procedures

Data were gathered from medical personnel using a face-to-face meeting. Access to both WRAMC and NNMC medical personnel was obtained by contacting Responsible Conduct of Research Services and obtaining permission to survey participants. The WRAMC and NNMC Chief of Division Head approved the Informed Consent Form and

the Permission to Use Premises (see Appendix C). The WRAMC Representative Collaborating Institution and NNMC Representative Collaborating Institution approved the Letter of Collaboration among Institutions (see Appendix D). The schedule was e-mailed to hospital section supervisors at both WRAMC and NNMC, and the supervisors were asked permission to survey all medical personnel in that particular area on a specific date (see Table 5 and Table 6). An e-mail message was sent to the Chief of each work section explaining the purpose of the survey, the process for completing the consent form, and when data would be collected at that particular section.

Table 5

WRAMC Survey Schedule

Date	Time	Department	Location
November 6, 2007	1:00 pm	Nursing	Nursing Department Conference Room
November 7, 2007	8:00 am	Nursing	Nursing Department Conference Room
November 8, 2007	1:00 pm	Radiology	Radiology Department Conference Room
November 12, 2007	8:00 am	Radiology	Radiology Department Conference Room
November 13, 2007	1:00 pm	Laboratory	Laboratory Department Conference Room
November 14, 2007	8:00 am	Laboratory	Laboratory Department Conference Room
November 15, 2007	1:00 pm	Pharmacy	Pharmacy Department Conference Room
November 19, 2007	8:00 am	Pharmacy	Pharmacy Department Conference Room
November 20, 2007	1:00 pm	Allergy/ Immunology	Managed Care Conference Room
November 26, 2007	8:00 pm	Managed Care	Managed Care Conference Room

Table 5 (*continued*)

November 27, 2007	1:00 pm	Managed Care	Managed Care Conference Room
November 28, 2007	8:00 pm	Specialty	General Medicine Conference Room
November 29, 2007	1:00 pm	Specialty	General Medicine Conference Room
November 30, 2007	10:00 am	Psychiatry	Psychiatric Conference Room Borden Pavilion
November 30, 2007	1:00 pm	Psychology	Psychiatric Conference Room Borden Pavilion

Table 6

NNMC Survey Schedule

Date	Time	Department	Location
December 3, 2007	1:00 pm	Nursing	Nursing Department Conference Room
December 4, 2007	8:00 am	Nursing	Nursing Department Conference Room
December 5, 2007	1:00 pm	Radiology	Radiology Department Conference Room
December 6, 2007	8:00 am	Radiology	Radiology Department Conference Room
December 7, 2007	1:00 pm	Laboratory	Laboratory Department Conference Room
December 10,2007	8:00 am	Laboratory	Laboratory Department Conference Room
December 11, 2007	1:00 pm	Pharmacy	Pharmacy Department Conference Room
December 12, 2007	8:00 am	Pharmacy	Pharmacy Department Conference Room
December 13, 2007	1:00 pm	Allergy/ Immunology	Radiology Conference Room

Table 6 (*continued*)

December 14, 2007	8:00 pm	Managed Care	Nursing Department Conference Room
December 17, 2007	1:00 pm	Managed Care	Nursing Department Conference Room
December 18, 2007	8:00 am	Specialty	General Medicine Conference Room
December 19, 2007	1:00 pm	Specialty	General Medicine Conference Room
December 20, 2007	10:00 am	Psychiatry	Psychiatric Conference Room, Building 1
December 20, 2007	1:00 pm	Psychology	Psychiatric Conference Room Building 1

After the data collection requirements were met, signed copies of both forms were sent to the University of Phoenix. The WRAMC Department of Clinical Investigations and the NNMC Department of Clinical Investigations reviewed and approved the Informed Consent Form (see Appendix E). Permission was granted to use the Motivation and Leadership Survey (see Appendix F).

An invitation was sent to participants asking them to volunteer. Between November 6, 2007, and January 10, 2008, research was conducted throughout the WRAMC and NNMC. Participants were informed (a) their participation in the study was voluntary, (b) they would not encounter any undue stress due to participation in the study, (c) survey responses were completely confidential and anonymous, and (d) there would be no negative consequences for choosing not to participate.

A Permission to Use an Existing Survey form was mailed to Dr. Finzel for his signature on August 28, 2007. Dr. Finzel returned the signed form 10 days later (see Appendix F). Data then were collected between November 6, 2007 and January 10, 2008 on location in the Washington, D.C., metropolitan area at both WRAMC and NNMC.

The medical personnel assembled in their conference room and the researcher passed out a consent form and a survey form. Everyone was instructed to read and sign the consent form first and then to read and fill out the survey. The researcher distributed 141 surveys to participants between November 6, 2007 and November 30, 2007 at WRAMC. Another 141 surveys were distributed to participants at NNMC between December 3, 2007 and December 20, 2007. All 282 surveys were returned from both medical centers. To achieve a desired level of reliability between the number of surveys returned and the number of surveys distributed, 95% of the 282 (268) surveys were required (Neuman, 2003).

Of the 282 surveys obtained from WRAMC and NNMC, four were incomplete. Two participants began the demographics portion of their survey but did not complete the motivation or leadership portion of the survey. Another two participants completed the demographics and motivation portions of the survey but did not attempt to fill out the leadership portion of the survey. A total of 278 surveys were completed and used in the SPSS data analysis. This was within the range of 268 surveys (Neuman, 2003).

Instrumentation

The study was designed to describe a relationship in a population of medical personnel using a survey. The Motivational and Leadership Survey (see Appendix A) measured respondents' perspectives of motivation and leadership. The 33-question survey (see Appendix A) reflected reliable and valid measures of the motivation factors and leadership models developed by Finzel in the original survey (Finzel, 2004). The correlation analysis was conducted using the Motivation and Leadership Survey (Finzel, 2004). The data collected concerned 5 demographic categories, 15 motivation questions,

and 18 leadership questions. A correlational analysis was performed using two statistical computations: (a) group means and standard deviations, and (b) Pearson product-moment correlation coefficients to determine if relationships existed (Creswell, 2003).

Five guides contributed to the development of the survey questions. First, three questions addressed each of the variables in the 33-question survey (see Appendix A). Second, each question addressed a single variable and asked a single question. Third, the questions were written with the intent of clear understanding and with a minimal use of words. Fourth, the five response choices were *strongly disagree*, *disagree*, *neutral*, *agree*, and *strongly agree*. Finally, the data were encoded using the Statistical Package for the Social Sciences (SPSS) Version 17 as *1* for strongly disagree to *5* for strongly agree (Finzel, 2004).

A 33-question survey was issued to the participants, which required approximately 10-15 minutes to complete. Although three questions were averaged to produce each of the 11 variable scores, the three questions were arranged in a manner to minimize factitious responses (Appendix A). Participants completed their surveys in a conference room located at the WRAMC or NNMC.

The motivation and leadership survey consisted of five intrinsic motivational factors: achievement, recognition, work, responsibilities, and advancement. The six preferred leadership styles consisted of *great man*, *group*, *trait*, *contingency*, *transactional*, and *transformational* leadership styles. An in-depth analysis of the findings of leadership was provided by initially defining the term leadership and then by defining each type of leadership style, its effectiveness, its applicability, and its

disadvantage to leadership. Current and past presidents' leadership styles were compared to motivational theories.

Demographic Survey Results

The first page of questions in the survey (see Appendix A) contained the demographic data collected from each participant. Approximately half (126) respondents identified themselves as male and 152 respondents self-identified as female. Participants ranged from between 18 and 20 years old to between 61 and 70 years old, with the largest group between 21 and 30 years old (see Figure 1).

The demographics reflect the age range of many active duty men and women serving in the Armed Forces. For example, the rate of 0 for participants over 70 reflected that most civilian personnel have retired from government service at this age. The Armed Forces regulations restrict men and women from serving in the Armed Forces past the age of 65 (WRAMC Civilian Personnel Advisory Center, 2007). The majority of participants indicated they had completed high school or earned a GED. No participants earned a doctorate and very few earned a masters (see Figure 2). These results are consistent with Maxfield's (2006) findings, which indicated the majority of army medical personnel had finished high school and were between the ages of 21 and 30.

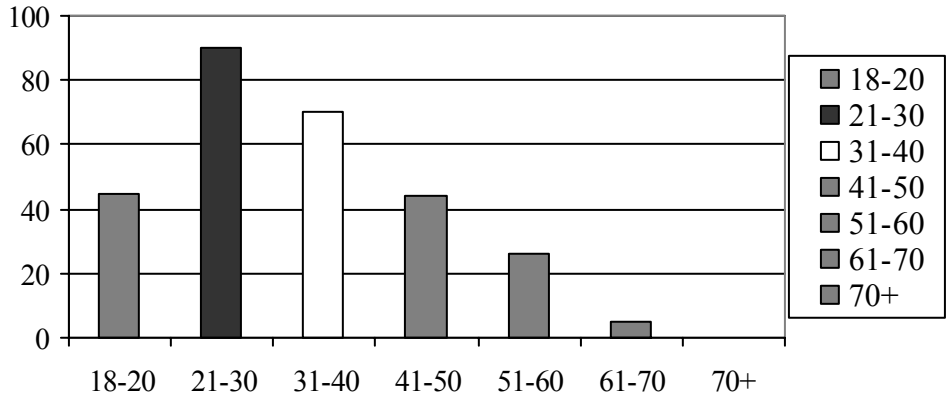

Figure 1. Age of participants.

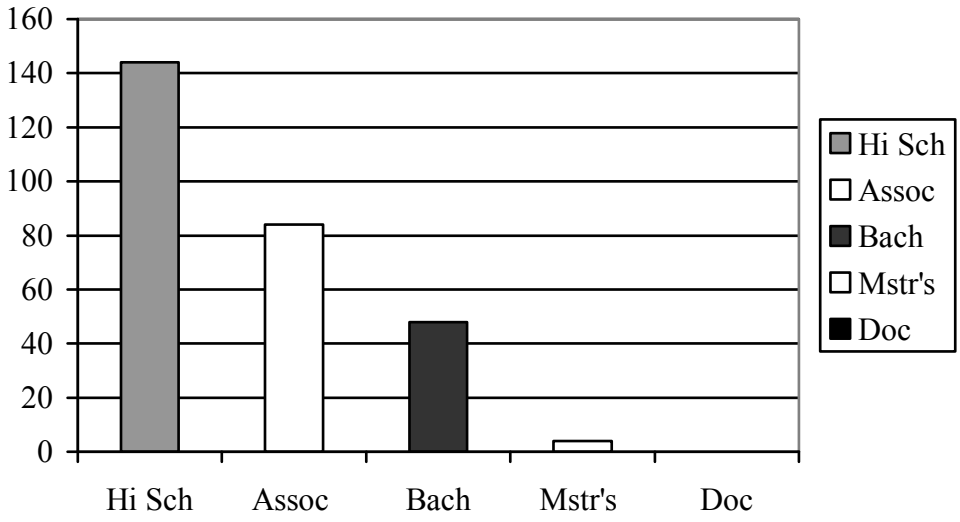

Figure 2. Highest level of education completed.

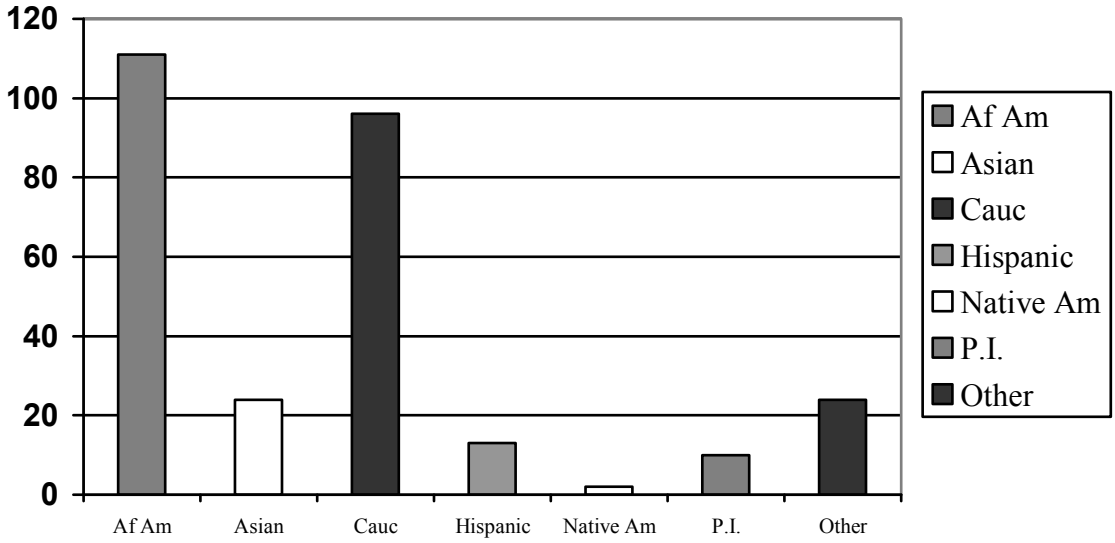

Figure 3. Ethnicity.

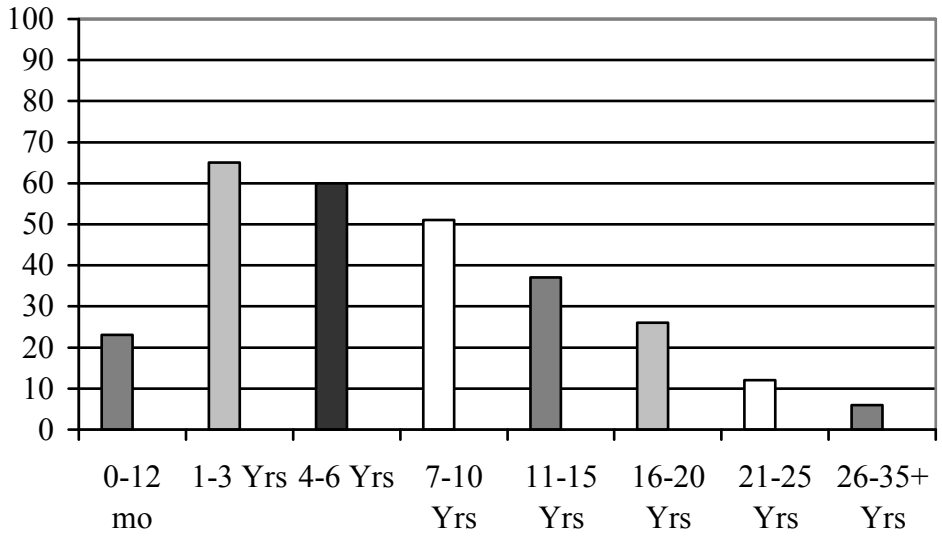

Figure 4. Length of service

The three groups with the highest numbers of respondents were African American, followed by Caucasian and Asian respondents. The smallest groups were Native Americans and Pacific Islanders (see Figure 3). Participants reported having less

than one year and over 35 years of service and the majority of participants reported having between 1 and 10 years of service (see Figure 4). The current positions for length of service were 1 supervisor, 1 coordinator, 15 managers, 15 assistant managers, and 246 technicians.

Descriptive Analysis

Data were encoded in an Excel spreadsheet and converted to an SPSS version 17 data file. Pearson product-moment correlation coefficients were calculated between the five intrinsic motivators (i.e., achievement, recognition, work, responsibility, and advancement) and the six leadership styles (i.e., transformational, transactional, group, contingency, great man, and trait) within WRAMC and NNMC.

Four-Step Approach

In order to test the hypothesis, a four-step data analysis of the hypothesis testing was used:

Step 1. The two alternate and null hypotheses were restated (Cooper & Schindler, 2003).

Step 2. The determination of the appropriate test to be used was based on the sample, population, and type of measurement scale. When testing the hypotheses, means, standard deviations, and Pearson product-moment correlations were computed (Cooper & Schindler, 2003).

Step 3. Pearson product-moment correlation coefficients were calculated (see Appendix H). The criterion cut-off significance level ($p < .05$) was established prior to the collection of data (Creswell, 2002).

Step 4. The null hypothesis was either rejected or accepted (Glenberg & Andrzejewski, 2008). A complete table of means and standard deviations can be reviewed in the appendixes (see Appendix G).

The following null and alternative hypotheses were tested:

Descriptive Statistics

Descriptive statistics for all variables are presented in Table 7. The variable *work* had the highest mean ($M = 4.27$; $SD = 0.61$) and *great man* had the lowest mean ($M = 3.75$; $SD = 0.75$). The average minimum scores for work, achievement, advancement and responsibility was greater than 1.00. This suggests that there were relatively few *strongly disagree* responses among most motivational factors.

Table 7

Descriptive Data

Variable	*M*	*SD*	Minimum	Maximum
Achievement	4.23	0.57	2.00	5.00
Recognition	4.09	0.61	1.66	5.00
Work	4.27	0.61	2.66	5.00
Responsibility	4.15	0.54	2.66	5.00
Advancement	3.80	0.65	2.00	5.00
Transformational	3.87	0.79	1.00	5.00
Transactional	3.86	0.66	1.66	5.00
Group	4.16	0.87	1.00	5.00

Contingency	3.95	0.71	1.00	5.00
Great Man	3.75	0.75	1.33	5.00
Trait	3.81	0.97	1.00	5.00

Correlations

Hypothesis Testing

$H1_0$: There is no relationship between motivational factors and the preferred leadership styles.

$H1_A$: There is at least one relationship between motivational factors and the preferred leadership styles.

The results indicate significant relationships between the motivational factors of *achievement* and *work* and several leadership styles. Three motivational factors, *recognition, responsibility,* and *advancement* were not significantly related to any leadership styles (see Table 8). Achievement was significantly related to transformational leadership ($r = .11$; $p = .05$), although the relationship was not meaningful because less than 2% of the variance was explained. Achievement was significantly related to group leadership ($r = .18$; $p < .001$), although the relationship was not meaningful because less than 4% of the variance was explained.

Work was significantly related to transformational leadership ($r = .13$; $p = .02$), although the relationship was not meaningful because less than 2% of the variance was explained. Work was significantly related to transactional leadership ($r = .17$; $p < .001$), although the relationship was not meaningful because less than 3% of the variance was explained. Work was significantly related to group leadership ($r = .30$; $p < .001$),

although the relationship was not meaningful because only 9% of the variance was explained. Work was significantly related to contingency leadership ($r = .12$; $p = .03$), although the relationship was not meaningful because less than 3% of the variance was explained (see Table 8).

Table 8

Correlations between Leadership Styles and Motivational Factors

	Achievement		Recognition		Work		Responsibility		Advancement	
	r	*p*	*r*	*p*	*r*	*p*	*r*	*p*	*r*	*p*
Transformational	.11	.05	.02	.67	.13	.02	.01	.79	.01	.84
Transactional	.09	.10	.07	.20	.17	< .001	.05	.33	-.02	.73
Group	.18	< .001	.09	.12	.30	< .001	.00	.90	.05	.33
Contingency	.05	.32	-.06	.25	.12*	.03	.02	.72	.03	.59
Great man	.00	.90	-.03	.59	.05	.34	-.03	.60	-.00	.94
Trait	.07	.21	-.00	.94	.18	< .001	.01	.86	.06	.29

$H2_0$: Great man, group, trait, contingency, transformational and transactional leadership styles are not preferable for medical personnel within WRAMC and NNMC.

$H2_A$: Great man, group, trait, contingency, transformational, transactional leadership styles are preferable for medical personnel within WRAMC and NNMC.

To determine which leadership style was preferable, means were examined. The results indicate that group leadership had the highest mean ($M = 4.16$; $SD = .87$), and great man leadership had the lowest mean ($M = 3.75$; $SD = .75$).

Table 9

Leadership Style Mean & Standard Deviation

Variable	*M*	*SD*	Minimum	Maximum
Group	4.16	0.87	1	5
Contingency	3.95	0.71	1	5
Transformational	3.87	0.79	1	5
Transactional	3.86	0.66	1.66	5
Trait	3.81	0.97	1	5
Great Man	3.75	0.75	1.33	5

Table 10 shows an intercorrelation among motivational factors, which are found in Appendix H. Table 8 shows a correlation table of correlation coefficients for only motivational variables. Table 8 shows the intercorrelations among the five motivational variables, many of them are both significant and large, whereas the cross correlations between motivation and leadership styles were relatively small, and rarely significant.

Table 10

Correlation Coefficient of the Five Motivational Factors

	Achievement	Recognition	Work	Responsibility	Advancement
Achievement	1.00	.44**	.61**	.48**	0.41**
Recognition	.44**	1.00	.43**	.39**	.40**

Table 10 (*continued*)

Work	.61**	.43**	4.0	.45**	.37**
Responsibility	.48**	.39**	.45**	1.00	.42**

Note: * Correlation was significant at the 0.05 level (2 tailed). ** Correlation was significant at the 0.01 level (2 tailed).

A comparison of results between the current study, Finzel's and Millers study was conducted. The purpose of the comparison was to examine if the three studies showed there was a relationship between motivational factors and preferred leadership styles. The current study first research question stated in what ways are medical personnel of WRAMC and NNMC intrinsically motivated? Finzel explored the 33 questions using a cause-and-effect relationship. Miller's first research question stated in what ways are employees of the Department of Planning and Development intrinsically motivated? The comparison would strengthen this study and the fact that Herzberg et al. original study was purposeful when conducted in 1959.

Summary

The purpose of the correlational study using the Motivation and Leadership Survey was to test Herzberg's theory on motivation by assessing possible significant relationships among intrinsic motivators and preferred leadership styles for medical personnel's performance within WRAMC and the NNMC, located in the Washington, D.C. metropolitan area. A correlational analysis was performed using two statistical computations: (a) group means and standard deviations, and (b) Pearson product-moment correlations to determine if a relationship existed (Creswell, 2003).

The results of the correlational study encapsulated the data collected from 5 demographic categories, 15 motivation questions, and 18 leadership questions. A brief assessment of the research questions and hypotheses were reviewed. A discussion of the validity of the current study was presented. Participants were issued a 33-question survey using a Likert-type 5-point scale. A face-to-face meeting was used to distribute the surveys and collect responses.

The results indicate significant relationships between the motivational factors of *achievement* and *work* and several leadership styles. Three motivational factors, *recognition, responsibility,* and *advancement* were not significantly related to the leadership styles.

To determine which leadership style was preferable, means were examined. The results indicated that group leadership had the highest mean ($M = 4.16$; $SD = .87$), and great man leadership had the lowest mean ($M = 3.75$; $SD = .75$). Chapter 5 includes a discussion of the outcomes from the study, the identification and interpretation of the results, and

recommendations for future research. The final chapter includes a review of the contribution of this research to WRAMC and NNMC.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

The purpose of the current quantitative correlational study was to examine the relationship between intrinsic motivational factors and six preferred leadership styles among medical personnel at WRAMC and NNMC in the Washington, DC metropolitan area. The study involved the use of the Motivation and Leadership Survey (Finzel, 2004; Miller, 2005) to test Herzberg's theory on motivation by correlating intrinsic motivators and preferred leadership styles to determine the impact on medical personnel's performance at WRAMC and NNMC. The intent was to understand how intrinsic motivation and leadership styles of employees affect the organization in terms of retention and development of new leaders for the future. The theoretical basis of the research study was Herzberg et al.'s (1959) two-factor model.

The intrinsic motivational factors were (a) achievement, (b) recognition, (c) work, (d) responsibilities, and (e) advancement. The preferred leadership styles were the characteristic skills related to the leadership models defined by the following models: (a) great man, (b) group, (c) trait, (d) contingency, (e) transactional, and (f) transformational as defined by Kouzes and Posner (2002), Bass (1990), and Wren (1994). According to Bass, the following four factors characterize transformational leadership: (a) charisma, (b) inspiration, (c) intellectual stimulation, and (d) individualized consideration, which "provides personal attention to members who seem neglected" (p. 218).

Bass (1990) defined leadership as "consideration, initiating structure, and related factors" (p. 271). The leadership factors indicate the extent to which a leader initiated activity in the group, organized the work load, and defined the way work is to be done. The population of the current quantitative correlational study was 278 medical personal at

WRAMC and NNMC. The medical personnel staff consisted of military personnel, civil service employees of the federal government, and contractors of the federal government.

Chapter 5 includes a presentation of the outcomes from the study, the identification and interpretation of the results, and recommendations for future research. Chapter 5 begins with a brief review and summary of the research problem followed by an overview of research methods, a review of the limitations and delimitations of the study, and a comparison for potential relationships with survey results of Finzel (2004), Miller (2005), and the current research.

The study was an attempt to show the significance of correlation coefficients between motivation and leadership and determine the impact on the performance of medical personnel at WRAMC and NNMC. Chapter 5 includes a presentation of the outcomes from the study, the identification and interpretation of the results, and recommendations for future research. The chapter begins with a brief overview of the research questions, hypotheses, and study limitations, followed by conclusions from the data with a comparison between the survey results of Finzel (2004), Miller (2005), and the current research. Recommendation for further actions and future research directions complete the chapter.

Purpose of Research

Miller's (2005) research orientation was the basis for the research questions and hypotheses in the current case study. Herzberg et al. (1959) defined the intrinsic motivators selected as motivators for the study in his original study. The intrinsic motivators used in the current quantitative correlational study stemmed from Herzberg's (1974) study on motivation in the work environment. Herzberg's survey of 200

Pittsburgh engineers and accountants remains an important foundation in motivational study.

Finzel (2004) furthered the work of Herzberg when he explored the intrinsic motivational factors and preferred leadership styles of 1,500 engineers and scientists employed by the U.S. Army Research Development and Engineer's Center. Miller (2005) furthered Herzberg's and Finzel's work when he explored the intrinsic motivational factors and preferred leadership styles of 110 employees within the Department of Planning and Development of the Seminole County government located in Central Florida. In the current research study, Herzberg's theory of motivation was tested by correlating intrinsic motivators and preferred leadership styles to determine how they affected medical personnel's performance at WRAMC and NNMC. The two data collection methods used in the quantitative correlational research study were face-to-face and survey methods (Creswell, 2003).

The following two research questions guided the study: (a) In what ways are medical personnel of WRAMC and NNMC intrinsically motivated? and (b) Which leadership styles are preferable for medical personnel within WRAMC and NNMC?

Limitations

There were four limitations to the study. The study was limited only to medical personnel who worked at medical centers in the Washington, DC metropolitan area. The geographic locations of the study were limited to the Washington, DC metropolitan area and the WRAMC and NNMC military medical centers. The WRAMC and NNMC are Army and Navy medical centers that provide the finest medical care to the community.

The survey was accessible only to medical personnel who worked at WRAMC and NNMC, excluding professionals, medical logistics, and all other nonmedical personnel. The survey was limited by the potential response bias caused by the respondents' awareness. There was a possibility that the Hawthorne effect might occur. The Hawthorne effect describes how people singled out for a study improve their performance simply because of the added attention they received rather than from any specific factor being tested (Creswell & Plano-Clark, 2007; Wren, 1994). The volunteer participants represented the population of WRAMC and NNMC medical personnel. The study was limited to the time available to conduct the study and the honesty of the participants' responses to the survey questions.

General Results

The summary of the statistics outlining the preferences for the 278 survey participants from WRAMC and NNMC indicated the mean for the six preferred leadership styles as the variable *work* had the highest mean ($M = 4.27$; $SD = 0.61$) and *great man* had the lowest mean ($M = 3.75$; $SD = 0.75$). The average minimum scores for work, achievement, advancement and responsibility were greater than 1.00.

The results further indicated significant relationships between the motivational factors of *achievement* and *work* and several leadership styles. Three motivational factors, *recognition, responsibility,* and *advancement*, were not significantly related to any leadership styles (see Table 8). In reference to the second hypothesis, the means were examined. The results indicated group leadership had the highest mean ($M = 4.16$; $SD = .87$), and great man leadership had the lowest mean ($M = 3.75$; $SD = .75$).

Finzel (2004) demonstrated there was a relationship between motivational factors and preferred leadership styles in causal-comparative research to explore the possible cause-and-effect relationship of five intrinsic motivational factors and six preferred leadership styles among 1,500 team leaders and engineers in a U.S. Army government research and development center. Finzel's research design included 33 research questions to explore the relationship between the two variables. In the current motivation and leadership study, each motivational factor was tested against each leadership style. The results determined a possible cause-and-effect relationship between the predictor variable, intrinsic motivational factors, and the criterion variable, preferred leadership style.

Conclusions

The theoretical basis of the research study was Herzberg et al.'s (1959) two-factor model. The results indicate significant relationships between the motivational factors of *achievement* and *work* and several leadership styles. Three motivational factors, *recognition, responsibility,* and *advancement* were not significantly related to any leadership styles (see Table 8). Achievement was significantly related to transformational leadership ($r = .11$; $p = .05$), although the relationship was not meaningful because less than 2% of the variance was explained. Achievement was significantly related to group leadership ($r = .18$; $p < .001$), although the relationship was not meaningful because less than 4% of the variance was explained.

Work was significantly related to transformational leadership ($r = .13$; $p = .02$), although the relationship was not meaningful because less than 2% of the variance was explained. Work was significantly related to transactional leadership ($r = .17$; $p < .001$),

although the relationship was not meaningful because less than 3% of the variance was explained. Work was significantly related to group leadership ($r = .30$; $p < .001$), although the relationship was not meaningful because only 9% of the variance was explained. Work was significantly related to contingency leadership ($r = .12$; $p = .03$), although the relationship was not meaningful because less than 3% of the variance was explained (see Table 8).

The correlation coefficient of the five motivational factors (see Table 8) indicated group leadership had the highest mean ($M = 4.16$; $SD = .87$), and great man leadership had the lowest mean ($M = 3.75$; $SD = .75$).

The highest significant relationship was achievement and work. When conversing with the medical personnel, it was noted that medical personnel at both WRAMC and NNMC, commented on achievement of superior patient care, superior customer service, and achievement of reaching the goal as a medical team. The medical personnel at both facilities took pride in their work as a medical team.

The lowest significant relationship was advancement and work. The medical personnel at both WRAMC and NNMC commented advancement in the medical field was not a goal sought. The medical profession is practiced because individuals love to practice their profession. When conversing with this population, few medical personnel would have liked to advance out of the profession in which they practice in daily. The medical personnel stated they had trained for years specifically for the jobs they occupied.

In the current study of intrinsic motivators, work had the highest mean score of 4.27 and advancement had the lowest mean score of 3.80. In the current study of

leadership, group had the highest mean score of 4.16 and great man had the lowest mean score of 3.75. The results of the current study were *compared* to the results of Finzel's and Miller's. The results indicated the means of Finzel's study work had the highest mean of 4.4 and advancement had the lowest mean of 4.04.

In reference to the comparison of the current study, Finzel's and Miller's study, work was the overall intrinsic motivator within the Department of Planning and Development. The mean for work was 4.35, which was the highest mean. The lowest mean was advance which was 4.19 The results indicate that means of Finzel and Millers study were significantly higher than the current study, $p < .001$.

Gunn and Gullickson (2005) defined work as a set of assigned tasks, in which workers may or may not enjoy their assigned task; which impact how much the workers accomplish in the organization. Bass (1990) defined leadership as "consideration, initiating structure, and related factors" (p. 271). Leadership factors show the extent to which a leader initiates activity in the group, organizes the work load, and defines the way work is to be done. The sample in the current quantitative correlational study was a total of 278 medical personal from WRAMC and NNMC. The medical personnel staff consisted of military personnel, civil service employees of the federal government, and contractors of the federal government.

In his analysis of the research data, Finzel (2004) found work had the highest mean (4.4). Miller (2005) found work had the highest mean (4.3). A comparison and analysis with the results in the current study provided the highest mean of 4.3 for the three mean studies on motivation. In Appendix G, a summary of motivation means shows advancement had the lowest mean of 3.8.

In his analysis of the research data, Finzel (2004) found advancement had the lowest mean (4.0). Miller (2005) found advancement had the lowest mean (4.1). A comparison with the results in the current study provided the lowest mean of 3.9 for the three mean studies on motivation. The standard deviation provided a statistical picture of spread and variance of the observations. The five intrinsic motivators were tested against the six leadership styles to determine whether there were correlation and significance at the 0.01 or 0.05 levels.

It was noted in the study that medical personnel at WRAMC and NNMC took pride in their work and achievement; the goals were set by the Joint Commission, and were about providing superior patient care. The medical personnel expressed a stronger interest in having the responsibility of providing superior patient care at work than receiving recognition for accomplishments. The results of the survey were consistent with these observations. When six matrixes were constructed from the correlation and the significance of the five intrinsic motivators versus the six leadership styles, the results showed achievement and work had the highest scores.

Finzel (2004) identified a relationship between motivational factors and preferred leadership styles in causal-comparative research to explore the possible cause-and-effect relationship of five intrinsic motivational factors and six preferred leadership styles among 1,500 team leaders and engineers in a U.S. Army government research and development center. Finzel's research design included 33 research questions to explore the relationship between the two variables. In the motivation and leadership study, each motivational factor was tested against each leadership style. The results determined a

possible cause-and-effect relationship between the predictor variable, intrinsic motivational factors, and the criterion variable, preferred leadership style.

The Null Hypothesis

In Finzel's (2004) study H0 indicated there was a relationship between intrinsic motivation and preferred leadership styles. The causal-comparative method explored the relationships between these variables to test the hypothesis. This study explored the null hypothesis. The null hypothesis stated there was a relationship between intrinsic motivation and preferred leadership styles. The data analysis accepted the null hypothesis. The independent variables are the intrinsic motivators: (a) achievement, (b) recognition, (c) work itself, (d) responsibilities, and (e) advancement (Herzberg, 1959). The preferred leadership styles are the dependent variables: (a) Great Man, (b)Group, (c) Trait, (d) Contingency, (e) Transactional, and (f) Transformational Leadership as defined by Bass (1991), Kouzes & Posner (2002), Rost (1993), and Wren (1995).

The results of Finzel's study indicated in the null hypothesis there was a relationship between intrinsic motivation and preferred leadership styles. The null hypothesis was not rejected; indicating engineers motivated by the work itself preferred their leaders to practice the trait style of leadership. There was a significant relationship between work as a motivator and trait leadership as a preferred leadership style. The data analysis determined work itself was the highest rated motivator with a mean of 4.400 and a standard deviation of 0.669. Achievement was the second highest rated motivator with a mean of 4.284 and a standard deviation of 0.660.

The data analysis determined the rank order of the six leadership preferences. The highest leadership preferences were trait leadership with a mean of 4.519 and a standard

deviation of 0.625. Group leadership was the second highest rated leadership style with a mean of 3.953 and a standard deviation of 0.689.

Miller's (2005) study showed there was a weak to no correlational relationship. Miller used the following variables in his study, the independent variables consisted of intrinsic motivators of achievement, advancement, recognition, responsibility, and work. The dependent variables were the autocratic, contingency, trait, transactional, and transformational leadership styles. Miller's hypothesis consisted of the null and alternate hypotheses, H_0: There is no relationship between motivational factors and the preferred leadership styles.H_1: There is a relationship between motivational factors and the preferred leadership styles. This study showed the analysis of the data failed to reject the null hypothesis, indicating there was no correlation between the independent and dependent variables.

The review of literature supported there was limited knowledge of how these two variables influenced organizations, especially public-service organizations like government entities and their support agencies, despite the growing importance of local governments. An analysis of independent and dependent variables was conducted to determine if a relationship exists. Overall, there exists weak to no correlational relationship. Based on these results, the research null hypothesis was accepted.

The purpose of Miller's mixed-method case study was to explore the phenomenon of intrinsic motivators and preferred leadership styles in a population representing the Department of Planning and Development within Seminole County government located in Central Florida. Miller studied 110 employees at the Department

of Planning and Development. The 33-question survey designed by Finzel (2004) was used. Miller's three research questions were developed for a mixed-method case study.

In Finzel's (2004) study, the null hypothesis was accepted for 28 of the research questions, indicating significant relationship existed between motivational factors and preferred leadership styles. Miller (2005) showed there was a weak to no correlational relationship when conducting his research analysis on motivation and leadership styles. Based on Miller's results, the null hypothesis was accepted. Although the survey participants might not have preferred their formal leader, they were motivated by the work in which they were involved.

In the current research conducted at WRAMC and NNMC on the intrinsic motivational factors and the preferred leadership styles of 278 medical personnel, there was at least one relationship between motivational factors and the preferred leadership styles. Work and achievement had significant correlation coefficients with the five motivational factors. The medical personnel preferred the transformational leadership style, and great man was least preferred within WRAMC and NNMC. Achievement and work both were motivational factors that affect work performance within WRAMC and NNMC. It was concluded that the null hypothesis was rejected in both Finzel's (2004) and the recent study. Miller's (2005) study showed weak to no correlational relationship.

Recommendations for Further Actions

The focus of the current quantitative correlational study using the Motivation and Leadership Survey (Finzel, 2004; Miller, 2005) was to test Herzberg's theory of motivation by correlating and determining the significance of the five intrinsic motivators and the six preferred leadership styles. The correlation and significance of the five

intrinsic motivators versus the six leadership styles showed the intrinsic motivators, work and achievement; and the leadership style transformational leadership style were of interest for the population of the medical personnel at WRAMC and NNMC. The medical personnel were energetic about providing superior patient care and customer service in their occupations. The correlation related to the findings from the researcher's observations, interviews, and data analysis.

Karriker (2005) defined group leadership as the behaviors of a group of individuals forming an intact social entity and working together toward a common goal. Group leadership styles are useful to manage relationships and exchanges across organizational boundaries. Group leaders exercise control and power, aimed at either maintaining the interpersonal relationships in the group to achieve its task. Groups can have two leaders, one for the social dimension and one for the task dimension.

In group leadership, leadership recycles through the group development and leadership emergence process in which different leaders emerge at various times, based on situations, tasks, and group composition (Karriker, 2005). In an autonomous team, not only might single leaders emerge at various points in time based upon situational or task concerns but also more than one leader can emerge at any time. One leader might be task-oriented whereas another might focus on interpersonal matters, and the two share leadership functions (Karriker, 2005).

In an autonomous team, not only do leaders emerge at various points in time based upon the situation or task, but more than one leader can emerge at a time. One leader might be task-oriented whereas the other may focus on interpersonal matters but

the two share leadership functions. Medical personnel must be motivated by their leader and their work (i.e., have a passion for their occupation) (Karriker, 2005).

A leader who builds capability in self and empowers others makes employees feel valued. Employees who feel valuable contribute more to the organization. Empowerment returns the responsibility for an activity or task back to those performing the task. Empowered employees are motivated about the organization and their role (Bromley & Kirschner-Bromley, 2007).

Leaders at WRAMC and NNMC need to attend leadership training. Many senior leaders have been trained intensely in their occupation but have not had extensive training for a leadership position. Leaders must (a) be energetic and charismatic, (b) be open and responsive, (c) use creative thinking processes, (d) interact with employees honestly, and (e) initiate and improve verbal and written communication skills (Bromley & Kirschner-Bromley, 2007).

The current quantitative correlational research study involved using the Motivation and Leadership Survey (Finzel, 2004; Miller, 2005) to test Herzberg's theory of motivation by correlating intrinsic motivators and preferred leadership styles to determine the initial step in performing an analysis of quantitative correlational data was to compute descriptive statistics of each correlation group in the study (Creswell, 2002). Two statistical computations were required to test the quantitative correlational study: (a) group mean and standard deviation, and (b) Pearson product-moment correlation.

This study attempted to measure the association among variables and determine the correlation and significance. The study attempted to show the correlation and the significance between leadership correlation coefficients and how they affect medical

personnel at WRAMC and NNMC, located in the Washington, D.C. metropolitan area. Superior customer service and esprit de corps were two underlying motivators. The results of the research showed achievement and work were intrinsic motivators in the outcome of the six matrices constructed from the correlation and the significance of the five intrinsic motivators versus the six leadership styles.

The study included an exploration into the two null hypotheses and the two alternative hypotheses. The two null hypotheses were rejected. The research tools used for the study consisted of mean and standard deviations, and Pearson product-moment. The research for the quantitative correlational study provided a richer understanding of intrinsic motivation and leadership factors among medical personnel at WRAMC and NNMC.

The findings in this current study indicated that medical personnel within WRAMC and NNMC were motivated by their jobs, and desired autonomy and synergy with leadership. The significance levels noted in the study (see Appendix H) showed that achievement and work were motivators on the jobs pertaining to medical personnel at WRAMC and NNMC. The significance level was a probability level that reflected the maximum risk taken to observe differences due to chance. Significance levels are set at 0.01 or 0.05 (Creswell, 2002).

Based on these findings, there is a relationship between motivational factors and the preferred leadership styles. It was recommended that the leadership at WRAMC and NNMC improve their basic and primary leadership programs. Cross-training and continual learning modules prevent employee boredom. When the organization integrates leadership development modules and cross-training programs as part of the leaders' and

medical personnel's workday, there will be a positive return. The positive return from integrating leadership development modules and cross-training programs will be immediately seen at the worksite.

The quantitative correlational study involved an exploration into how the Motivation and Leadership Survey (Finzel, 2004; Miller, 2005) tested Herzberg's theory on motivation by correlating intrinsic motivators and preferred leadership styles to determine how they might affect medical personnel's performance within WRAMC and NNMC (see Appendix I). Chapter 4 included a report on the processes by which the survey was administered, which included the survey design and the survey results. Each motivational factor was tested to determine if it correlated with the intrinsic motivators and preferred leadership styles.

The analysis of the data led to the rejection of the null hypotheses, and indicated a correlation existed between the independent and the dependent variables. The review of literature indicated limited knowledge exists of how the independent variables (intrinsic motivators), which included achievement, advancement, recognition, responsibility, and work, and the dependent variables (leadership styles), which included great man, group, trait, contingency, transactional, and transformational leadership styles, influenced organizations. It was recommended that WRAMC and NNMC accept the findings, which will be instrumental in leadership acceleration and employee motivation.

Implications of the Research

The purpose of the correlational study using the Motivation and Leadership Survey was to test Herzberg's theory on motivation by assessing possible significant relationships among intrinsic motivators and preferred leadership styles for medical

personnel's performance within WRAMC and the NNMC, located in the Washington, D.C. metropolitan area. Data were obtained from 278 completed surveys, research observations, and the WRAMC and NNMC human resources office. Questions 1-15 addressed motivational issues and Questions 16-33 addressed leadership issues.

The basis of the study was Herzberg et al.'s (1993) two-factor theory of motivation, which indicated workers are motivated by intrinsic and extrinsic motivators within the workplace. Herzberg et al. described the intrinsic and extrinsic motivators as (a) achievement, (b) recognition, (c) work itself, (d) responsibilities, and (e) advancement. Herzberg et al. found intrinsic motivators produced motivation among the employees in the workplace for long periods of time.

The findings in this current study indicated that medical personnel within WRAMC and NNMC were motivated by achievement and work, and desired autonomy and synergy with a transformational leadership style. The significance levels noted in the study (see Appendix H) showed that achievement and work were motivators on their jobs. The significance level was a probability level that reflected the maximum risk taken to observe differences due to chance. Significance levels were set at 0.01 or 0.05 and showed an extremely low probability value that the null hypothesis was true (Creswell, 2002).

It is recommended that performance reviews and management feedback from leaders should reference the customer, the value of the service, and the product. Discussions about results should include conversations about the means by which the ends are obtained. In performance discussions, sales and profit must be balanced with

references to quality work, happy customers, innovations, creativity, ingenuity, resourcefulness, responsiveness, teamwork, and volunteerism (Pounds, 2006).

Leadership tactics are used to create a better working environment, which include the following: (a) leaders must engage themselves with employees through dialogues about work and concerning the employees' performance, (b) managers must understand poor communication with personnel causes disassociation between leaders and workers, (c) leaders should allow employees to participate in finding solutions to work-related problems, and (d) leaders should share their future intentions and rationale with a selected task group which includes frontline employees (Pounds, 2006).

Workers may be motivated by other intrinsic motivators and not by work. While work ranked the highest, the statistical differences were only .35 between all intrinsic motivators, making it possible that employees are attracted by multiple motivators. Based on these findings, it was recommended that organizational leaders consider cross-training medical personnel. Cross-training allows medical personnel to obtain a new perspective about their occupation.

Cross-training enables an employee to seek other positions in the same field and to gain a broader education in the field. It was a motivational factor which was used by leaders and opened up avenues for higher levels of employee commitment. With lower medical personnel turnover at WRAMC and NNMC, the medical organization would not face the loss of valuable medical skills in hard-to-fill positions (Gray, 2006). Gray defined motivation as "those psychological processes that cause the arousal, direction and persistence of behavior" (p. 1).

Significance of the Study for Leadership

Leaders at WRAMC and NNMC were experiencing the seemingly unsolvable and complicated problem of how to motivate employees to contribute to job satisfaction. Leaders must use built-in leadership factors at the worksite to motivate their employees. Higher productivity and an increase in profit may result from research (Struder, 2004). Proper leadership and esprit de corps are beneficial in increasing retention rates (Dodendorf et al., 2004). The most important of the health system inputs are the performance and the benefits the system can deliver, which depend upon the knowledge, skills, and motivation of the medical personnel responsible for delivering health services (Kabene et al., 2006).

Motivation of employees had been a long-standing problem and one that consistently requires attention. The development of effective leaders was a continuing problem that, if not addressed, can have considerable consequences depending on the industry within which an organization operates (Miner, 2005). If intrinsic motivation was not addressed, dissatisfaction among medical personnel can grow and organizational performance will be negatively impacted.

Medical organizations that do not invest in the development of their leaders prevent the growth and achievement of organizational goals (Miner, 2005). The most important factor involving the health system was motivation and performance. To provide excellent medical service, a medical organization must have motivated employees (Kabene et al., 2006).

Understanding the factors that motivate employees was critical to medical organizations. Leaders should recognize the needs of employees (medical personnel).

Further, leaders should make it the organization's responsibility to accommodate the needs of employees. The medical field is a stress-related and high-demand field (Kabene et al., 2006). One responsibility of leaders should be to ensure adequate time off and vacations.

Organizations must recognize the importance of proper training and development of leaders. Poor leaders can cause destruction among hundreds of followers, and poor leadership reflects sorely upon an organization (Bromley & Kirschner-Bromley, 2007). Continual development of a medical organization's leaders improves employee productivity. Leaders should be well developed in communication, use integrity, encourage openness, and have objective leadership views and people skills to complement their style of leadership. Leaders trained to obtain those types of leadership traits will reflect well upon their organization (Bromley & Kirschner-Bromley, 2007).

Future Research Directions

In the field of medicine, continuous research had to take place to address the concerns of job motivation (Cummings, 2006). Research was needed to address the implications previously researched about, for instance, the sample size of this quantitative correlational study. A recommendation for a similar study about motivation was suggested, using a larger sample of medical personnel from Armed Forces Medical Centers throughout the United States.

The recommended larger sample should consist of equal numbers of medical personnel in nursing, radiology, laboratory, pharmacy, allergy/immunology/asthma/ immunization, managed care, Department of Medicine, psychiatry, and psychology (WRAMC Civilian Personnel Advisory Center, 2007). Neuman (2003) commented, "To

define the population, a researcher specifies the unit being sampled, the geographical location, and the temporal boundaries of populations" (p. 216). For a population of 500 medical personnel, a researcher was required to draw a sample of 100 medical personnel from it, which was a 20% ratio (Neuman, 2003).

Consideration should be given in a future study to analyzing the impact of medical care on surrounding communities served by the medical personnel throughout the United States. A recommendation of additional studies should include the National Institutes of Health which collaborates with the NNMC and other medical centers throughout the United States (NNMC, 2007). A complete quantitative correlational study of this phenomenon would assist in the determination of how the participants' feelings about leadership impacts work performance as well as how medical personnel feel about what type of leadership style was used by leaders in large medical centers.

Summary

The current quantitative correlational study involved an exploration into whether a correlational relationship existed between intrinsic motivation and preferred leadership styles of medical personnel at WRAMC and NNMC. The focus of the current quantitative correlational study using the Motivation and Leadership Survey (Finzel, 2004; Miller, 2005) was to test Herzberg's theory of motivation by correlating and determining the significance of the five intrinsic motivators and the six preferred leadership styles. The study attempted to show the correlation and the significance between leadership correlation coefficients and how they affect medical personnel at WRAMC and NNMC.

The results of the study indicated that medical personnel at both medical centers were intrinsically motivated by work and achievement and providing superior patient care. The medical personnel requested autonomy in their worksite and synergy with leadership. Medical personnel did not achieve accomplishments on their job for recognition, but took on additional responsibilities to provide superior patient care and customer service (Bromley & Kirschner-Bromley, 2007). The results of the study showed medical personnel preferred the transformational leadership style. The medical personnel focused on leadership's verbal comments and interactions with the staff.

The study explored a null hypothesis that stated there was no relationship between motivational factors and the preferred leadership styles. The alternative hypothesis showed there was at least one relationship between motivational factors and the preferred leadership styles, work and achievement had significant correlation coefficients with the five motivational factors. A relationship existed between intrinsic motivation and preferred leadership styles, although the null hypothesis stated that no relationship existed between these variables. The data analysis led to the acceptance of the alternative hypothesis. The findings were researched using data collected through a 33-question survey instrument.

The research study provided a better understanding of motivation and leadership styles. The study's data provided a better understanding of motivation and its importance at WRAMC and NNMC. The research assisted in sharpening leadership skills and identifying the needs of medical personnel. And finally, the research data contributed to the body of research on motivation in the workplace and will contribute more as its findings are applied in the workplace.

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APPENDIX A: MOTIVATION AND LEADERSHIP SURVEY

Motivation and Leadership Survey 2003

Your participation in this survey is important to understanding the various aspects of Organization management and leader development.

This is not a test. There are no right or wrong answers. Please read each question carefully and respond thoughtfully and honestly. Your opinion is very important and your input is extremely useful.

INSTRUCTIONS

1. Your participation in this study is entirely voluntary and your participation or non-participation will not be reported in any fashion.
2. Read each question and all of the possible answers carefully before selecting your response. Complete all the questions to the best of your ability and based on your experience.
3. The survey is anonymous. We are not asking for your name or social security number. Only persons involved in collecting or preparing the information for analysis will have access to completed survey questionnaires. Only group statistics will be reported.
3. Your participation is needed. This survey is a major part of a project to evaluate the development of leaders. It reflects opinions of employees and their supervisors. The results will be used to make informed decisions for improving Organization training and leader development. Your participation in the survey is voluntary, however, we strongly encourage you to take part.
4. Return the survey. After you have completed the survey, close and it will automatically be counted.

DEMOGRAPHIC INFORMATION FOR ALL RESPONDENTS TO COMPLETE

Gender

- ☐ Male
- ☐ Female

Age

- ☐ 18-20
- ☐ 21-30
- ☐ 31-40
- ☐ 41-50
- ☐ 51-60
- ☐ 61-70
- ☐ 70+

Highest Level of Education Completed

- ☐ 11th Grade or Lower
- ☐ Associate Degree
- ☐ Bachelor's Degree
- ☐ Master's Degree
- ☐ Doctoral/Post-Doctoral Degree

Race/Ethnicity

- ☐ African-American
- ☐ Asian
- ☐ Caucasian
- ☐ Hispanic
- ☐ Native American or Eskimo
- ☐ Pacific Islander
- ☐ Other_____

Length of Service in Military, Civilian or Contracting Sector

- ☐ 0-12 Months
- ☐ 1-3 Years
- ☐ 4--6 Years
- ☐ 7-10 Years
- ☐ 11-15 Years
- ☐ 16-20 Years
- ☐ 21-25 Years
- ☐ 26-35+ Years

Current Position

- ☐ Supervisor
- ☐ Coordinator
- ☐ Manager
- ☐ Assistant Coordinator
- ☐ Assistant Manager
- ☐ Technician

SURVEY INFORMATION FOR ALL RESPONDENTS TO COMPLETE.

Instructions: Fill in the box to indicate your response to each item.

I believe that the following factor is important to me in the performance of my job.

Section 1: Motivation

Motivating Factor **The following factor is important to you in the performance of your job:**	strongly disagree	disagree	Neutral	Agree	Strongly agree
1. Having the potential for achievement	☐	☐	☐	☐	☐
2. Having the potential for recognition for doing a good job	☐	☐	☐	☐	☐
3. Doing work that I enjoy	☐	☐	☐	☐	☐
4. Having a responsible position	☐	☐	☐	☐	☐
5. Having the potential for advancement in career	☐	☐	☐	☐	☐
6. Doing creative or challenging work	☐	☐	☐	☐	☐
7. Successfully completing a job or task	☐	☐	☐	☐	☐
8. Being responsible for my own efforts or other's efforts	☐	☐	☐	☐	☐
9. Having the potential for advancement in the organization	☐	☐	☐	☐	☐
10. Being recognized by peers or management for good work	☐	☐	☐	☐	☐
11. Having the opportunity for promotion	☐	☐	☐	☐	☐
12. Working on an important assignment or task	☐	☐	☐	☐	☐
13. Being part of a reward system that recognizes outstanding work	☐	☐	☐	☐	☐
14. Having total responsibility for success of a task	☐	☐	☐	☐	☐
15. Having an assignment or task responsibility that I enjoy	☐	☐	☐	☐	☐

Section 2: Leadership Issues

If you were the Manager or Team Leader of your group, the following leadership characteristics would be important to you:	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
16. Influencing a group toward a shared vision	☐	☐	☐	☐	☐
17. Leader has a working partnership with the employee to help each other out	☐	☐	☐	☐	☐
18. Works with followers to raise the group to a higher level of morality	☐	☐	☐	☐	☐
19. Leadership behavior rather than personality characteristics	☐	☐	☐	☐	☐
20. Leader should have heroic qualities	☐	☐	☐	☐	☐
21. Leader exchanges promises of rewards and benefits to subordinates for loyalty	☐	☐	☐	☐	☐
22. Leader and follower raise each other to a higher level of morality	☐	☐	☐	☐	☐
23. Leader causes followers to transcend their own self-interests for the good of the group	☐	☐	☐	☐	☐
24. Leader has exceptional abilities	☐	☐	☐	☐	☐
25. Leader is honest	☐	☐	☐	☐	☐
26. Leader is forward-looking	☐	☐	☐	☐	☐
27. Leader is competent	☐	☐	☐	☐	☐
28. Leader's ability to influence group to common goals	☐	☐	☐	☐	☐
29. Leader's ability to persuade group to common goals	☐	☐	☐	☐	☐
30. The best leader determined by the situation	☐	☐	☐	☐	☐
31. Leader fits leadership style to fit the situation	☐	☐	☐	☐	☐
32. Leaders and followers work together to achieve their individual goals	☐	☐	☐	☐	☐
33. Leader should be a great person	☐	☐	☐	☐	☐

In the block below, add any leadership characteristic that you believe would be important to you in the case that you were a manager or Team Leader and which was not covered by the questions above.

THANK YOU FOR COMPLETING THIS SURVEY!

APPENDIX B: MOTIVATION AND LEADERSHIP SURVEY KEY

Motivation and Leadership Survey 2003 KEY

Section 1: Motivation

Question	Motivating Factor
1. Having the potential for achievement	Achievement
2. Having the potential for recognition for doing a good job	Recognition
3. Doing work that I enjoy	Work
4. Having a responsible position	Responsibility
5. Having the potential for advancement in career	Advancement
6. Doing creative or challenging work	Work
7. Successfully completing a job or task	Achievement
8. Being responsible for my own efforts or other's efforts	Responsibility
9. Having the potential for advancement in the organization	Advancement
10. Being recognized by peers or management for good work	Recognition
11. Having the opportunity for promotion	Advancement
12. Working on an important assignment or task	Achievement
13. Being part of a reward system that recognizes outstanding work	Recognition
14. Having total responsibility for success of a task	Responsibility
15. Having an assignment or task responsibility that I enjoy	Work

Section 2: Leadership Issues

Question	Leadership Style
16. Influencing a group toward a shared vision	Transformational
17. Leader has a working partnership with the employee to help each other out	Transactional
18. Works with followers to raise the group to a higher level of morality	Group
19. Leadership behavior rather than personality characteristics	Contingency
20. Leader should have heroic qualities	Great man
21. Leader exchanges promises of rewards and benefits to subordinates for loyalty	Transactional
22. Leader and follower raise each other to a higher level of morality	Transformational
23. Leader causes followers to transcend their own self-interests for the good of the group	Transformational
24. Leader has exceptional abilities	Great Man
25. Leader is honest	Trait
26. Leader is forward-looking	Trait
27. Leader is competent	Trait
28. Leader's ability to influence group to common goals	Group
29. Leader's ability to persuade group to common goals	Group
30. The best leader determined by the situation	Contingency
31. Leader fits leadership style to fit the situation	Contingency
32. Leaders and followers work together to achieve their individual goals	Transactional
33. Leader should be a great person	Great man

APPENDIX C: SIGNED INFORMED CONSENT FORM: PERMISSION TO USE PREMISES

University of Phoenix

INFORMED CONSENT: PERMISSION TO USE PREMISES, NAME, AND/OR SUBJECTS

NATIONAL NAVAL MEDICAL CENTER

I, hereby authorize Rose M. Brooks, student of the University of Phoenix, to use the premises of The National Naval Medical Center, medical personnel to conduct a study entitled Preferred Leadership Styles and Motivation Among Medical Personnel in Major Armed Forces Medical Centers Located in the Washington D.C. Metropolitan Area

Signature Date

Lily Chu, M.D
Division Head
LCDR, MC, USN

National Naval Medical Center
8901 Wisconsin Avenue
Bethesda, MD 20889-5600

University of Phoenix

INFORMED CONSENT: PERMISSION TO USE PREMISES, NAME, AND/OR SUBJECTS

WALTER REED ARMY MEDICAL CENTER

I, hereby authorize Rose M. Brooks, student of the University of Phoenix, to use the premises of Walter Reed Army Medical Center, medical personnel to conduct a study entitled Preferred Leadership Styles and Motivation Among Medical Personnel in Major Armed Forces Medical Centers Located in the Washington D.C. Metropolitan Area

Signature Date

Albert V. Porambo, M.D
LTC, MC USA
Chief, Diagnostic Radiology

Walter Reed Army Medical Center
6900 Georgia Ave, N. W.
Washington, D.C. 20307

APPENDIX D: SIGNED LETTER OF COLLABORATION AMONG INSTITUTIONS

UNIVERSITY OF PHOENIX

LETTER OF COLLABORATION AMONG INSTITUTIONS

Date:

To: Office of the Provost/Institutional Review Board
University of Phoenix

This letter acknowledges that

The National Naval Medical Center is collaborating with University of Phoenix
(Name of the agency)

Mrs. Rose Brooks enrolled in the Doctoral Management Program at the University of Phoenix in conducting the proposed research. We understand the purpose of this research is

Peferred Leadership Styles and Motivation Among Medical Personnel in Major Armed Forces Medical Centers Located in the Washington D.C. Metropolitan Area

The purpose of this quantitative correlational study using the Motivation and Leadership Survey (Finzel, 2004; Miller, 2005) will be to test Herzberg's Theory on motivation by correlating intrinsic motivators and preferred leadership styles to determine how they might affect medical personnel's performance within WRAMC and NNMC, located in the Washington D.C. metropolitan area. Independent variables (intrinsic motivators) will include achievement, advancement, recognition, responsibility, and work, while the dependent variables (leadership styles) will include autocratic, contingency, group, trait, transactional, and transformational leadership styles. Age and gender (possible intervening variables) will not be statistically controlled in this study. Study participants will be from various branches of the Armed Forces, consisting of the Army, Navy, Air Force, and Marines. The researcher will conduct face-to-face data collection sessions and may collect surveys online depending on the participants' location. Analysis of data and statistical tests will include frequencies, percentages, t-tests, and Pearson's product-moment correlation coefficient (Creswell, 2003) and will be conducted under the supervision of Dr. Lily Chu
(Faculty Name)

This project will be an integral part of our institution/agency and will be conducted as a collaborative effort and will be part of our curriculum/research/data/service delivery model.

Sincerely,

Representative
Collaborating Institution/Agency

1

UNIVERSITY OF PHOENIX

LETTER OF COLLABORATION AMONG INSTITUTIONS

Date:

To: Office of the Provost/Institutional Review Board
University of Phoenix

This letter acknowledges that

Walter Reed Army Medical Center is collaborating with University of Phoenix
(Name of the agency)

Mrs. Rose Brooks enrolled in the Doctoral Management Program at the University of Phoenix in conducting the proposed research. We understand the purpose of this research is

Peferred Leadership Styles and Motivation Among Medical Personnel in Major Armed Forces Medical Centers Located in the Washington D.C. Metropolitan Area

The purpose of this quantitative correlational study using the Motivation and Leadership Survey (Finzel, 2004; Miller, 2005) will be to test Herzberg's Theory on motivation by correlating intrinsic motivators and preferred leadership styles to determine how they might affect medical personnel's performance within WRAMC and NNMC, located in the Washington D.C. metropolitan area. Independent variables (intrinsic motivators) will include achievement, advancement, recognition, responsibility, and work, while the dependent variables (leadership styles) will include autocratic, contingency, group, trait, transactional and transformational leadership styles. Age and gender (possible intervening variables) will not be statistically controlled in this study. Study participants will be from various branches of the Armed Forces, consisting of the Army, Navy, Air Force, and Marines. The researcher will conduct face-to-face data collection sessions and may collect surveys online depending on the participants' location. Analysis of data and statistical tests will include frequencies, percentages, t-tests, and Pearson's product-moment correlation coefficient (Creswell, 2003) and will be conducted under the supervision of Dr. Albert Porambo
(Faculty Name)
This project will be an integral part of our institution/agency and will be conducted as a collaborative effort and will be part of our curriculum/research/data/service delivery model.

Sincerely,

Representative
Collaborating Institution/Agency

1

APPENDIX E: INFORMED CONSENT: PARTICIPANTS 18 YEARS OF AGE AND OLDER

Dear Participant:

I am a student at the University of Phoenix working on a Doctor of Organizational Management Degree. I am conducting a research study entitled "Motivation and Leadership Styles Among Medical Personnel Located in Washington, D.C, Metropolitan Military Medical Centers." The purpose of this quantitative correlational study using the Motivational and Leadership Survey (Finzel, 2004 and Miller, 2005) will be to test Herzberg's Theory on motivation by correlating intrinsic motivators and preferred leadership styles to determine how they might affect medical personnel's performance within National Naval Medical Center (NNMC) and Walter Reed Army Medical Center (WRAMC), located in the Washington D.C. Metropolitan Area.

Your participation will involve completing a 33-question survey, which should take 10-15 minutes to complete. Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at anytime, you can do so without penalty or loss of benefit to yourself. The results of the research study may be published but your name will not be used and your results will be maintained in confidence. All questionnaires are anonymous, names, social security numbers or addresses are not required or used if completed. The return of the questionnaire will be considered your consent to participate in this study.

Furthermore, your responses will be coded for anonymity to insure that your private information will be kept confidential. After analysis of study data (in the aggregate), the study data will be stored in a locked safe for 3 years and then burned for security purposes.

In this research, there are no foreseeable risks to you. Although there may be no direct benefit to you, the possible benefits of your participation are: There will be an increase in the quality of patient care. Possible increase in employee motivation, increase in collaboration between manager and employee, and reduction of employee turnover rates in the future. If you have questions concerning the research study, please call Rose Brooks at (Cell) 240-676-1796.

Thank you for your time and cooperation!

By signing this form I acknowledge that I understand the nature of the study, the potential risk to me as a participant, and the means by which my identity will be kept confidential. My signature on this form also indicates that I am 18 years old or older and that I give my permission to voluntarily serve as a participant in the study described.

Signature of Participant_____ Date_____

Signature of Researcher_____ Date November 24, 2007

APPENDIX F: SIGNED PERMISSION TO USE AN EXISTING SURVEY

UNIVERSITY OF PHOENIX

PERMISSION TO USE AN EXISTING SURVEY

Date 08/27/2007

Mrs. Rose Brooks
Address 1909 Rose Pl
Upper Marlboro, MD 20774

Thank you for your request for permission to use the survey Motivation and Leadership Among Engineers in a United States Army Research and Development Center survey instrument in your research study. I am willing to allow you to reproduce the instrument as outlined in your letter at no charge with the following understanding:

- You will use this survey only for your research study and will not sell or use it with any compensated management/curriculum development activities.
- You will include the copyright statement on all copies of the instrument.
- You will send your research study and one copy of reports, articles, and the like that make use of this survey data promptly to our attention.

If these are acceptable terms and conditions, please indicate so by signing one copy of this letter and returning it to me.

Best wishes with your study.

Sincerely,

x Dr Peter A Finzel

Dr Peter A Finzel
2612 Trellis Post Court
Hampton Cove, AL 35763

I understand these conditions and agree to abide by these terms and conditions.

Signed _____ **Date** 11/24/07

Expected date of completion 12/01/08

APPENDIX G: THE MEAN AND STANDARD DEVIATION OF THE FIVE INTRINSIC MOTIVATORS AND THE SIX LEADERSHIP STYLES

THE MEAN AND STANDARD DEVIATION OF THE FIVE INTRINSIC MOTIVATORS AND THE SIX LEADERSHIP STYLES

	Minimum	Maximum	Mean	Std. Deviation	Variance
Achievement-Motivation	2.00	5.00	4.23	0.57	0.33
Recognition-Motivation	1.66	5.00	4.09	0.61	0.37
Work-Motivation	2.66	5.00	4.27	0.61	0.37
Responsibility-Motivation	2.66	5.00	4.15	0.54	0.29
Advancement=Motivation	2.00	5.00	3.80	0.65	0.42
Transformational-Leadership	1.00	5.00	3.87	0.79	0.63
Transactional-Leadership	1.66	5.00	3.86	0.66	0.43
Group-Leadership	1.00	5.00	4.16	0.87	0.76
Contingency-Leadership	1.00	5.00	3.95	0.71	0.51
Great Man-Leadership	1.33	5.00	3.75	0.75	0.57
Trait-Leadership	1.00	5.00	3.81	0.97	0.94
Valid N (listwise)					

n=278 for each group

APPENDIX H: CORRELATION AND THE SIGNIFICANCE OF THE FIVE INTRINSIC MOTIVATORS VERSUS THE SIX LEADERSHIP STYLES

CORRELATION AND THE SIGNIFICANCE OF THE FIVE INTRINSIC MOTIVATORS VERSUS THE SIX LEADERSHIP STYLES

	Achievement	Recognition	Work	Responsibility	Advancement	Transformational	Transactional	Group	Contingency	Greatman	Trait
Achievement	1.00	.44**	.61**	.48**	0.41**	0.11	0.09	.18**	0.05	0.00	0.07
Significance		0.00	0.00	0.00	0.00	0.05	0.10	0.00	0.32	0.90	0.21
Recognition	.44**	1	.43**	.39**	.40**	0.02	0.07	0.09	-0.06	-0.03	-0.00
Significance	0.00		0.00	0.00	0.00	0.67	0.20	0.12	0.25	0.59	0.94
Work	.61**	.43**	1	.45**	.37**	.13*	.17**	.30**	.12*	0.05	.18**
Significance	0.00	0.00		0.00	0.00	0.02	0.00	0.00	0.03	0.34	0.00
Responsibility	.48**	.39**	.45**	1	.42**	0.01	0.05	0.00	0.02	-0.03	0.01
Significance	0.00	0.00	0.00		0.00	0.79	0.33	0.90	0.72	0.60	0.86
Advancement	.41**	.40**	.37**	.42**	1	0.01	-0.02	0.05	0.03	-0.00	0.06
Significance	0.00	0.00	0.00	0.00		0.84	0.73	0.33	0.59	0.94	0.29
Transformational	0.11	0.02	.13*	0.01	0.01	1	.36**	.54**	.49**	.42**	.49**
Significance	0.05	0.67	0.02	0.79	0.84		0.00	0.00	0.00	0.00	0.00
Transactional	0.09	0.07	.17**	0.05	-0.02	.36**	1	.54**	.40**	.35**	.46**
Significance	0.10	0.20	0.00	0.33	0.73	0.00		0.00	0.00	0.00	0.00
Group	.18**	0.09	.30**	0.00	0.05	.54**	.54**	1	.56**	.46**	.68**
Significance	0.00	0.12	0.00	0.90	0.33	0.00	0.00		0.00	0.00	0.00

Contingency	0.05	-0.06	.12*	0.02	0.03	.49**	.40**	.56**	1	.44**	.59**
Significance	0.32	0.25	0.03	0.72	0.59	0.00	0.00	0.00		0.00	0.00
Great man	0.00	-0.03	0.05	-0.03	-0.00	.42**	.35**	.46**	.44**	1	.56**
Significance	0.90	0.59	0.34	0.60	0.94	0.00	0.00	0.00	0.00		0.00
Trait	0.07	-0.00	.18**	0.01	0.06	.49**	.48**	.68**	.59**	.56**	1.00
Significance	0.21	0.94	0.00	0.86	0.29	0.00	0.00	0.00	0.00	0.00	

** Correlation is significant at the 0.01 level (2 tailed).

* Correlation is significant at the 0.05 level (2 tailed).

APPENDIX I: COMPARISON OF FINZEL'S (2004), MILLER'S (2005), AND THE CURRENT RESEARCH RESULTS ON THE HERZBERG MOTIVATIONAL FACTOR

Comparison of Finzel's (2004), Miller's (2005), and the current research results on the Herzberg's Motivational Factor

	Null hypothesis	Alternate hypothesis	Regression	ANOVA	Results
Finzel	$H_{0:}$ There is no difference in means between the two variables. There is a relationship between intrinsic motivation and preferred leadership styles	Ha: There is a difference in means between the two variables. There is no cause and effect relationship between motivational factors and the preferred leadership styles.	*t-test*	ANOVA	Null hypothesis accepted. There is a relationship between motivational factors and preferred leadership styles
Miller	$H_{0:}$ There is no relationship between motivational factors and preferred leadership styles	$Ha_{:}$ There is a relationship between motivational factors and preferred leadership styles	Spearman's *p*	Significance of correlation	Weak to no correlational relationship.

Current Research Results	H_{01}: There is no relation ship betwee n motivat ional factors and the preferre d leaders hip styles.	H_{a1}: There is a relation ship betwee n motivat ional factors and the preferre d leaders hip styles.	Regression	Regression, mean, and standard deviation	Null hypothesis rejected. There is a relationship between motivational factors and preferred leadership styles.
	H_{02}: Great man, group, trait, contingency, transformational, transactional leadership styles are not preferable for	H_{a2}: Great man, group, trait contingency, transformational, transactional leadership styles are preferable for			The null hypothesis was rejected, indicating leadership styles are

	medical personnel within WRAMC and NNMC.	medical personnel within WRAMC and NNMC.	preferred by medical personnel within WRAMC and NNMC