THE INFLUENCE OF ORGANIZATIONAL AND PERSONAL FACTORS ON U.S. ARMY NURSE CORPS OFFICERS' INTENT TO LEAVE THE ARMY

by

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Dissertation

Submitted to the Faculty of the

Graduate School of Vanderbilt University

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

in

Nursing Science

December, 2010

Nashville, Tennessee

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ACKNOWLEGEMENTS

This dissertation would not have been possible had it not been for the many individuals who supported me, cheered me on, and believed in me. I would like to thank my committee, Dr. Ann Minnick, Dr. Peter Buerhaus, Dr. Mary Dietrich, and Dr. Jack Needleman, for their endless support, guidance, and the occasional nudge when I needed it. I will never forget their undying patience and their ability to stretch me beyond what I thought was possible.

I would also like to thank the remainder of the Vanderbilt Ph.D. faculty and staff for their contribution to the experience I had at Vanderbilt University. Many of them became confidantes and friends. I would like to add a special note of thanks to Dr. Nancy Wells, Director or Nursing Research, Vanderbilt University Medical Center for facilitating the collection of the civilian nurse data used it this study. I would especially like to thank all of my 2006 classmates for their part in adding an unparalleled scholarly depth to my classroom experience and for the pleasure and honor of getting to know each of them.

I would like to thank my church family for supporting me in my faith, allowing me the opportunity grow in so many ways while undertaking this task, and for being my family during this past year while I was geographically separated from my family.

I would like to thank the Army Nurse Corps for giving me three years to work toward this goal and providing financial support for this endeavor.

Most of all I want to thank my family who have listened to the trials and tribulations of the past four years, put up with being placed second many days, and

suffered through countless hours of my being sequestered in the depths of my home office or as my husband calls it my cave. I could not have done this without the support, love, and complete selflessness of these wonderful men in my life. Stephen, Alex, and Zachary, I love you. Thanks to my stepsons Christopher and Kyle for your encouragement, I love you too. Last but not least, thanks to my faithful companion Izzy, who laid on the floor of my office while I pecked out the words of the following pages as if to guard me from anything that stood in the way of its completion.

"The views expressed in the dissertation ": The Influence of organizational and personal factors on U.S. Army Nurse Corps officers' intent to leave the Army" are those of the author and do not reflect the official policy of the Department of the Army, the Department of Defense or the U.S. Government."

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CHAPTER I

INTRODUCTION

The purpose of this paper is to present the dissertation research that compared the influence of personal and organizational factors on two groups' (US Army and civilian registered nurses-RN) intent to leave their employers. This study is the baseline study of a program of research on military nurse retention and is intended to lead to a longitudinal study comparing the two groups again in one year.

Chapter I identifies why nurse retention is important, provides background/history about the problem of nurse retention, describes the special case of US Army nursing, introduces the topic of household economic influences on nurse retention, provides the purpose of the study, defines terms that were used in the dissertation research, posits the research questions, states the contribution the study makes to nursing research, and ends with a summary and conclusions.

Statement of the Problem

The inability to retain nurses has adverse effects on the delivery of health care. It has been shown that decreased retention causes loss of and disruption in organizational performance (Cavanagh, 1989). Poor retention also produces what has been referred to as the "ripple effect" where individuals other than those who are leaving are affected (Cavanagh, 1989). Changes in communication effectiveness, group cohesiveness, performance, and even the stimulation of additional turnover, all result from turnover and

can affect healthcare costs and healthcare quality (Cavanagh, 1989). The current nursing shortage is the longest recorded nursing shortage within the past 50 years (Auerbach, Buerhaus, & Staiger, 2007). As the nursing shortage causes increasing difficulty in recruiting, it is paramount that organizations increase nurse retention rates to help prevent the ripple effect that may further decrease their nursing workforces and affect healthcare quality.

The PricewaterhouseCoopers Health Research Institute (2007) found the average RN turnover rate in hospitals was 8.4% which was largely due to death, retirement, and other sources of normal attrition such as illness and desire for promotion. The average voluntary turnover for the first two years of employment for RNs was 26.2% (Kovner & Djukic, 2009). This high first two years turnover rate presents a problem for healthcare organizations because of the high cost associated with replacing a nurse, 1.2 to 1.3 times the RNs salary (Jones, 2005). An overall nurse turnover rate of 8.4% may not be a problem if it were 8.4% across all organizations, but turnover rates approach 20% in some organizations. When the turnover rate approaches 20% it is accompanied by the high costs of replacing the nurses and the lost production and decreased quality associated with those high turnover rates. Healthcare organizations with turnover rates that approach 20% need solutions to help improve cost containment and improve quality of healthcare in those organizations.

Background/History of Interest in Nurse Retention

Pre-1960s. The first research pertaining to nurse retention was a job satisfaction survey conducted from 1938 to 1939 at the University of Minnesota (Nahm, 1940). Job

satisfaction has been linked to nurses' intent to stay or leave since this first association. Nahm (1940) discovered that although 98% of nurses had satisfactory attitudes toward nursing, 78% were satisfied with their jobs. The Health Resources and Services Administration (HRSA), findings from the March 2004 National Sample Survey of registered nurses (2006) also examined job satisfaction and of the nurses currently employed in nursing just over three-quarters of nurses (76.4 percent) reported being either extremely satisfied (26.9 percent) or moderately satisfied (49.5 percent) in their current position. The percentage of nurses reporting themselves satisfied with their jobs is similar between Nahm's 1940 study and the HRSA 2004 data. This level of job satisfaction indicates the presence of other factors at work that influence the decision to stay or leave.

Nursing turnover was not an issue during the period prior to the 1950s (Burke, 2004). The training of nurses during this early period was inexpensive because nursing students worked in the hospitals where they received their nursing educations. Nursing education consisted of low-level technical skills taught in a hospital environment that was not complex in either technology or processes making it relatively easy to substitute one nurse for another when turnover did occur. This arrangement provided the hospitals with a relatively continuous cheap source of labor (Friedman, 1990). The period prior to the 1950s included economic depression and, because career options were few for women, women who had found jobs as nurses were not likely to leave them.

During the 1950s, nursing remained almost entirely comprised of women. Education became more important for women during this period and nursing education moved out of the hospitals and into colleges and universities. Nurses assumed the cost of

paying for their own educations. Consequently, hospitals lost their access to inexpensive nurse labor. Hospitals wanted to keep nurses wages low because the wages comprised a large portion of the hospital budgets. Hospitals may have acted together, during the 1950s and into the early 1960s, to keep wages lower than what the labor market would have supported (Buerhaus, Staiger, & Auerbach, 2009). Retention of nurses became more of an issue as nurse shortages continued as a result of these depressed wages. Employers started to fill nursing jobs with lesser-trained healthcare givers to respond to these challenges rather than addressing nurse retention.

1960s and Beyond. The 1960s created a new challenge for hospitals with the enactment of Medicare and Medicaid programs in 1965, increasing the demand for RNs because of the increase in patient access to hospital care. The Medicare patients were over 65 years of age and the elderly population required care that was more complex (Buerhaus, et al., 2009). The accompanying ability to increase RN salaries brought many RNs back to the hospital or encouraged individuals to enter nursing. This increase in nurses improved the nursing shortage until 1971 (Buerhaus, et al., 2009).

Improved healthcare coverage, increasing population, and advances in technology quickly outpaced these gains (Buerhaus, et al., 2009). Moreover, conditions did not continue to improve in nurse work environments. During the 1960s, 1970s, and early 1980s our country's socio-economic and political landscapes changed drastically. Equal rights for all, including women, received federal attention. Organized protests, demonstrations, and labor actions became commonplace (Burke, 2004). Better paying job alternatives outside of the traditional "women's occupations" were open to females and many took advantage of these new opportunities (Buerhaus, et al., 2009).

Interest in nurse job satisfaction and nurse retention increased as hospitals once again attempted to lower nurse staffing costs. During the 1980s hospital administrators realized that RNs were more versatile in the patient care area than non-RNs and started reversing earlier trends of increasing non-RN to RN ratios to make up for shortages (Buerhaus, et al., 2009).

During the 1990s and beyond, job satisfaction and nurse retention research began to describe what nurses wanted in the work environment. One intervention that emerged was changing the culture of hospitals. Research determined that nurses wanted opportunity for advancement in their organizations, information and resources to do their jobs (Laschinger, Almost, & Tuer-Hodes, 2003), trust and respect (Laschinger & Finegan, 2005b), increased wages (Newschaffer & Schoenman, 1990), strong nursing leadership (Force, 2005), and a culture of patient safety (Armstrong & Laschinger, 2006).

Significance of Nurse Retention by the Level of Nurse Retention Focus

There are four ways to view nurse retention: a) retention in the nursing profession, b) nurse retention within a national framework, c) nurse retention in a specific nursing position, and d) nurse retention within an employment/organizational setting. Although all four levels of nurse retention are important this paper focuses on nurse retention within the employment/organization setting.

Nurse retention is a significant problem for organizations that are experiencing recruitment problems and high turnover of nurses who support their patient care, education, and research missions. This situation demands solutions that will encourage nurses to remain committed to organizations. High nurse turnover can negatively affect

nurse work environments, healthcare quality, nurse job satisfaction, and ultimately nurse recruitment (Cavanagh, 1989). Thus, improved nurse retention may positively influence healthcare quality, and help contain labor costs in healthcare organizations.

Two issues that concern employers relevant to nurse retention are cost and quality. Labor costs make up approximately 50% of total hospital expenses (Margaret Guerin-Calvert and Economists Incorporated, 2003) with nursing representing between 40% and 50% of the cost of hospital care (Welton, Zone-Smith, & Bandyopadhyay, 2009). Nurses make up a large portion of a hospital's total workforce (approximately 26%) and therefore; have large impact on cost and quality issues (Avalere Health analysis of American Hospital Association Annual Survey data, 2008). The retention of nurses is significant to healthcare organizations because high turnover rates translate into high costs. The replacement cost of an RN leaving the organization has been estimated at 1.2 to 1.3 times a nurse's salary (Jones, 2005). In 2005, this was estimated at between $42,000 and $64,000 (Force, 2005), and may be higher today. Turnover increases healthcare costs and leaves healthcare organizations with difficult decisions about fiscal problems centered on nursing (Jones, 2005).

Quality healthcare is defined by the Joint Commission as "the degree to which patient care services increase the probability of desired patient outcomes and reduce the probability of undesired outcomes given the current state of knowledge" (Meisenheimer, 1997, p. 703). Nurse retention influences quality through work environments where high turnover can cause staffing shortages or place overworked nurses in the work environment (Kohn, Corrigan, & Donaldson, 2000).

Up to this point, studies focused on civilian nurses and civilian organizations have been examined; however, another employer may have greater workforce retention challenges than the civilian employer. The US Army faces far more constraints when recruiting nurses and retention has been an episodic issue.

The Special Case of US Army Nursing

The literature concerning nurse retention in the civilian population is abundant but the literature on the problem of nurse retention in the US Army is not as extensive. The purpose of this section is to describe the special case of US Army nursing and the differences between the US Army and civilian workforces. This is accomplished by providing a short history of US Army nursing, a paragraph describing the major different categories of US Army nurses, and selecting one major group of US Army nurses (active duty) for further description. There is a brief description of the US Army nurses' or the Army Nurse Corps (ANC) active duty officers' entry requirements, recruitment obligations, and requirements for a military career and a historical overview of events that highlight differences between civilian nurse and ANC officer (Army nurse) retention.

This section is limited specifically to information about the active duty Army Nurse Corps (ANC). There are military nurses in the Navy and Air Force but they are not discussed in this paper. The information in this section is to provide minimal understanding of the history, structure, obligations, requirements, and events that define the ANC and provide better understanding of the differences between ANC officers (Army nurses) and civilian nurses.

Army Nurse Corps History. The US military medical system and US military hospital was originally based on the 1690 military medical model used by the British. The mobile hospital (field hospital) was developed to augment the services of the more permanent, regimental hospitals and support the military forces in combat (Sarnecky, 1999).

General George Washington appealed to the Second Continental Congress on July 21, 1775 and was granted legal authorization to establish a military hospital that included a matron and nurses. The request included a ratio of one nurse for every ten sick and one matron for every hundred sick. The Army advertised for and paid women to fill these roles, however; the women were contract employees and not members of the military (Sarnecky, 1999).

On February 3, 1899, a group of leaders of organized nursing and a group of prominent laywomen testified before the Committee of Military Affairs of the House of Representatives for establishment of a Nursing Service Commission. This was the first time America's trained nurses approached Congress in support of legislation that would affect their profession. Unfortunately, they were not taken seriously and were dismissed. It was Anita Newcomb McGee who later rewrote the proposal based again on the British medical model, and with only one change (the superintendent of the corps had to be a trained graduate nurse) the Army Nurse Corps (ANC) was formed on February 2, 1901 (Sarnecky, 1999).

The formation of the ANC established the nurses as members of the Army but they were not granted military rank. Military rank was important for the nurses because without it corpsmen (military nursing assistants) challenged the nurses' authority in

nursing care decisions (Sarnecky, 1999). In 1920, President Woodrow Wilson signed into law the bill that gave members of the ANC relative rank. Relative rank meant that unlike their commissioned counterparts (physicians and other military officers) the nurses were denied the right of command, equal pay, cash for travel (they traveled on the same transportation vouchers as the enlisted soldiers), and could not serve as members of a military court. Relative rank also meant they did not receive a pension (Sarnecky, 1999). Nurses obtained permanent commissioned officer status on April 7, 1947. At that time they were integrated into the Regular Army affording them pay and pensions equal to other Army officers.

Major Categories of Army Nurse Corps Officers. There are three major categories of commissioned ANC officers: Regular Army (RA), Reserve Component (USAR), and National Guard (USANG). The Regular Army ANCs are obligated to full-time service as ANC officers (U.S. House of Representatives, 2007b), while the Reserve Component and National Guard ANC officers hold commissions but do not work full-time for the military. The Reserve Component and National Guard perform part-time duties and are obligated to perform full-time duties if called to active duty by the president or in the case of the USANG, the governor of their respective states (U.S. House of Representatives, 2007a). This call to active duty is a mobilization. Once mobilized the USAR officers and the USANG officers may operate much as a RA officer, however; the length of time they can be mobilized is limited to 270 days (U.S. House of Representatives, 2009).

The ANC faces more challenges than typical organizations when recruiting and retaining nurses. According to Army Regulation (U.S. Army Recruiting Command,

2007), to become and remain an active duty ANC officer an individual must: be a US citizen, be a graduate of an accredited nursing program with at least a Bachelor's of Science in Nursing (BSN), be licensed as a registered nurse in the US, and meet age, physical, and height/weight qualifications. These restrictions significantly reduce the number of eligible candidates who can become active duty ANC officers. Because of initial military training, approximately four months, it costs significantly more to replace a nurse who leaves the Army versus one who leaves a civilian organization making retention even more economically desirable for the Army.

The active duty ANC has an overall turnover rate of 10.2%, according to the Office of the Chief, Army Nurse Corps (personal communication, November 9, 2010). This rate is nearly 2% points greater than the civilian turnover rate, but the turnover rate among ANC officers completing their initial obligations is up to 20% (personal communication, November 9, 2010) creating a problem for nurse leader development for the future.

Recruitment obligations. Each nurse that enters active duty in the ANC is obligated to at least three years of active duty and five years of reserve duty, a total of eight years (U.S. House of Representatives, 2007b). Active duty ANC officers are all Regular Army officers and once appointed by Congress remain on active duty until they file the proper paperwork to either move to the USAR or USANG, resign their commissions, or retire. They could also leave active duty under unfavorable conditions, with a loss of commission (U.S. House of Representatives, 2007c).

Requirements for a military career. A full military career requires at least 20 years of active duty service for an RA officer and at least 20 years of reserve service for

the USAR or USANG officer. The USAR or USANG officer can also have a mix of active duty and reserve service at retirement. The USAR and USANG officer receives extra retirement pay for active duty service based on the length of that service. The RA, USAR, or USANG officer can all accumulate more than 20 years of service as long as they retire prior to 62 years of age, the mandatory retirement age (U.S. House of Representatives, 2007c). No retirement benefits are received if the individual does not complete 20 years, except in cases of medical disability or special offers for early retirement (usually 15 years – at a reduced rate) when the military is downsizing (Military.com, 2009).

Historical Events Influencing Military Career Choice. Several historical events may decrease confidence in choosing military nursing as a career. The most obvious of these is the possibility of serving during a war or armed conflict. Examples of these since the formation of the ANC include but are not limited to the Spanish-American War (1898-1902), World War I (1917-1918), World War II (1941-1945), Korean War (1950-1953), Vietnam War (1955-1973), Persian Gulf War (1990-1991), Operation Restore Hope, Somalia (1992-1993), War in Afghanistan (2001- Present), and the Iraq War (2003-Present) (Public Broadcasting Service, 2009; Sarnecky, 1999).

During each of these wars and conflicts, the need for ANC officers increased. During World War I, 21,480 nurses served in the ANC and by 1920, the ANC numbered only 1,551 (Sarnecky, 1999). During World War II, over 56,000 nurses served in the ANC. Between May 1945 and June 1947, 53,296 nurses were separated from the service (Sarnecky, 1999). In 1969, during Vietnam there were 4,817 ANC officers, which was

233 short of the number the Army needed (Sarnecky, 1999). The inevitable downsizing after a conflict may influence nurses' decisions about a career in the ANC.

Differences between Military and Civilian Nurses. Although the care provided by both military and civilian nurses is similar, the demographic differences between the two groups are striking. The civilian nursing workforce as of 2004 was 93.8% female, and 81.2% white (non-Hispanic) (Health Resources and Services Administration, 2006). The ANC in 2004 was 64% female, 36% male, and 67.5% white (non-Hispanic) (Gahol, 2005). The ANC is more diverse in both gender and race/ethnicity. The average age of all employed civilian RNs in 2004 was 45.4 years (Health Resources and Services Administration, 2006) and the average age of all ANC officers in 2004 was 37 years of age (Gahol, 2005). The education level for the civilian RNs in 2004 was Diploma 17.5%, Associate Degree 33.7%, BSN 31.7%, MS Degree 12%, and Doctorate 0.9% (Health Resources and Services Administration, 2006) and the education level for ANC officers was BSN 63%, MS Degree 35.5%, and Doctorate 0.8%. They are similar however in marital status with 65% of civilian nurses being married (Health Resources and Services Administration, 2006) and 66% of ANCs being married (Gahol, 2005). These differences suggest that retention incentives/disincentives may be different but no data exist to confirm this hypothesis.

Recruitment and Retention Problems for ANC officers. The ANC today requires 3,415 active duty nurses. This requirement is unlikely to decrease based on the current government policy of reducing military forces in Iraq and the shifting increased military focus on Afghanistan. The Army had not met its recruitment goal for nursing in the five years between 2000 and 2004 (Gahol, 2005) therefore, retention of the nurses who do

join the Army is critical. Gahol (2005) studied turnover of ANC officers with a sample of 161 of the 491 nurses who left active duty between 2002 and 2004. This study used an 80-question survey, which revealed that 70% of the individuals leaving were mid-career captains (individuals with 4 to 10 years of service). This is a critical group for focus of retention efforts because the future leaders for the ANC come from this group. The highest rank an ANC officer can be recruited to without prior military service is captain. To enter active duty at the rank of captain requires a combination of three years of full-time civilian nursing experience and a master of science in nursing (MSN) (U.S. House of Representatives, 2007b). There is presently a shortage of mid-level ANC officers, a reflection of the retention problem since this cohort is the most prominent rank where the initial active duty service obligation is first completed (Gahol, 2005). This shortage decreases the number of individuals at the mid-career level where they are most needed because they become the front-line supervisors for new individuals entering the ANC.

Research completed by Gahol (2005) on retention issues for ANC officers identified the following reasons for leaving the ANC: deployment (when members of the military are sent to work in locations where family members cannot accompany them) and increased operational tempo (recurrent deployments and high intensity operations), lack of control over their lives, desire to stabilize their families in one geographical location, difficulty starting a family while on active duty, wanting to stay home with their children, not having enough time with their families and separation from extended family (Gahol, 2005).

Asch et al. (2002) of the RAND Corporation completed a study on military recruiting and retention after the implementation of the Fiscal Year 2000 Military Pay

Legislation. This study reported the overall retention rates for all Army officers were between 88% and 92.9% for officers with 6 to 9 years of service. In 2008, the turnover rate of 20% for ANC officers at 6 years of service reported by the Office of the Chief, Army Nurse Corps (personal communication, November 9, 2010) suggests that retention is a larger problem for the same year groups of ANC officers.

The Special Case of Military Nursing Summary. The special case of military nursing, as it applies to the Regular Army ANC officer, highlights the restrictions of entry requirements and recruitment obligations that either reduce the pool of eligible applicants or act as a deterrent. Additionally, the 20-year requirement for a military career with the almost inevitable prospects of serving during a conflict adds to the nurse retention differences between civilian and military nurses.

The major gap in the research related to civilian versus Army nurses is the lack of research comparing the two groups. In addition, there are vast amounts of research related to individual factors that influence individuals to leave an employer but there are fewer studies citing organizational factors that influence individuals' decisions to leave their employers. The questions for military nursing retention research are what factors influence the decision to stay or leave the Army and what can the military do as an organization to retain nurses?

Intent to Leave and Nurse Retention

Measuring actual nurse retention and organizational factors influencing nurses' retention would require a longitudinal study. The factors would need to be measured and then related to the nurses leaving or not leaving. Because of the need for a longitudinal

study to measure nurse retention (as the dependent variable) and the time constraints of this study, a proxy measure was used for nurse retention. The proxy measure used was intent to leave. Intent to leave was one of the two dependent variables for this study. Griffeth, Steel, Allen, and Bryan (2005) found intent to leave to be an antecedent of turnover. Reliability was reported for Intent to Leave Instruments in two studies of nurses Choi et al. (1986) .82 to .95 and Yoder (1992) .89.

Personal Economic Influences on Nurse Retention

The state of an individual nurse's personal economic situation may have an effect on their intent to leave. According to Buerhaus, Staiger, and Auerbach (2009) the combination of real RN wages and nonwage income (primarily spouse's income) and the presence of children or other dependents in the household influence nurse participation in the RN workforce. Therefore, questions related to the nurses' household economic situation and other non-economic factors were included in the study survey. Data were collected on nurses' household incomes and their income contribution, home ownership, the number of children and/or dependents, and marital status. While this is not a complete household economic assessment, it was intended to provide enough information to determine if economic factors influence intent to leave.

Purpose of the Study

The purpose of the dissertation research was to measure organizational factors in two groups of registered nurses (military and civilian) and compare those organizational factors and personal or economic factors to: a) determine if there were differences

between the two group's intent to leave, b) determine how predictive structural empowerment, psychological empowerment, and job satisfaction factors were associated with the intent to leave decision, and c) explore the mediating effects of personal and economic factors on the intent to leave.

Research Questions

The research questions for the dissertation research were based on the author's interest in nurse retention as an Army Nurse Corps officer and the literature reviewed. The literature reviewed was determined by a series of steps that started with PubMed searches for "Nurse Retention, Nurse Turnover, Nursing Job Satisfaction, and Nurse Intent to Leave". I included all years for the first search because finding historical accounts of nurse retention issues had proven difficult. This yielded over 17,000 articles. The terms were then combined for a more manageable 273 articles. Those articles were then determined relevant to the nurse retention topic or not. The articles that were relevant were then used to perform an ancestral search that resulted in a final library at the writing of this paper containing 633 publications. The search yielded many articles referring to empowerment. The term "structural" introduced here refers to elements within the organization that are antecedents of organizational empowerment.

1) Are there differences between civilian and US Army nurses' intent to leave?

2) What is the relationship between structural empowerment factors, psychological empowerment factors, and nurses' job satisfaction, in both military and civilian registered nurses?

3) What is the relationship between personal and economic factors and the intent to leave, in both military and civilian registered nurses?

4) Which factors (structural empowerment, psychological empowerment, job satisfaction, economic, or personal) influence intent to leave, in both military and civilian registered nurses?

Contribution of Study to Nursing Research

The major contributions of this study are: a) adding to the body of knowledge on nurse retention by comparing two groups of nurses in different organizational types (military and civilian), b) including personal economic data that are important, particularly because of the present economic situation in the US, and c) adding to the knowledge about why nurses leave the US military and other organizations and the amount of influence of organizational factors on their decisions to leave. This study will provide information to help guide organizational change studies that may improve nurse retention within organizations.

Summary

Nurse retention is important because turnover contributes to the increasing costs in healthcare organizations and because of the effects that nurse turnover can have on healthcare quality. Nurse retention is a relatively new problem, developing and becoming important within the last 50 years. Nurse retention is a special problem for US Army nursing because of increased recruitment restrictions and the inability to bring individuals from outside the Army into higher leadership positions.

The purpose of the dissertation research was to measure organizational factors in two groups of nurses (military and civilian) and compare those organizational factors and personal or economic factors in determining if there are differences between the two groups' intent to leave.

CHAPTER II

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Chapter II describes Kanter's Theory of Organizational Structure and Empowerment, analyzes the nurse retention literature, identifies study assumptions, proposes the study hypotheses, and concludes with a chapter summary.

Theoretical Framework

The theoretical framework that was used to guide this study was Kanter's Theory of Organizational Structure and Empowerment. The model consists of Structural Empowerment Factors (opportunity, information, support, resources, formal power, and informal power), Psychological Empowerment Factors (meaning, confidence, autonomy, and impact), and Job Satisfaction. Kanter's model was chosen based on the following strengths: a) use of an organizational approach versus an individual approach with findings that can be applied to entire organizations versus small groups of individuals, b) includes empowerment as a major concept, which has been shown to be an important variable in several studies (Table 8), and c) the model has been used more often than any other single theoretical framework (in nurse retention research) and has been shown to have high reliability (.70 to .93) and validity ($r = 0.56$).

Empowerment is one concept that permeates many of the disciplinary areas related to nurse retention; it was found in psychology, sociology, leadership, nursing, and organizational behavior. The only discipline contributing to nurse retention theories that

did not specifically, by name, include empowerment in the theoretical frameworks was economics. Empowerment has been shown to have influence in multiple disciplinary areas; therefore, the choice of a theoretical framework that includes empowerment has broad application.

Because empowerment also has been shown to be more predictive of job satisfaction than personality related traits, an organizational theoretical framework, which includes empowerment, may offer greater advantage as a theoretical framework to guide research in nurse retention. Adding theoretical frameworks in specific nursing areas and economics would strengthen research designs, depending on the particular questions to be studied.

Kanter's Model of Organizational Structure and Empowerment was derived from Kanter's views of power as defined by the ability to get things done or to mobilize resources (Kanter, 1993). This is positive in comparison to other definitions that reflect dominance and influence. Power evolves from both formal and informal systems within organizations. Formal power results from jobs that promote visibility, offer recognition, and contribute to key organizational goals. Informal power refers to the personal relationships or alliances made by individuals within the system. Kanter (1993) argued that formal and informal power provides access to two organizational structures that promote an empowering workplace: the structure of opportunity and the structure of power.

The structure of opportunity is important to employees' degree of engagement with work, and influences employees' commitment. Kanter (1993) stated that employees lacking opportunity were less motivated to succeed and were, therefore, less productive.

The structure of power in the workplace results from three main sources. These sources consist of information, support, and resources, which contribute to the success of realizing organizational goals. When individuals do not have access to the information, support, resources, and opportunities necessary to do their work well, they experience powerlessness. Kanter argued that managers have a key role in ensuring access to these sources of empowerment in the work setting (Kanter, 1993; Laschinger, et al., 2003; Laschinger & Finegan, 2005a, 2005b; Matthews, Laschinger, & Johnstone, 2006; Stone, et al., 2007).

Kanter's Theory of Organizational Structure and Empowerment is a strategically broad theoretical framework to guide research related to nurse retention. Kanter's (1993) theory uses five factors to determine if an organization possesses a supportive work environment. The first factor, *opportunity*, refers to growth, mobility, and the chance for the individual to increase knowledge, skills, and advancement. The second factor, *power (e.g., empowerment),* refers to the capacity to access and mobilize resources, information, and support from an individual's position in the organization to get the job done successfully, and contains two subcategories of formal and informal power. Formal power is associated with official position in the organization and informal power is power gained through alliances and social networking (Kanter, 1993). *Access to resources,* the third factor, refers to the ability to acquire necessary materials, supplies, money, and personnel needed to meet organizational goals. The fourth factor, i*nformation,* relates to the data, technical knowledge, and expertise required in performing an individual's job. And the last factor, s*upport*, refers to guidance and feedback received from subordinates, peers, and supervisors to enhance effectiveness (Kanter, 1993; Laschinger, 1996).

Psychological Empowerment Factors (meaning, confidence, autonomy, and impact) follow Structural Empowerment in the model. Psychological empowerment has been shown to be highly associated with structural empowerment and job satisfaction (Laschinger, Finegan, Shamian, and Wilk, 2004). Factors that were found to impede empowerment were organizational bureaucracy and hierarchy, authoritarian leadership, poor access to information, and short working periods (Quinn & Spreitzer, 1997). While personal integrity, expertise, continuity of work, opportunities for advancement, and access to information were found to be empowerment-promoting factors (Laschinger, Finegan, Shamian, & Wilk, 2001), six defining attributes of empowerment must be present for nurses to feel empowered in an organization. Those critical attributes are: (a) impact, (b) autonomy, (c) meaning, (d) confidence, (e) competence, and (f) self-determination.

Impact is defined as having a sense of being able to influence important outcomes within the organization (Laschinger, et al., 2001). Autonomy is an individual's ability to perform a job without direct supervision, while self-determination is the feeling of control over one's work (Laschinger, et al., 2003). Meaning is the congruence between employee's job requirements and their beliefs, values, and behaviors (Dimitriades, 2004). Competence is the ability to perform a job (Spreitzer, 1996). The final attribute, confidence, is closely related to competence and is combined in at least one article (Quinn & Spreitzer, 1997). Confidence is to be self-assured of professional abilities (Laschinger, et al., 2001).

The last factor in the model is Job Satisfaction. One of the most studied factors related to nurse retention is job satisfaction. The first Nursing Job Satisfaction Survey

was developed by the University of Minnesota with the cooperation of the University of Minnesota Nursing School (UMNS) and administered to 275 nurses, most who graduated from UMNS between 1935 and 1939. This questionnaire included not only the questions from the Hoppock Job Satisfaction Scale and Remmers' Attitude Toward an Occupation Scale but added an additional 367 questions. The survey reported one percent as disliking their nursing jobs (Nahm, 1940). The excess of 367 questions and an extremely positive outcome, poses the question of whether the results suffer from or were influenced by possible Acquiescent Response Bias and/or Socio-psychological Artifact.

A number of job satisfaction instruments have been developed since the 1930s. Ten different tools were found that measure nursing job satisfaction in the retention/turnover literature. Hall (2003) provides an analysis of eleven job satisfaction tools (Table 1) and dismisses one, the Job Satisfaction Survey (Price & Mueller, 1981, 1986), stating that job satisfaction was only one component of the survey and it actually measures turnover.

The following (Figure 1) is a graphic representation of Kanter's Theory of Organizational Structure and Empowerment where Structural Empowerment is an antecedent of Psychological Empowerment and Structural Empowerment and Psychological Empowerment lead to Job Satisfaction which are all related to Nurse Retention or as this model shows related to Intent to Leave (dependent variable). The personal and economic factors are shown in a box just below the model representing their unknown (but probably important) influences in the model, unlike the other model variables, which have been previously tested.

Table 1. General Job Satisfaction Scales

Instrument, author	Target population	Domains, number of items, and response format	Administration	Reliability	Validity
1. Job Descriptive Index (JDI) Smith et al., 1969)	Hospital nursing staff	Domains: satisfaction with work, opportunities for promotion, relationship with coworkers, satisfaction with pay, and relationship with supervisors. Number of items *72*, Response format "Yes," "No," "Not sure."	Self-administered	—Reliabilities of β = 67 at Time 1 and a = 66 at Time 2, and test-retest reliability of 0.71 (Bateman & Strasser, 1983). —Reliability of 0.93 (Cone et al., 1995). —Test-retest reliability demonstrated to be above 75% (Robinson et al., 1969; Smith, 1974). —Domain reliabilities from 0.69 to 0.82 (Kiyak et al., 1997). —Average internal consistency of 0.88 across six samples (Balzar et al., 1990). —Domain reliabilities of 0.79 to 0.89, with overall reliability of 0.93 (Westaway et al., 1996). —Subscale reliabilities of 0.85 to 0.91 (Judge, 1993). —Subscale reliabilities of 0.63 to 0.88 (Bussing, 1992).	—Concurrent validity (Cone et al., 1995) --Construct validity (Cone et al., 1995)
2. Brayfield and Rothe Satisfaction Scale (Brayfield & Roth, 1951)	Hospital nursing staff	Global indication of job Satisfaction measured. 18 items, 5-point Likert scale.	Self-administered	—Reliability of 0.90 (Agho, 1993). —Reliability of 0.88 (Guppy & Gutteridge, 1991)	No information available.
3. Minnesota Satisfaction Questionnaire (Weiss et al., 1967)	Hospital nursing staff	Domains: intrinsic job content factors such as work type, achievement, ability utilization); extrinsic (job context factors such as working conditions, supervision, co-workers); and total job satisfaction. 20 items. 5-point scale.	Self-administered	—Reliability of 0.87 (Armstrong-Stassen **Ct** al., 1996). —Reliabilities vary from 0.84 to 0.91. Test-retest reliability of the general scale varies from 0.70 over the period of a year to 0.89 over a period of a week (Bester et al , 1997 ——Internal consistency of 0.86 Cameron et al., 1994).	—Content validity (Weiss et al. 1967) . ---Criterion/ concurrent Weiss et al.. 1967). —Construct validity (Weiss et al 1967).

Nursing Job Satisfaction Measures					
Instrument, author	Target population	Domains, number of items, and response format	Administration	Reliability	Validity
Index of Work Satisfaction (Slavitt et al., 1978)	Hospital and home nursing staff	Domains: professional status, task requirement, autonomy, interactions with other nurses, pay. 48 items. 5-point Likert type scale.	Self-administered	—Internal consistency for subscales, 0.35 to 0.70 (Coward et al., 1995). —Reliability of 0.82 for entire scale (Ecklund, 1998). —Internal consistency for subscales, 0.35 to 0.70 (Francis-Felsen, 1996). —Reliability of 0.82 for the whole scale and 0.52 to 0.81 for the subscales (Fung-karn, 1998). — Cronbach's alpha of 0.91 (Gillies et al., 1990). —Internal consistency of 0.89 (Hayes, 1994). —Cronbach's alphas of 0.52 to 0.81 for subscales, with a total alpha of 0.82003 Johnston, 1991). —Reliability of 0.85 (Keuter et al., 2000). —Reliabilities of subscales from 0.44 to 0.84 Kovner et al., 1994). — Subscale reliabilities from 0.70 to 0.90, with an overall coefficient of 0.80 to 0.90 (Lengacher et al., 1994). —Reliability for total satisfaction of 0.89 (Muus et al., 1993). —Reliability of 080 to 0.90 (Prothero et al., 1999). —Total alpha of 0.82 (Radice, 1994). —Reliability for total satisfaction of 0.89 (Stratton et al., 1995). —Cronbach's alpha of 0.86 (Starnps & Piedmont, 1986).	—Content validity (Durkin et al., 1992; Stamps & Piedmonte, 1986; Stratton et al., 1995; Kovner et al., 1994). —Construct validity (Yamashita, 1995; Lengacher et al., 1994 Johnston, 1991)

Nursing Job Satisfaction Measures					
Instrument, author	Target population	Domains, number of items, and response format	Administration	Reliability	Validity
				—Overall reliability of 0.88 (Urden, 1999). —Cronbach's alpha of 0.82, with subscale reliabilities of 0.81 to 0.82 (Yamashita, 1995). —Subscale reliabilities from 0.514 to 0.859 (Durkin et al., 1992). —Overall reliability of 0.82, with subscale reliabilities from 0.59 to 0.80 (Shader et al., 2001).	
Nursing Job Satisfaction Scale (Hinshaw & Atwood, 1985)	Hospital nursing staff	Domains: quality of care, enjoyment on the job, and time to do one's job. 23 items, 5-point Likert scale.	Self-administered	—Reliability of 0.83 (Grindel et al., 1996). —Cronbach's alpha of 0.85 (Kangas et al., 1999).	—Content validity (Grindel et al., 1996).
Nurse Job Satisfaction Scale (Torres, 1988)	Hospital nursing staff	Domains: autonomy, ability to be creative, work load, morale, and opportunity for advancement. 36 items, 5 point Likert scale.	Self-administered	—Reliability of 0.89 (Lucas, 1991).	No information available
Measure of Nursing Job Satisfaction (MNJS) (Traynor & Wade. 1993)	Staff nurses	Domains: personal satisfaction, satisfaction with workload, with professional support, with training, and with pay and prospects. 40 items, 5-point scale. Overall job satisfaction is the sum of subscale scores.	Self-administered	—Overall reliability of 0.93, with subscale reliabilities of 0.84 to 088. Test-retest reliabilities of 0.86-0.93 (Molassiotis & Haherman, 1996). —Overall reliability of 0.93, overall test-retest reliability of 0.89. Subscale reliabilities of 0.84 to 0.88, with subscale test-retest reliabilities of 0.76 to 0.91 (Wade, 1993).	—Concurrent and discrirninant validity (Traynor & Wade, 1993). —Overall concurrent validity (Wade, 1993).
Work Quality Index (WQI) (Whitley & Putzier, 1994)	Hospital nursing staff	Domains: staff's perception and satisfaction with the quality of their work and work environment. 38 items, 7-point	Self-administered	Reliability of 0.9565 (Ling, 1996).	No information available

Nursing Job Satisfaction Measures					
Instrument, author	Target population	Domains, number of items, and response format	Administration	Reliability	Validity
		scale.			
Job Satisfaction (Munson & Heda, 1974)	Hospital nursing staff	Domains: extrinsic satisfaction (security, fairness, financial rewards); interpersonal satisfaction (belongingness needs); involvement satisfaction (ego needs); and intrinsic task satisfaction (self-actualizing needs). 13 items, 7-point Likert scale. Overall job satisfaction score is a mean of the responses.	Self-administered	—Reliability of 0.89 (Lucas, 1991).	No information available
McCloskey & Mueller Satisfaction Scale (McCloskey & Mueller, 1990)	Hospital nursing staff	Domains: extrinsic rewards, scheduling satisfaction, family/work balance, co-workers, interactions, professional opportunities, praise/recognition, and control/responsibility 30 items, 5-point scale,	Self-administered	—Reliability of 0.90 (Chaboyer et al., 1999). —Cronbach's alpha of 0.89 (Krugman & Preheim, 1999). —Reliability of 0.89 (Ajamieh et al., 1996). —Internal consistency of 0.89 and test-retest reliability of 0.63 (McCloskey & Mueller, 1990). —Cronbach's alpha of 0.91 for the global scale (Cumbey & Alexander, 1998).	—Criterion-related validity (Misener et al., 1996).

Recreated from: Hall, L.M., (2003). Nursing outcome: Nurses' job satisfaction. In D. Doran (Eds.) *Nursing-Sensitive Outcomes: State of the Science*. (pp.283-318) Sudbury, Massachusetts: Jones and Bartlett Publishers

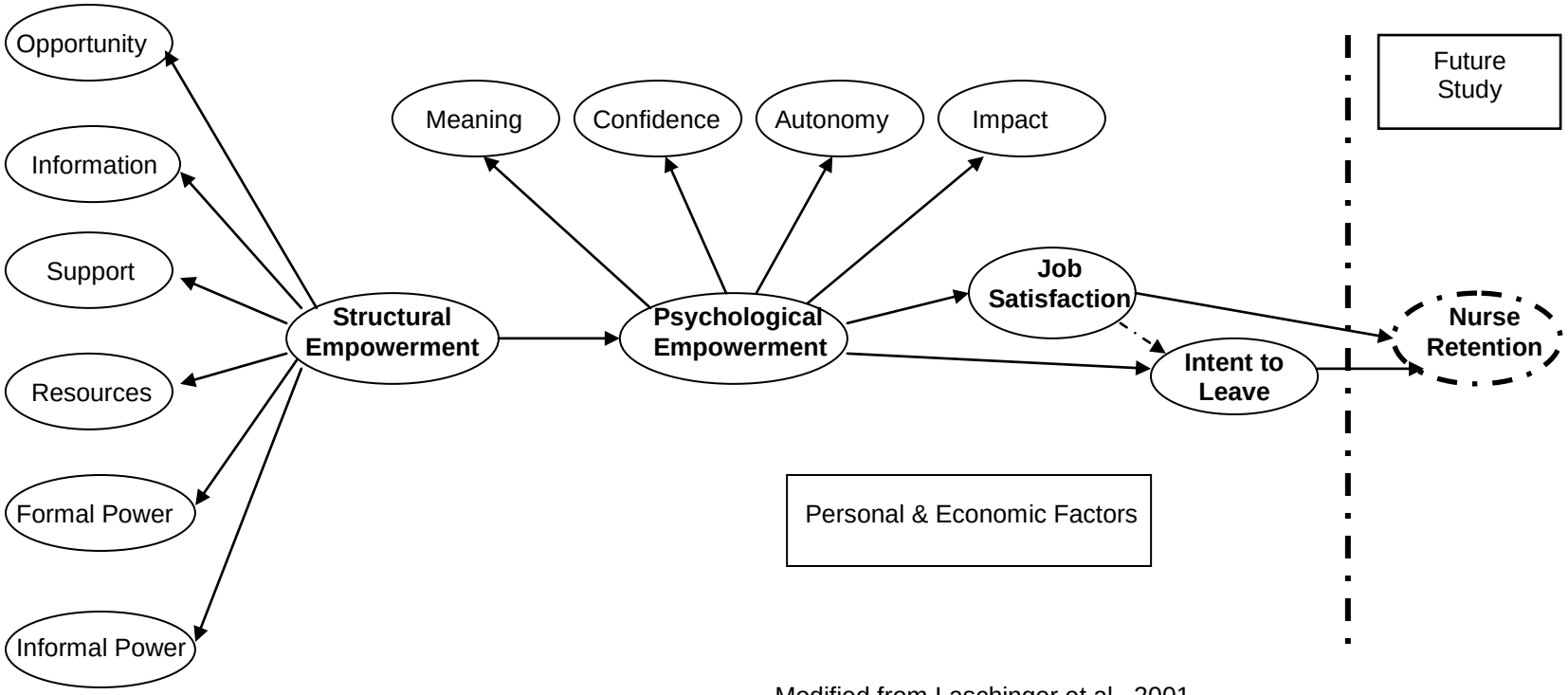


Figure 1. Model of the Effect of Structural and Psychological Empowerment on Nurse Retention

Critical Analysis of the Nurse Retention Literature

The literature reveals that theoretical frameworks used to explain nurse retention have roots in six major disciplines: (a) psychology, (b) sociology, (c) leadership, (d) economics, (e) nursing, and (f) organizational behavior. The definition of discipline for the purpose of this paper is "a branch of knowledge or of teaching" (Vianna, 1981, p. 290). Refer to *Contributing Disciplines of Theoretical Frameworks Applied to Nurse Retention* (Figure 2) (Fisher, 2007) and a series of tables devoted to the *Theoretical Frameworks used in Nurse Retention Research* (Tables 2 through 7), one for each of the six major disciplines.

Although the theoretical frameworks are very different, they all work together providing different lenses with which to view the interactive, complex, and dynamic variables that influence the decision of an individual to either enter the nurse workforce or to stay or leave once in the nurse workforce. The theoretical frameworks used will depend on the research questions to be examined. The complexity of the body of works related to nurse retention is further illustrated in the summary table (Table 8.). The summary table cross-references the individual theories with the main variables used in the studies examined in the literature review.

One theoretical limitation is that specific theoretical approaches may ignore the variable(s) that explain why some individuals decide to leave. An example of this would be a theory that focuses only on individual factors when the reasons for leaving are an organizational problem. In addition, a theoretical approach, which is too broad and does not address specific areas such as psychology, sociology, leadership, economics, nursing, and organizational behavior, may not be sufficient to explain why an individual leaves.

Source: Fisher, L. W. (2007). *Unpublished Figure*.

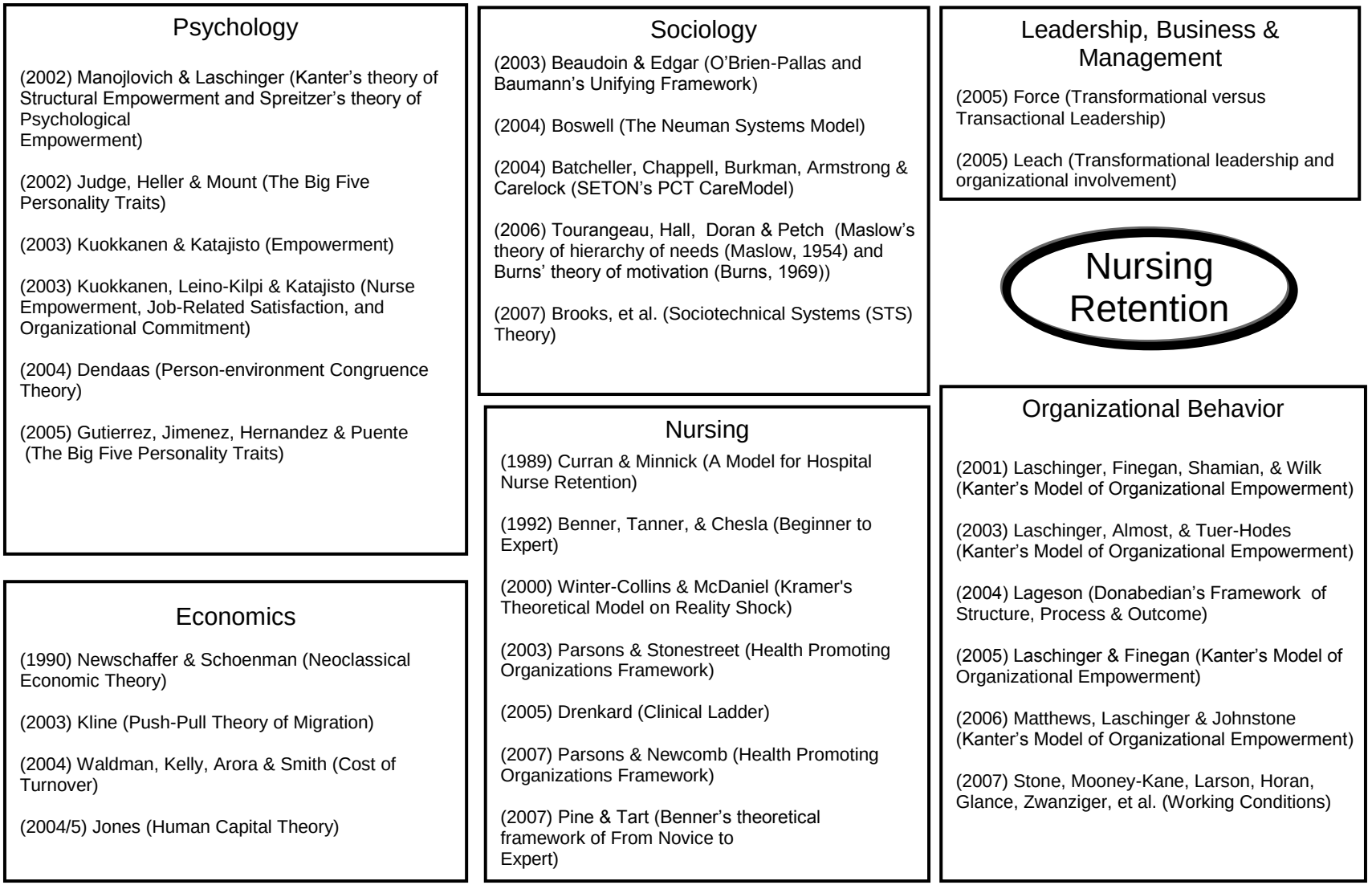


Figure 2. Contributing Disciplines of Theoretical Frameworks Applied to Nursing Retention

Table 2. Theoretical Frameworks used in Nurse Retention Research (Contributing Discipline – Psychology)

Theoretical Framework	Articles* Author, Year	Sample (N) Type/Location	Study Methodology	Instruments & Data Collection	Support of Theoretical Framework	Conclusions
Kanter's theory of Structural Empowerment and Spreitzer's theory of Psychological Empowerment	(2002) Manojlovich & Laschinger	347 nurses randomly selected from College of Nurses of Ontario, mix of specialty areas	Quantitative, Cross-sectional Survey	Conditions for Work Effectiveness Questionnaire (CWEQ), Psychological Empowerment Scale (PEI), Job Diagnostic Survey, Mastery Scale, Personality Research Form-Achievement Scale	Structural empowerment predicted 29.5% of the variance in job satisfaction by itself ($R^2 = 0.29$, F (1, 403) =164.9, p= .001). Structural and psychological empowerment together predicted 38% of the variance (adjusted $R^2 = 0.38$) in job satisfaction. Psychological empowerment predicted an additional 7.2% of the variance in job satisfaction (F change = 45.39, df = 1,402, p= 001).When mastery and achievement needs were added to the analysis, however, no significant increase was seen in explanatory power.	Structural environmental factors have a greater effect on job satisfaction than personality attributes. Access to information, resources, support, and opportunities for advancement leads to a greater sense of meaning in one's work, higher confidence, greater autonomy, and a greater belief that one can have an impact on work and work settings. The combination of structural and psychological empowerment is a strong predictor of job satisfaction.
The Big Five Personality Traits	(2002) Judge, Heller & Mount	334 correlations from 163 independent samples (articles).	Meta-analysis	Meta-analytic procedures of Hunter & Schmidt (1990) were used.	Neuroticism (p = -.29) was the strongest correlate of job satisfaction, followed closely by Conscientiousness (p =.26) and Extraversion (p =.25). Openness to Experience showed a weak correlation with job satisfaction (p = .02) that was indistinguishable from zero.	Employees who are emotionally stable, extraverted, and conscientious may be happier at work because they are more likely to achieve satisfying results at work. Part of this effect may operate through job performance, such that conscientious employees perform better and are more satisfied with their jobs because of the intrinsic and extrinsic rewards that high performance provides. Extraverted employees are more likely to spend time in situations that make people happy, such as in social interaction

	(2005) Gutierrez, Jimenez, Hernandez & Puente	236 nurses from 8 departments in 7 hospitals in Madrid, Spain. Total population was surveyed.	Quantitative, Cross-sectional Survey.	The NEO-FFI (a 60-element version of the NEO PI-R).	Extraversion (β = .29) and Openness (β = .21) were found to be significant predictors of positive affect, Neuroticism (β = .44) was a significant predictor of negative affect, and Extraversion (β = .25) and Neuroticism (β = _.32) were significant predictors of affect balance. When demographic variables were controlled, Extraversion (β = .23) and Openness (β = .21) were again statistically significant predictors of positive affect, Neuroticism (β= .49) and Openness (β = .13) played a role in the prediction of negative affect, and finally, Neuroticism (β= .37) and Extraversion (β = .20) were found to be significant predictors of affect balance.	The results show that personality is an important correlate of subjective well-being. Neuroticism was the best predictor of affect balance, followed by Extraversion. At a dimensional level, Neuroticism was the dimension most closely linked to negative affect, while Extraversion was the dimension most strongly associated with positive affect. In addition, Openness was associated with both positive and negative affect.
Empowerment	(2003) Kuokkanen & Katajisto	416 nurses randomly selected from 600 nurses from critical care, long term care, & public health in Finland.	Quantitative, Cross-sectional Survey.	18-item Work Empowerment Promoting Factors Scale (WEP-S), 18-item Work Empowerment Impeding Factors Scale (WEI-S), 9-item Well-being scale, & information on job satisfaction and	The direct question "do you consider yourself an empowered nurse," 51% of the respondents answered "yes" while the figure for undecided respondents (33%) was clearly higher than that found for those who answered "no" (15%). Those who considered themselves empowered also reported promoting factors more often than those who either answered in the negative (P<.001) or were	Factors that prevented empowerment included authoritarian leadership, poor access to information, and short working periods. Factors found to increase empowerment were job satisfaction, career consciousness, further training, and commitment. Further research into the effects of personnel governance and organizational changes upon empowerment seems indicated.

				professional training .	undecided (P <.001). Absence from work or personal well-being did not correlate with reported work-related empowerment.	
Nurse Empowerment, Job-Related Satisfaction, and Organizational Commitment	(2003)Kuokk-anen, Leino-Kilpi & Katajisto	416 nurses randomly selected from 600 nurses from critical care, long term care, & public health in Finland.	Quantitative, Cross-sectional Survey.	18-item Work Empowerment Promoting Factors Scale (WEP-S), 18-item Work Empowerment Impeding Factors Scale (WEI-S), 9-item Well-being scale, & information on job satisfaction and professional training .	Nurses were fairly satisfied with their profession; those dissatisfied accounted for 8% to 15% of the 3 groups of nurses (LTC, CC, PH). Job satisfaction was somewhat less common; dissatisfaction was reported by 18% to 22% of respondents. A large number of those who had considered changing the job or leaving the profession, the former accounting for 38% to 60% and the latter for 27% to 38% of nurses in the 3 groups.	Characteristics of nurses willing to change job and field: Willing to change job • 21–50 years old • Working history 0–15 years • Working in a hospital • Temporary personnel • Job and field dissatisfied • Career consciousness • Feeling job strain Willing to change field • 21–40 years old • Working history 0–15 years • Job and field dissatisfied • Career consciousness • Feeling job strain Not willing to change job • Over 50 years old • Working history over 15 years • Specialize in community health • Work esteem • Job and field satisfied Not willing to change field • Over 40 years old • Working history over 15 years • Job and field satisfied • Work esteem • Specialize in community health
Person-environment Congruence Theory	(2004) Dendaas	No sample	Literature review	Theoretical explanation	Used in prior study examining the choice of majors by college students. The author cites lack of support and lack	The author concludes that “the true reflection of reality is seen in the material culture allotted to a social group, then fundamental changes

					of resources as implications for use of Person-environment Congruence Theory. There were no statistics cited in support of this theory.	in nursing work environments may need to occur for significant improvements in the long-term retention of nurses is to occur. Nursing theory as women's work also needs space for theoretical development. Nursing workspace has not been examined".

Table 3. Theoretical Frameworks used in Nurse Retention Research (Contributing Discipline – Sociology)

Theoretical Framework	Articles* Author, Year	Sample (N) Type/Location	Study Methodology	Instruments & Data Collection	Support of Theoretical Framework	Conclusions
O'Brien-Pallas and Baumann's Unifying Framework	(2003) Beaudoin & Edgar	A convenience sample of 121 nurses from inpatient and outpatient departments of a single hospital.	Focus group interviews, qualitative methods.	Open ended questioning with tabulation of most often cited hassles.	O'Brien-Pallas and Baumann's Unifying Framework examined the hassles of the nurse work environment and their effect on the quality of the nurses' work lives. They reported that the most frequently hassles were operational in nature.	The largest numbers of hassles were related to subcategories within the social/environmental and operational categories: interdepartmental relations, working conditions, and organizational and physical environment hassles.
The Neuman Systems Model SETON's PCT CareModel	(2004) Boswell	108 registered nurses in the critical care department of a large Southeast Trauma Center.	A quasi-experimental longitudinal study, use of survey with quantitative methods.	Index of Work Satisfaction (Stamps, 2001)	Input, output, and feedback across boundary lines (environmental exchanges) provide corrective action to change, enhance, and stabilize the system, with the goal of achieving an optimal wellness level.	The results of this study supported previous studies that indicated that task requirements and organizational policies were important to work satisfaction of nurses. Pay was found to be a highly important source of dissatisfaction. Greater dissatisfaction with these three work components occurred after implementation of the more liberal visitation policy. This is an indicator that when nurses are dissatisfied with changes in policy, other work satisfaction factors become more significant.
	(2004) Batcheller, Chappell, Burkman, Armstrong & Carelock	The staff of SETON an Austin TX based network of 7 acute care hospitals.	A quasi-experimental longitudinal study, use of survey with quantitative methods.	Satisfaction surveys including: Occupational Stress Inventory, RN/CA, physician, and patient surveys. Staff retention	Physician satisfaction surveys showed a 13% increase in physician's perception of availability of an experienced RN. A 64% reduction in RN staff turnover was noted in the year after the introduction of the PCT. The impact of the PCT on safety was	By developing a nursing model that valued the leadership role of the experienced RN, improvements in team cohesion have led to improvements in RN staff turnover, job satisfaction, physician confidence, and patient safety.

				measures, patient safety indicators, & managerial rounds.	dramatically demonstrated by a 77% reduction in medication errors.	
Maslow's theory of hierarchy of needs (Maslow, 1954) and Burns' theory of motivation (Burns, 1969)	(2006) Tourangeau, Hall, Doran & Petch	13,093 nurses with records in the 2003 College of Nurses of Ontario registration database were surveyed, 8,456 nurses (65% of surveyed nurses) completed the survey.	Quantitative, Cross-sectional Survey.	Maslach Burnout Inventory (MBI), Revised Nursing Work Index (NWI-R), & McCloskey/Mueller Satisfaction Scale (MMSS).	The original eight factors could not be replicated satisfactorily using confirmatory factor analysis. Exploratory factor analysis found a seven-factor model rather than the original eight factors previously reported. Validity of this new model was supported. However, similar to the original instrument, weak internal consistency reliability coefficients (less than .70) were found for three of the new MMSS factors: satisfaction with collegial relationships and support, satisfaction with salary and benefits, and satisfaction with support for family responsibilities.	Further redevelopment and testing of the MMSS is required to minimize potential sources of error related to adequacy of sampling of items. Improving internal consistency of the instrument will lead to increased utility and credibility of the MMSS as a valid and reliable measure of nurse job satisfaction.
Sociotechnical Systems (STS) Theory	(2007) Brooks & Anderson	1554 staff nurses employed in 3 Midwestern urban and community hospitals.	A quasi-experimental longitudinal study, use of survey with quantitative methods.	Brooks' Quality of Nursing Work Life Survey (QNWL)	Preliminary results show improvement in work design (3.73 vs. 3.60) & work context (4.42 vs. 4.30).	Changes in nursing work environment were not preplanned entering into the study. As new changes are implemented and more than one item is changed there are no provisions to determine which item influenced the change in survey responses.

Table 4. Theoretical Frameworks used in Nurse Retention Research (Contributing Discipline – Leadership)

Theoretical Framework	Articles* Author, Year	Sample (N) Type/Location	Study Methodology	Instruments & Data Collection	Support of Theoretical Framework	Conclusions
Transformational versus Transactional Leadership	(2005) Force	No sample	Literature Review	Exploration of relationship between effective nurse managers and nurse retention.	Effects of transformational vs. transactional leadership across 20 studies related to nurse retention and nurse turnover.	Five themes were identified that promote nurse retention: • A dominant transformational leadership style focusing on affiliation on the basis of strong communication between leaders and staff regarding organizational goals, values, and vision. • Positive personality traits: extroverted, likeability, openness, and personal power. • Magnet hospitals' organizational structures influenced perception of power in leadership along with personal attributes and are derived from resources, information, and support systems that maintain teamwork. • Tenure in the organization combined with advanced graduate education enables a manager to develop valued institution-specific interpersonal and technical expertise. • Encouraged atmosphere of autonomy, shared governance, group cohesion, and empowerment of staff with a reward and recognition program.
Transformational leadership and organizational involvement	(2005) Leach	Total sample include 901 nurses, the nurse manager	A cross-sectional field survey.	Transformational Leadership Profile (TLP) and the	A statistically significant negative relationship was found between NE transformational leadership	The following recommendations were made for nurse executives: • Develop and demonstrate TFL and TAL behaviors.

		sample (N=148) who each report to a nurse executive (N=102) and the RN sample (N=651) who report to an NM this set up a hierarchical data set for each NE that included up to 2 NMs and up to 10 RNs. Both the NM and RN participants were convenience samples.		Organizational Commitment Scale.	(TFL) (r = –0.24; p < .05) and alienative organizational commitment among RNs and between NE transactional leadership (TAL) (r = –0.31; p < .01) and RN alienative organizational commitment. Statistically significant positive relationships were found between NE transformational and transactional leadership and NM transformational (r = 0.26; p < .05) and transactional leadership (r = 0.23; p < .05) and between NM transformational leadership (r = –0.22; p < .05) and RN calculative commitment.	• Increase the frequency of staff nurse exposure to NE leaders. • Nurture the involvement of staff nurses and their relationship to the organization with transformational and transactional leadership behaviors. • Involve nurses in determining which factors contribute most to their perceptions of alienative commitment. • Assess organizational commitment over time at designated intervals and among nurses who actually quit. • Address contributing factors through strategic planning and committed actions to improve obstacles to optimal nursing practice and to retention. • Create innovative ways to engage nurses in the decisions that affect their practice and the environment in which they work.

Table 5. Theoretical Frameworks used in Nurse Retention Research (Contributing Discipline – Economics)

Theoretical Framework	Articles* Author, Year	Sample (N) Type/Location	Study Methodology	Instruments & Data Collection	Support of Theoretical Framework	Conclusions
Neoclassical Economic Theory	(1990) Newschaffer & Schoenman	No sample	Historical economic commentary	Analysis of historical and political influence on the nurse labor market.	The market for nursing labor appears to have functioned according to neoclassical economic theory. That is, wage increases were followed by increases in the number of new entrants into the profession and reductions in unmet demand for RNs. Also, as supply increased and the market moved toward a new equilibrium, RN wages began to level off.	Conclusions based on recommendations would need to meet two basic criteria. First, their fundamental goal must be to facilitate the market's movement toward equilibrium, and second, they must be designed to prevent recurring nurse shortage problems, not just to ease short-term problems associated only with the current shortage. Recommendations that fail to meet either one or both of these criteria may still, when implemented, work to resolve the shortage. However, these actions run the risk of having only a fleeting impact and/ or producing undesirable, inequitable side effects (i.e., easing restrictions on immigration and licensing of foreign nurse graduates may alleviate the current shortage but would do little to prevent future shortages, could adversely affect the quality of US nursing care, and may deplete the supply of nurses in other nations).
Push-Pull Theory of Migration Cost of Turnover	(2003)Kline	No sample	Literature review.	Exploration of effects of nurse migration on donor and receiving countries.	Nurses migrated for three major reasons: • In search of professional development not available in their current job or country • In search of better wages, improved working conditions,	Given the current conditions, developed countries continue to actively recruit foreign nurses to fill critical shortages. Migration is predicted to continue until developing countries address conditions that cause nurses to

					and higher standards of living • In search of less risk to their personal safety (strong social & political factors).	leave. Meanwhile recruiting countries should examine their recruiting policies, assure ethical treatment of foreign nurses, and address local problems that contribute to repeated shortages of nurses.
	(2004) Waldman, Kelly, Arora & Smith	Entire employee population (M= 5,118) at a large academic medical center in the Southwest.	Quantitative	Employee database analysis for costs associated with employees based on phase of employment: hiring, training, working, & termination.	Professional disillusionment is a major and accelerating problem among health care providers who switch employers or leave the health care entirely. In addition to financial consequences from turnover, quality of care suffers and malpractice claims escalate. The reliability in predicting turnover behavior is low, generally about a power of 0.40. Statistical and fiscal methods used to measure turnover in health care need to be improved, many scholars have speculated that inefficient production by a new hire can be a prime training cost, which also makes costing complicated.	Based on this medical center case study, turnover costs represent an expenditure of about 5 percent of the annual operating budget. Stated differently, it would be revenue neutral to offer each departing nurse (who chose to remain rather than leave) a staying bonus equal to 86 percent of his or her annual salary or give every nurse on staff a 33 percent retention supplement every year. Furthermore, the calculated turnover cost is undoubtedly less than the actual total cost; the not readily quantifiable components are likely to be financially significant; thus, turnover costs are even higher than the totals reported.
Human Capital Theory	(2004/5) Jones	493 nurses employed by a 600 bed acute care hospital.	Quantitative	Retrospective descriptive design, data collected from nurse clinical directors and others as recommended by the nurse	The per RN turnover costs determined in this study are also greater than the most recent estimates of nurse turnover costs, most likely due to the inclusion of detailed vacancy costs in this study. For example, the per RN turnover cost reported here	As suggested by the Human Capital Theory, increases in human and social capital can be expected to increase individual and organizational productivity and returns on investment. Beyond tangible returns on investment, investments in RN retention may give Healthcare organizations a

				executives.	is more than double the per RN turnover cost reported by Waldman et al. (2004) and approximately triple the 2003 costs reported by Stone et al. (2003).	competitive advantage by having a stable, productive, and satisfied nursing workforce, and, in turn, improve consumers' perceptions of workforce quality and increase demand for healthcare services.

Table 6. Theoretical Frameworks used in Nurse Retention Research (Contributing Discipline – Nursing)

Theoretical Framework	Articles* Author, Year	Sample (N) Type/Location	Study Methodology	Instruments & Data Collection	Support of Theoretical Framework	Conclusions
A Model for Hospital Nurse Retention	(1989) Curran & Minnick	Complex sample: 5 focus groups (N=52) random selection, telephone interviews with chain-of-command (nurse executive to staff nurse) convenience sample, and survey of 813 hospitals. Sample included hospitals in the Pacific, East & West North Central, West South Central, & Mid & South Atlantic.	Triangulation, Grounded theory and quantitative methods.	• Focus groups: Open ended questions analyzed using grounded theory • Chain-of-Command telephone interview: Exploration of corporate culture • Quantitative data: Random sample survey to gather empirical data associated with turnover calculation.	Model development: The model includes the nurse employee, the institutional environment, rewards structures, and the external environment.	The application of this model is labor, resource, and data intensive. The model must be individualized for each institution for the best results. If the nurse executive believes that retaining nurses is retaining a valuable hospital asset then the nurse executive will ensure that implementation has a high priority. The resulting positive impact on nurse retention will also pay off in improvements in financial and service quality indicators. The rewards will outweigh the expense and effort.
Beginner to Expert Kramer's Theoretical Model on Reality Shock	(1992) Benner, Tanner, & Chesla	Total sample (N=130), 105 nurse divided: Advanced beginner (N=24), Intermediate	Qualitative	Group and individual interviews. Identification of themes coded with use of software	The theoretical framework is supported by lengthy transcription directly related to each of the stages of Benner's model.	A nurse acting responsibly in a clinical situation is determined by the nurse's perceptual grasp of that situation. The beginner accomplishes tasks; the competent nurse sets goals and makes plans to achieve those goals; the proficient

		(N=33), & Expert (N=43). All ICU nurses from 8 hospitals, 7 in 2 far Western regions & 1 in the Eastern US.		program, Ethnograph.		nurse takes on new experientially based possibilities to recognize new issues and changing relevance directly in the clinical situation; the expert reads the situation based on expected changing relevance, including action based upon significance inherent in the situation and a grasp of other clinicians' perception of the situation.
	(2002) Winter-Collins & McDaniel	95 RNs from the Indiana Health Professions Bureau mailing list (250 randomly selected) who graduated within 18 months of the study.	Quantitative, Cross-sectional study.	McCloskey/ Mueller's Satisfaction Scale & a modified version of the Hagerty-Patusky Sense of Belonging Instrument. Mailed surveys.	The correlations were examined between sense of belonging, total satisfaction, and the satisfaction sub-scales. Significant correlations with sense of belonging existed with interaction opportunities (p = 0.000, r = 0.38), praise (p = 0.000, r = 0.35), control (p = 0.001, r = 0.35), coworkers (p = 0.001, r = 0.33), and schedule (p = 0.006, r = 0.28). The relationships between sense of belonging with extrinsic rewards (r = 0.20) and professional opportunities (r = 0.21) were significant but the magnitude was very low. The relationship between balance (r = 0.06) and sense of belonging was not significant. The strongest relationship was between sense of belonging and new graduate total satisfaction (p = 0.000, r = 0.40).	New graduate nurses leave positions at higher rates than experienced nurses. The image of greener pastures entices them to seek a place where their ideas and needs are appreciated. The results found in this study highlight the need for extra mentoring and nurturing that new graduate nurses must have to identify with the work setting and, ultimately, become a satisfied and productive member of the healthcare team. One observant graduate student commented in an article by Kramer and Schmalenberg (1991), "There is not a shortage of nurses, but a shortage of environments nurses want to work in" (p.50).

Health Promoting Organizations Framework	(2003) Parsons & Stonestreet	24 nurse managers who had been NMs for at least 2 years and employed by one of 5 hospitals in a large health system.	Qualitative	Open-ended questions, interview format with transcription. Theme identification & frequency count.	Rank ordered dominant themes for successful retention of nurse managers **Communication** • Boss who listens and provides guidance • Effective communication • Clear expectations and feedback **Administrative Management Philosophy** • Participation in planning and decision making • Empowered to manage **Effective Administrative Systems** • Resource management • Meaningful orientation and professional development • Manager compensation **Successful Personal Practices:** **Life/Work Balance** **Quality of Care** **Retention**	The factors identified in this study of a five-hospital system illustrate that the quality of relationships, quality of administrative systems, and quality of work/life balance contribute to a health system's nurse manager retention. Although the majority of managers in this study reported that they planned to remain in their role, their bottom line was quality of care.
	(2007) Parsons & Newcomb	Staff members of 3 ORs, includes 86 RNs. Convenience sample, Methodist Hospital system, San Antonio TX.	Qualitative	Conference participation with development of healthy OR mind maps. Data were collected from the mind maps.	The major components of a healthy OR workplace are: • quality practice standards, • excellence in patient care systems, • effective staffing systems, • identified guidelines for teamwork, • a functional physical environment, and • meaningful role definition and clarity.	The action plan developed by staff members was to enhance respect in the OR. The components of the initiative were significantly relationship-based and may be considered by some as "soft". The components form the foundation for creating healthy workplaces and contribute to a growing body of principles and elements that are common to positive patient care workplaces.

Clinical Ladder	(2005) Drenkard & Swartwout	2,400 RNs eligible for advancement in a 5-hospital system. Convenience sample, Inova Health System, Falls Church VA.	Quantitative, Longitudinal (3-year Study)	Intervention (Clinical Ladder implementation) with pre & post surveys.	Of the 268 nurses promoted during the timeframe studied, only 14 RNs resigned due to relocation, career advancement, and personal reasons. This translates into a 5.2% turnover rate, well below the national average, and lower than the overall Inova turnover rate.	Nurse executives should evaluate current clinical ladder programs and assess their cost effectiveness on a regular basis. By demonstrating savings and impact on turnover and vacancy rates, programs such as clinical ladders with pay increases at each step will become sustainable models for nurses' career advancement.
Benner's theoretical framework of From Novice to Expert	(2007)Pine & Tart	48 newly hired graduate nurses, Convenience sample, Methodist Hospital, Houston TX	Quantitative, Longitudinal (1-year program)	Intervention (Residency Program implementation) Pre & post retention numbers.	Turnover rates for baccalaureate nurse residents at 13% compares favorably with the 50% turnover the year prior to starting the program. The ROI indicates that the program is cost effective. The cost savings is $823,680. Clearly, investment in the residency program influences new hire retention.	Nurses new to the profession benefit from a specialized residency program in a two-pronged approach that supports their transition from student to leader at the bedside. The curriculum is based on understanding the needs of the graduate nurse using Benner's model. The ROI of the nurse residency program makes the program cost effective.

Table 7. Theoretical Frameworks used in Nurse Retention Research Contributing Discipline – Organizational Behavior)

Theoretical Framework	Articles* Author, Year	Sample (N) Type/Location	Study Methodology	Instruments & Data Collection	Support of Theoretical Framework	Conclusions
Kanter's Model of Organizational Empowerment	(2001) Laschinger, Finegan, Shamian & Wilk	404 Canadian staff nurses (RNs), Random sample	Quantitative, Cross-sectional design	Survey instruments used for data collection: Conditions of Work Effectiveness Questionnaire, Psychological Empowerment Questionnaire, Job Content Questionnaire, and Global Satisfaction Scale.	An analysis of the goodness-of-fit statistics revealed a good fit (X^2 = 1140, *df* = 545, X^2/df = 2.09, CFI = 0.986, IFI = 0.986, RMSEA = 0.052). The strong relationship between structural empowerment and psychological empowerment supports Kanter's claim that social structural factors in the workplace are important conditions for empowering employees to accomplish their work.	Kanter's theory offers guidance for mangers interested in creating structures that support employee access to the information, support and resources necessary to achieve their work goals. By linking structural empowerment with psychological empowerment, we gain a broader understanding of the empowerment process, that is, how these structural organizational factors influence employees' feelings or experience of personal empowerment in the work setting.
	(2003) Laschinger, Almost & Tuer-Hodes	351 nurses (secondary data analysis), US & Canadian nurses.	Quantitative, predictive non-experimental design	Survey instruments were used for data collection: Conditions of Work Effectiveness-II, Nursing Work Index-R, Global Job Satisfaction Questionnaire, Nurse Job Satisfaction Questionnaire	The combination of empowerment and magnet hospital characteristics were significant predictors of job satisfaction, explaining 50% of the variance (R^2 = .502, *F* = 26.25, *df* = 2,52, *p* = .0001; β = .59, and β = .19, respectively).	Greater access to workplace empowerment structures resulted in: • higher perceptions of autonomy • increased control over the practice environment • positive nurse/physician relationships Empowerment structures were important influences with: • access to resources and support having the greatest impact on control over practice and autonomy • informal power having the strongest impact on nurse/physician relationships Access to empowerment structures increased perceptions of magnet

						hospital characteristics in the work place, in turn, increasing job satisfaction (average R2 = 0.41)
	(2006) Matthews, Laschinger & Johnstone	Staff nurses (n = 256) in 2 large teaching hospitals, one with a product line structure, the other with a staff structure. Canada.	Quantitative, Cross-sectional study.	Survey instruments were used for data collection: Conditions of Work Effectiveness Questionnaire-II, The Global Empowerment Scale	A correlation analysis between the CWEQ-II subscales and global empowerment revealed that all except the opportunity subscale were significantly correlated with nurses' overall sense of their workplace as an empowering work environment. When these subscales were entered in a multiple regression analysis, they explained 63% of the variance in global empowerment.	Chief nurse executives play a pivotal role in setting the context for professional nursing practice. Decisions about healthcare organizations must be made with the best available evidence to support them. Nursing administration needs a structure that brings professional values to the forefront while integrating the organizational values. Professional nurses who assume the role of CNE must be
Donabedian's Framework of Structure, Process & Outcome	(2004) Lageson	Sample recruited from 23 US Midwestern hospitals, 53 (10.6%) nurse managers, 221 (44.4%) RNs, 146 (29.3%) other nursing personnel, and 78 (15.7%) physicians.	Quantitative, Cross-sectional survey.	Survey instruments used for data collection: TQ Manager Feedback instrument, McCloskey-Mueller Satisfaction Scale, Quality of Care Monitor, Unit effectiveness (subscale from Nurse-Physician Questionnaire – Shortell & Rousseau) Staff perception of	A significant (r [50] = 0.467, $p < .05$) relationship was found between the nurse manager's quality focus and job satisfaction. The results suggested that the higher the quality focus score of the nurse manager, the higher the degree of job satisfaction for the nursing staff. Regression analysis of the nursing unit data was significant as well. Quality focus of the nurse manager was found to account for 21.8% of the variation in job satisfaction scores. The F test was significant (F [1,51] = 14.23, $p < .01$). Quality focus was not a significant predictor of patient satisfaction, unit	The manager's quality focus should reflect the need to have a viable, stable, and productive workforce to provide high-quality, cost-effective patient care. Awareness of the different aspects of Donabedian's model of structure, process, and outcome would be a valuable addition to other education the manager might receive about quality. Nurse managers should provide significant leadership in the provision of quality patient care on their units.

				unit quality (a single item indicator). Turnover rates of RNs (Price & Mueller equation)	effectiveness, staff perceptions of quality, or turnover rates of nursing personnel when tested at the unit level.	
Working Conditions	(2007)Stone, Mooney-Kane, Larson, Horan, Glance, Zwanziger, et al.	837 nurses employed in 39 adult ICUs from 23 hospitals located in 20 separate US metropol itan areas.	Quantitative, Cross-sectional.	Survey instruments used for data collection: The Perceived Nurse Work Environment, and Intent to Leave was measured using a single dichotomous indicator.	The variable with the largest substantive impact on Intent to Leave (ITL) is Organizational Commitment (OC); improving the OC by one standard deviation was predicted to reduce nurse's probability of ITL by 13 percentage points. The variable with the largest total impact on OC was Magnet status. Employment in a Magnet hospital was predicted to improve the OC by 8.4 percentage points. Because of the positive effect of wages on OC and the large effect of OC on ITL, a wage increase has a small total effect on decreasing ITL.	Nursing turnover is an important problem in acute care hospitals. With the backdrop of the nursing shortage and the costs associated with turnover, hospital administrators must find ways to become employers of choice if they are going to recruit and retain nurses. While improving nurse wages may help, it is insufficient. The findings of this study suggest that implementing interventions aimed at ensuring a positive Organizational Climate may be a more effective strategy.

Table 8. Nurse Retention Theories Comparison of Main Variables (Summary)

Main Variables / Theory	Spreitzer's theory of Psychological Empowerment	The Big Five Personality Traits	The Big Five Personality Traits & Subjective Well-being	Empowerment	Nurse Empowerment, Job-Related Satisfaction, and Organizational Commitment	Person-environment Congruence Theory	O'Brien-Pallas and Baumann's Unifying Framework	The Neuman Systems Model	SETON's PCT CareModel	Maslow's theory of hierarchical needs & Burns' theory of Motivation	Sociotechnical Systems Theory	Transformational versus Transactional Leadership	Transformational leadership and organizational involvement	Neoclassical Economic Theory	Push-Pull Theory of Migration & Cost of Turnover	Human Capital Theory	A Model for Hospital Nurse Retention	Kramer's Theoretical Model on Reality Shock	Health Promoting Organizations Framework	Clinical Ladder	Benner's theoretical framework of From Novice to Expert	Kanter's Model of Organizational Empowerment	Donabedian's Framework of Structure, Process & Outcome	Working Conditions
Structural Empowerment																						X		
Psychological Empowerment	X			X	X																	X		
Neuroticism		X	X																					
Extraversion		X	X																					
Openness to Experience		X	X																					
Agreeableness		X	X																					
Conscientiousness		X	X																					
Positive Affect			X																					
Negative Affect			X																					
Affect Balance			X																					
Job Satisfaction	X	X			X			X										X				X	X	
Organizational Commitment					X								X											
Functional Congruence						X																		
Psychological Congruence						X																		
Social/Environmental Hassles							X																	
Operational Hassles							X																	
Administrative Hassles							X																	
Nurse Hassles							X																	
Visitation Policy								X																
Belief								X																
Occupational Stress									X									X						
Patient Satisfaction									X														X	
Physician Satisfaction									X															
Patient Safety									X															
Physiologic Needs										X														

Safety										X															
Belongingness										X								X							
Esteem										X															
Self-actualization										X															
Work/Home Life							X				X								X						
Work Design											X														
Work Context											X														
Work World											X														
Leadership Style											X	X	X								X				
Nurse Wage Increase														X											
Entrants RN Labor Market														X											
RN Labor Demand Reduced														X											
Abstract theory															X										
Turnover Cost Phases															X										
Complex Cost Model : Pre & Post-hire Cost																X									
Nurse Market Influences																	X								
Institutional Environment																	X								
Nurse Employee																	X								
Rewards																	X								
Role Conflict																		X							
Communication																			X						
Management Philosophy																			X						
Effective Admin Systems																			X						
Quality of Care																			X				X		
Clinical Ladder Program																				X					
Patient Outcomes																					X				
Role Development																					X				
Critical Thinking																					X				
Course Completion																					X				
Unit Effectiveness																							X		
Organizational Climate																									X
Staffing Policies																									X
Intent to Leave																									X
Turnover							X		X						X	X	X			X			X		
Retention												X							X		X				

The six areas represented by the different theoretical frameworks could act individually or in any combination to influence a nurse's decision to leave either a unit, organization, or the nursing profession. Using a broad theoretical framework may identify an area of concern, which can be further investigated with a specific theoretical framework and appropriate measure.

The review of theoretical frameworks related to nurse retention in six disciplinary areas (psychology, sociology, leadership, economics, nursing, and organizational behavior) revealed that there are many different theoretical frameworks in each discipline. These different theoretical frameworks each offer different perspectives to explain nurse retention and turnover. Moreover, the key concepts of each discipline work both individually and interdependently in explaining broad issues in nurse retention.

Gaps in the literature related to nurse retention definitions, and nurse retention in various settings are largely due to lack of standardization. Developing or using already developed standard measures for specific nurse retention problems would increase the ability to generalize the collected data and develop interventions for future research. The major issues surrounding nurse retention research are the inconsistent definitions of measurements; without standard measurements, generalizability is not possible. Improving this problem could be addressed by using standard criteria for intervention or treatment studies for nurse retention.

How can nurse retention interventions or treatments be improved? By following steps outlined by Kane (2006) for treatments. Although Kane's model is intended for drugs, it can be useful for organizing one's descriptions and thinking about workforce interventions.

a. All seven elements of a treatment must be present and defined.
    - Type – influencing quantity, competence, staff's perception of work, or rewards and punishments, reorganizing work processes, and providing capital resources.
    - Dosage – how much of treatment is required.
    - Route – how is treatment delivered.
    - Frequency – how often is treatment delivered.
    - Duration – how long is treatment delivered.
    - Onset/Timing – relevant to the problem and is quick action or incremental implementation better.
    - Technical Aspects/Provider Characteristics – reliability of technology/skill of the treatment provider.

b. A Nurse Retention Treatment should have enough detail to be replicated exactly in another population.

c. A Nurse Retention Treatment should have a measurable outcome defined in a level of detail that can be used for comparison.

d. The population that the Nurse Retention Treatment is applied to should be described in as much detail as possible to allow for comparison of effects on groups of nurses by educational level, job, specialty, gender, age, race/ethnicity, years of experience, and amount of time in present job. Other population variables could include location and pay.

e. The more information you have about the definition of a treatment, how a treatment was administered, and to whom it was administered, the better the chances of replicating its effect.

f. The outcome of Nurse Retention Treatments, Nurse Retention or Turnover must be measured in a standardized manner in order to compare treatment results.

Last, according to Kane (2006), the most important thing to do when designing and implementing a treatment is to isolate the treatment.

Assumptions

In undertaking this study of nurse retention and intent to leave there are several assumptions that are made by the researcher:

a) Kanter's Theory of Organizational Structure and Empowerment may explain the phenomenon of nurse retention in an organizational setting,

b) the relationships among concepts in Kanter's Theory of Organizational Structure and Empowerment are necessary, sufficient, and clear in communicating a logical progression to nurse retention,

c) the instruments used in this study [Conditions for Work Effectiveness Questionnaire-II (CWEQ-II), Psychological Empowerment Scale (PEI), Job Satisfaction, and Intent to Leave] are congruent with the study's conceptual framework and the measurement model and data analysis adequately capture core concepts in Kanter's Theory of Organizational Structure and Empowerment,

d) evidence generated by the study methods will be sufficient to identify areas of interest for possible intervention in organizations to affect nurse retention,

e) findings from this study have worth to nursing and the health care industry because of improved understanding on how healthcare can make organizational changes to improve nurse retention [nurse job satisfaction, lower organizational costs (nurse workforce) and improved healthcare quality].

Hypotheses

The hypotheses for the dissertation research directly reflected the author's questions and were supported by the literature cited in this paper.

Ha_1: There are differences between the factors that influence intent to leave in civilian and military nurses.

Ha_2: There is a positive relationship between structural empowerment, psychological empowerment factors, and job satisfaction.

Ha_3: There is a negative relationship between structural empowerment factors, psychological empowerment factors, job satisfaction, and the intent to leave.

Ha_4: There is a positive relationship between personal and economic factors and the intent to leave.

Ha_5: Structural empowerment, Psychological empowerment, Job satisfaction, and Personal and Economic factors are predictive of intent to leave.

Summ*ary*

Kanter's Theory of Organizational Structure and Empowerment has been tested in more nursing studies than other theoretical frameworks used to explain nurse retention and has repeatedly shown the importance of work environment to nurse retention (Irvine & Evans, 1995). Kanter's Theory of Organizational Structure and Empowerment was

selected for the theoretical framework because it may provide the basis for change in organizations that will transform organizations into desirable workplaces. This would be particularly helpful in military organizations by focusing change on the organization versus the individual. Future nurse retention research should continue to use Kanter's theoretical framework to determine how organizations can best meet the needs of nurses (e.g., empowerment, job satisfaction) leading to interventions that foster improved retention.

CHAPTER III

METHODOLOGY

Chapter III provides the research design, the research setting, the sample description and sampling plan, the data collection methods, the instruments, the data analysis methods, and concludes with a chapter summary.

Research Design

The research design was a comparative group design with population sampling of the target group. Figure 3 shows the dissertation study design with Intent to Leave and Job Satisfaction as the dependent variables in Phase I. The second half of the design presents the proposed follow-up future study or Phase II with the dependent variable being "Nurse Retention" (those who stayed versus those who left their organizations).

The dissertation research (Phase I) compared two groups of registered nurses in different organizations, one the Army healthcare organization and the other a large civilian tertiary care organization. Phase I collected contact information from participants to be used as a recruitment list for the second phase one year after the completion of the dissertation.

Description of the Research Setting

The study took place in several settings. The US Army nurses worked in a fixed healthcare facility (medical center, community hospital, or clinic), a field hospital, or

deployed military healthcare unit (general hospital, combat support hospital, Forward Surgical Team) (US Army Medical Department, 2009).

The setting of the second group (civilian nurses) was the Vanderbilt University Medical Center in Nashville, TN. This is a 847-bed tertiary care and teaching facility (Vanderbilt University, 2009). This site was selected because it offered the convenience of being located on the same campus as the investigator, had a large enough population to mirror the US Army group, and included many of the same nursing specialties as the US Army group.

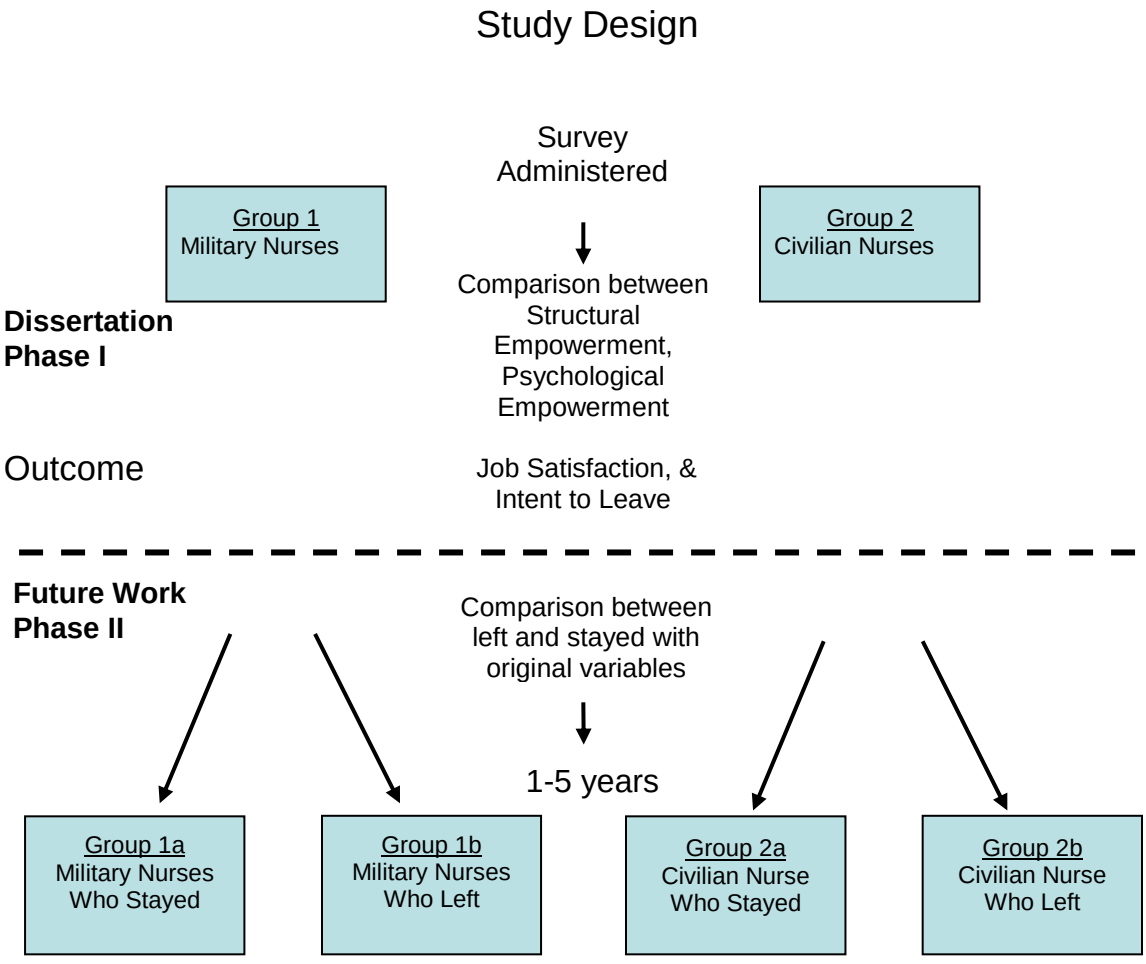


Figure 3. Study Design for Comparison of US Army and Military Nurses: The Influence of Personal and Organizational Factors on Intent to Leave

Sample and Sampling Plan

The sample for this study was drawn from two populations of registered nurses, US Army Nurse Corps officers (Army nurses) and civilian registered nurses. The Army nurse group total population consisted of 3163 Army nurses in the military ranks of Second Lieutenant (2LT), First Lieutenant (1LT), Captain (CPT), and Major (MAJ). These were the ranks, in 2008, that exhibited the highest turnover rates (up to 20%), according to the Office of the Chief, Army Nurse Corps (personal communication, November 9, 2010). This entire population was invited to participate in the survey.

The comparative group sample of civilian nurses was a convenience sample drawn from Vanderbilt University Medical Center (VUMC), Nashville, TN. This group was selected because it provides a large group of registered nurses (4000) with a BSN or higher degree, which is comparable to the Army group. The VUMC group also employs a slightly higher number of BSN male nurses, approximately 10%, according to the Director, Nursing Professional Practice, Vanderbilt University Medical Center (personal communication, March 31, 2009). Six percent of nurses in the overall US nurse population are male (2004 National Sample Survey of Registered Nurses). The Army employs a high percentage of males, at 35% (Funari, 2009). The VUMC nurse population also includes many of the same specialty areas represented in the Army group. These are listed in the inclusions and exclusions section. A randomly selected group of 861 VUMC nurses was selected by the Nursing Research Office, VUMC to participate in this research study.

Two different techniques were explored to determine the total number of survey participation invitations to send out for the study. The first technique was cited in several

publications (Cohen, Cohen, West, & Aiken, 2003; Munro, 2005) and was calculated based on power, effect size, alpha level, and the number of variables. This method yielded a requirement for at least 284 participants but did not address the number of initial contacts that would be needed to acquire the 284 participants. This sample size was calculated at a power of 0.80, a moderate effect size, and an alpha of 0.05 for the 15 variables.

The second technique explored was the Custominsight.com calculator (Custominsight, 2009). The Custominsight method calculated a survey distribution of at least 2623 with a 30% response rate yields a final total sample of 787 for a 95% Confidence level with a 3% error rate. The Custominsight.com calculation was used because it was specifically designed for surveys and provided an initial contact goal for obtaining a desired number of participants.

The sample was recruited using an electronic survey during the period from October 27 to December 31, 2009 (see Procedures 6.b., p.62). The email messages were sent through the Assistant Corps Chief's Office, Army Nurse Corps for the US Army nurses and through the Director of Nursing Research, Vanderbilt University Medical Center for the civilian nurses. The messages were sent from the aforementioned offices through the organizational mail list to prevent the release of emails.

A drawing was held for a $50 dollar American Express gift card for any of the civilian registered nurses who completed their surveys, including their identifying data. The $50 amount was chosen as a small incentive to help improve participation and survey completion. The survey required 15 minutes to complete. The US Army nurses cannot receive money for participating in this type of research (Army Regulation 40-38);

therefore, separate email invitations (Appendix A) were written for the two groups of possible participants.

The civilian registered nurse group was a convenience sample randomly selected from the civilian registered nurses that were employed by VUMC and met the inclusion criteria of the dissertation study. Every 4th nurse, who met the inclusion criteria (see *Criteria for sample selection, criteria for inclusion and exclusion*), was invited to participate in the survey, yielding 861 possible participants. The entire VUMC eligible population was not surveyed because of institutional concerns about overburdening employees with requests for survey participation. All completed surveys returned were analyzed. The omission of the identifying data did not affect the analysis of the Phase I (dissertation research) data. The identifying data were collected for possible inclusion of participants in the Phase II follow-on study (see Figure 3).

Nature and size of the sample. The samples were taken from two groups: a) the first group consisted of all US Army nurses in the ranks of 2nd Lieutenant through Major (3163). b) the second group was a convenience sample of 861 civilian registered nurses, randomly selected from the nurses employed at VUMC, age range between 22 and 69 years of age.

Criteria for sample selection, criteria for inclusion and exclusion. The inclusion and exclusion criteria for sample selection in the study were as follows:

a. The population of active duty Army Nurse Corps (ANC) officers (between the ranks of 2LT and MAJ) were 3163 individuals. The Vanderbilt University Medical Center nurse population numbered approximately 4000 of whom 861

were chosen randomly to receive the electronic survey. The final sample included all individuals who returned the survey.

b. No one of any gender, age, racial, or ethnic group who is a registered nurse in the two groups was excluded from this study, all who met the criteria for inclusion (see below) were accepted for participation.

c. The sample of registered nurses from VUMC was limited for inclusion to acquire a sample that was as close as possible to the US Army nurse group. The following is a list of inclusion requirements:

BSN or higher degree, US Citizen, Inpatient staff nurses (Medical/Surgical, Critical Care, Labor & Delivery, Orthopedics), Operating Room nurses, Psychiatric nurses, Community Health nurses, Recovery Room, Emergency Room nurses, Certified Registered Nurse Anesthetist (CRNA), Family Nurse Practitioners, Nurse Managers, Administrative nurses (Any nurses working in various administrative positions).

d. Exclusions: Pediatric nurses or Nurse Practitioners (other than the above-mentioned FNP & CRNAs). These nurses were excluded because the US Army does not list these specialty areas as options for their nurses.

Children were excluded from this research study because the study involved data collected from registered nurses. In order to join the Army as a registered nurse an individual must be at least 21 years of age (U.S. Army Recruiting Command, 2007).

Procedures. The procedures included:

1) Verbal agreement obtained from the US Army and VUMC for organizational support.

2) Institutional Review Board (IRB) approval obtained from VUMC IRB and Brooke Army Medical Center IRB (BAMCs IRB was used because the Army does not have a centralized IRB for medical research – BAMCs IRB was suggested by the Army Nurse Corps' consultant for Nursing Research-2009).
3) The REDCap Survey process was completed and the database for data storage was created simultaneously. The REDCap process is a VUMC secure web based medical data collection site which offers tools for survey building, data collection, database creation, and secure database storage.
4) Pilot Testing

   The Principal Investigator (PI) administered the survey with a pilot test of five individuals who were not members of the accessible population. This test was to check the database for proper functioning prior to the study. The PI determined that there were no problems with the survey function. The data fields, skip questions, database population, and accessibility levels all functioned as intended.
5) Once the PI deemed the survey and database were functional, the test subjects and test data were removed from the database and the study survey link was sent to the US Army and VUMC contacts for forwarding via institutional email.
6) The survey (Appendix A) was launched on October 27, 2009 to the selected populations via email. A copy of the participant invitation email (IRB approved) and linked survey information are located in Appendix A.

Recruitment procedures included:

a) The recruitment email (Appendix A) contained a link to a letter providing the information about the study, the data protection details, and information on the participant incentive (civilian participants only). At the end of the participant invitation letter there was a link to the survey. Consent was implied by completion of the survey.

b) The survey was re-launched at intervals at least two-weeks apart with each group receiving three mailings (Table 9). The 2-week interval was chosen because it was felt that sending messages closer together would be irritating to individuals. All messages contained bold face messages that stated the individual's participation or non-participation would not affect performance evaluations or job status and that answers would only be reported in the aggregate to protect individuals.

Table 9. Launch Dates for Nurse Retention Survey participation Invitations.

Launch Number	Army Group	Civilian Group
#1	10/27/2009	10/30/2009
#2	11/10/2009	11/20/2009
#3	12/14/2009	12/07/2009

c) The survey was displayed in its entirety allowing participants to see how many questions were in the survey and view questions prior to starting the survey.

d) Once the survey was submitted, the participant received an automatic "Thank You" message.

7) The survey was closed (December 31, 2009) after the last of three mailings was open for two weeks. The total time for survey data collection was 66 days.

8) A drawing was held for a $50 American Express gift card (limited funds were available) for the civilian participants, military participants are not eligible for compensation (Army Regulation 40-38). Separate participant invitation letters were drafted for the civilian and military samples for this reason.

9) The $50 American Express gift card was mailed to the winning participant accompanied by a note of thanks for participating in the study.

10) Data were download to SPSS for analysis.

11) The data were analyzed and the results and conclusions sections were completed.

12) Dissemination of results will be through the dissertation defense, presentation for VUMC Nursing Department, presentation prepared for Army Nurse Corps, and submission for publication is planned in peer-reviewed journals.

Human subjects' protection. The web-based survey (REDCap) was chosen for use in this research because it offered several advantages over other survey methods. There were limited funds available for this project which drove the decision to employ a

web-based survey over a mailed survey and REDCap is provided for use free to any student or employee of Vanderbilt University or VUMC through grant support from the National Institute of Health (1 UL1 RR024975 from NCRR/NIH). REDCap was also chosen for its security features and ease of administration. REDCap was designed to protect healthcare information and data were stored on a secure server at VUMC. Data, once collected, are easily downloaded to a variety of statistical packages that allow for analysis.

The survey was sent as a blanket invitation (thereby ensuring no direct link to the invitees) to participate through organizational email by representatives in the organizations. When the survey was completed, the answers to the survey populated a database connected to the survey by the SUBMIT button at the end of the survey. The survey method allowed for completion at the individuals convenience and allowed for completion of the survey in private. These measures decreased the possibility of coercion.

Additional procedures used to protect against or minimize potential confidentiality risks were the database assigned automatic unique identifiers non-attributable to the individual. The automated identifiers and the identifiable information (name, email) were stored on the server but the identifiable information was deleted from the files downloaded for analysis. The identifying information will be used to follow-up with subjects in Phase II, a future study. The individual identifiers will be destroyed, once the additional study information is collected and linked to the original survey.

There is extreme high likelihood of effectiveness for protection of confidentiality for this research study.

Data Collection Methods

1) Data that were recorded on the human subjects included demographic information, Likert scale responses to questions about work/career/military life, personal/family economics, job satisfaction, and intent to stay.

2) Data were only reported in the aggregate and never attributable to an individual or the nursing unit where the individual worked. Levels of data access were included that prohibit visibility of the file containing the individual identifiers.

Instruments. There are many measurement instruments used both singularly and in combination that attempt to predict which individuals are most likely to leave or predict the factors that may cause turnover. Many examples are included in Tables 2-7 (Theoretical Frameworks used in Nurse Retention Research Contributing Disciplines); however, this section focuses on the four major instruments and two exploratory groups of questions, economic factors, and personal factors that were used in the dissertation research. These instruments are outlined in Table 10, *Study Instruments* at the end of this section. Required permission for instrument use is located in Appendix G.

Job Satisfaction (Appendix D) (Buerhaus, et al., 2005) The job satisfaction scale is a unidimensional measurement of job satisfaction. Unidimensional job satisfaction measurement has been used for many years. Porter and Lawler (1968) argue that you are generally satisfied or dissatisfied with your job. The reliability of unidimensional (single-item) measures of overall job satisfaction was examined in a meta-analysis (including 28 correlations from 17 studies with 7,682 people) conducted by Wanous, Reichers, and Hudy (1997), and found an average uncorrected correlation of .63 *(SD* =.09) with scale measures of overall job satisfaction. Validity was not reported for this

scale or single-item scales as a group. Weaknesses and strengths of the single-item scale for job satisfaction are dependent on their use according to Wanous, Reiches, and Hudy (1997). They explain that limited space on a questionnaire or measuring overall change in satisfaction are two reasons a researcher may want to use a single-item measurement. Wanous, Reiches, and Hudy (1997) also state that their findings should not be interpreted as questioning the use of well-constructed job satisfaction scales but as a case for acceptability of a single-item scale when appropriate. To score the job satisfaction scale the numbers 1 through 4 were assigned to each of the four possible responses with 4 being "very satisfied" and 1 being "very dissatisfied". Job satisfaction was one of two dependent variables used in this study.

The Conditions of Work Effectiveness Questionnaire-II (CWEQ-II) (Appendix B) (Laschinger, et al., 2001), a modification of the original CWEQ, consisted of 19 items that measure the 6 components of structural empowerment as described by Kanter (opportunity, information, support, resources, formal power, and informal power), and a 2-item global empowerment scale which was used for construct validation purposes. Reliability reported for the subscales ranged between (.70 to .93) (Armstrong & Laschinger, 2006). The construct validity of the CWEQ-II was substantiated in a confirmatory factor analysis that revealed a good fit of the hypothesized factor structure (c 2 = 279, df = 129, CFI = .992, IFI = .992, RMSEA = .054). The CWEQ-II also correlated highly with the global measure of empowerment (r = 0.56), providing additional evidence of construct validity. This analysis was detailed in a study by Laschinger, Finegan, Shamian and Wilk (2001).

A weakness of the CWEQ-II was that most of the studies had small sample sizes and it is suggested that more large samples will increase the ability to generalize results. Strengths of the CWEQ-II are that the shorter 21-item version shows reliability and has low response burden for questionnaires. The measurement of each individual variable was accomplished in the CWEQ-II by administering three, 5-point Likert scale, questions for each individual variable except for informal power which was measured using four, 5-point Likert scale questions (Appendix B). Items that belonged to each of the six subscales were averaged to provide a score for the individual subscales (Range 1 to 5). The subscale scores were then averaged to create a total empowerment score (Range 1 to 5). Higher scores are representative of higher perceptions of power. Cronbach's alpha for the Structural Empowerment (SE) scales in this sample were SE Opportunity (.86), SE Information (.84), SE Support (.86), SE Resources (.73), SE Formal Power (.74), and SE Informal Power (.72).

Psychological Empowerment Instrument (PEI) (Appendix C) is a 12-item scale developed by Spreitzer (1995). The PEI measures the four components of psychological empowerment construct (meaningful work, competence, autonomy, and impact). The reliabilities of the subscales are high (between 0.85 and 0.91) (Laschinger, Finegan, Shamian, & Wilk, 2004). Spreitzer (1995) found evidence of convergent and divergent validity for these subscales in a study comparing managers and non-managers. The PEI was further validated by Laschinger et al. (2001) in a confirmatory factor analysis (c 2 = 117, df = 49, CFI = 0.996, IFI = 0.996, RMSEA = 0.059).

A weakness of the PEI is the lack of use in intervention studies to measure the change in empowerment before and after an intervention (Spreitzer, 1995). Strengths

include support for the importance of empowerment from both organizational researchers and practitioners (Spreitzer, 1995). The measurement of each individual variable was accomplished in the PEI by administering three, 7-point Likert scale, questions for each individual variable (Appendix C). Items that belonged to each of the four subscales were averaged to provide a score for the individual subscales (Range 1 to 7). The subscale scores were then averaged to create an empowerment score (Range 1 to 7). Higher scores are representative of higher perceptions of power (Spreitzer & Quinn, 2001). Cronbach's alpha for the Psychological Empowerment (PE) scales in this sample were PE Meaning (.91), PE Confidence (.90), PE Autonomy (.93), and PE Impact (.92).

Intent to Leave (ITL) (Appendix E) has been used in several studies (Choi, Jameson, Brekke, Podratz, & Mundahl, 1986; Connelly, Bott, Hoffart, & Taunton, 1997; McCarthy, Tyrrell, & Lehane, 2007; Nahm, 1940; Stone, et al., 2007; Yoder, 1992) and while it has been shown to be an antecedent of turnover (Griffeth, et al., 2005) the instrument is not standardized. Reliability was reported for Intent to Leave Instruments in two studies Choi et al. (1986) .82 to .95 and Yoder (1992) .89. The questions about intent to leave (or in some studies stay) have changed in most studies because the question is tailored to a specific problem that the researcher is attempting to address. The constant change in the approach to the question could be occurring because the intent to leave question is not exhaustive in the possibilities of leaving or staying.

One other item that may increase the usability of this tool is the inclusion of intentions to reduce the amount hours the individual nurse plans to work. This may be interesting because as Buerhaus, Staiger, and Auerbach (Buerhaus, et al., 2009) point out, the individual economic situations enter into the decision of not only if the nurse will

choose to participate in the labor market but also how much the nurse will participate. Minnick (2000, p. 217) states that "little research is aimed at detecting what factors are associated with labor participation" in selected areas of nursing practice. Including a choice in the intent to leave question about increased or decreased participation may be one way to enrich data in this area. Intent to leave consisted of two individual variables (intent to stay and intent to leave).

The measurement of each individual variable was accomplished in ITL by administering one question with a series of dichotomous choices for each of the two individual variables (Appendix E). Those choices revealed if the nurse intended to stay with the organization or leave the organization and if they intended to change jobs within or outside of the organization, or if they intended to stay with an employer in any job. The question number for ITL was 35 in the participant version of the survey located in Appendix A. This variable was the second of the two dependent variables for this study.

The final section of the survey was labeled Demographic Information (Appendix F) and included economic and personal factor questions. These questions have not been tested and therefore there is no reliability and validity information for the factors in this section.

Economic Factors (Appendix F) collected were based on categories of The Panel Study of Income Dynamics (2007) from the Institute for Social Research, University of Michigan, Ann Arbor, Michigan. This was a lengthy survey (193 pages) and could not be included because of response burden but the questions included in the survey were based on the major categories of The Panel Study of Income Dynamics questionnaire (University of Michigan, 2007). The questions were meant to gain information about the

basic economic situation of the study participants. The questions about income were modeled after questions on the 2004 National Sample Survey of Registered Nurses. The lower and upper limits were adjusted, the lower limit was equal to the starting pay of a beginning military nurse and the upper limit was increased to account for wages of a professional spouse. This was adjusted to better test the effects of household wage on intent to leave.

The measurement of each individual variable was accomplished independently by questions (Appendix F) that either required answers that were interval or ordinal in nature. Intent to leave was believed to increase as nurses' overall economic situations improved, and if they were secondary wage earners contributing only a small proportion of the total household income (Minnick, 2000).

Personal Factors (Appendix F) included two sets of information, basic demographic information (gender, ethnicity, race, year of birth) and a set of questions based on the factors found by Gahol (2005) that affected the retention of US Army nurses. These questions were included to test their uniqueness to the US Army nurse population.

The personal demographic factors consisted of 11 questions (Appendix F) to identify basic demographic information for the population (year of birth, gender, ethnicity, race, nursing specialty, nursing position, years as a registered nurse, years with present employer, presence of a contractual agreement, and if applicable military rank).

The Gahol personal factors consisted of 9 questions to identify factors found in a study (Gahol, 2005) of Army nurses who had left the Army. These 9 questions were meant to measure the 7 factors identified by Gahol (2005), which were cited as the reason

for leaving the US Army by between 5.6% and 10.6% of the respondents. Four of the questions measured two of the factors, resulting in 9 questions for the 7 factors. Of the 161 respondents in the Gahol (2005) study, 112 answered the question "What was the most important reason for leaving Active Duty" 67 of those or 60% chose 1 of the 7 factors included in this survey. Other reasons were listed but this group represented not only the greatest percentage but there was a clear demarcation in the frequency levels between the last question in this group and the next most frequent answer.

The questions for this study were written so that they may be asked to any group of nurses, not only Army nurses. The questions for this study survey were, Have you been geographically separated from your family because of your job? If yes, for how long? I feel like I have a great deal of control over my life. I have found it difficult to stabilize my family in one geographical location because of my job. My job often interferes with my personal/family life. I have found it difficult to start a family while working for my present employer. I would prefer to stay at home with my children.

These questions were intended to test if the factors were present in nurse populations other than Army nurse populations. The questions in the Gahol (2005) study asked specifically about deployment, increased operational tempo, active duty, and other distinctly military phenomenon. The questions were rewritten to determine if the same factors were present in both the civilian and Army populations in the study. An example is: (This study) Have you been geographically separated from your family because of your job? versus (Gahol, 2005) Have you been deployed? Both questions address separation from family because of employment.

Except for this initial question, the questions were presented in a Likert scale to produce a scale score similar to scores in the remainder of the survey. The personal factors (Gahol, 2005) were selected to test if the same factors affected intent to leave in civilian nurses or if they were unique to Army nurses.

Table 10. Study Instruments

Concept **Individual Variables**	**Measure**	**Tool (Item #)**	**Validity** **Reliability**
Job Satisfaction Unidimensional	4-point Likert scale (Interval data) Due to scoring Question from (Buerhaus et al.,2005)	Appendix D (JS-1)	Correlation with JS Scales(r=.63)(SD=.09) (Wanous, Reichers, and Hudy, 1997)
Structural Empowerment Opportunity Information Support Resources Formal Power Informal Power	21 questions 5-point Likert scale (Interval data) Due to scoring	Conditions of Work Effectiveness Questionnaire-II Appendix B (O 1-3) (FP 1-3) (I 1-3) (IP 1-3) (S 1-3) (R 1-3)	Validity (r = 0.56) (*c* 2 = 279, df = 129, CFI = .992, IFI = .992, RMSEA = .054) (Laschinger, et al., 2001) Reliability (.70 to .93) (Armstrong & Laschinger, 2006)
Psychological Empowerment Meaning Confidence Autonomy Impact	12 questions 7-point Likert scale (Interval data) Due to scoring	Psychological Empowerment Instrument Appendix C (M 1-3) (C 1-3) (A 1-3) (I 1-3)	Validity (*c* 2 = 117, df = 49, CFI = 0.996, IFI = 0.996, RMSEA = 0.059) (Laschinger, et al., 2001) Reliability (.85 to .91) (Laschinger, et al., 2004)
Intent to Leave 1-yr intentions	1 question Multiple choice, forced response with option for other response. (Nominal data)	Intent to Leave Appendix E (1 a-e)	Validity NA Reliability (.82 to .95) (Choi, et al., 1986; Yoder, 1992)
Economic Factors Housing Income (household) Income (participant % of household) Marital status Children/dependents Education	Multiple choice, forced response (Ordinal data)	Demographic Information Appendix F (EF 44-45, 52-57)	Validity - NA Reliability - NA
Personal Factors Age Gender Ethnicity/race Years with employer Years in nursing Nursing specialty Nursing position Employment obligation Military attrition factors	Combination of Multiple choice, forced response and whole numbers (Nominal data & Interval data)	Demographic Information Appendix F (PFD 46-50, 51a, 51b, 58-61) (PFG 36-42, 43a, 43b)	Validity - NA Reliability - NA

Credibility, rigor, validity of design and methods. The dissertation research strived for credibility by using two instruments that have been extensively used and improved over a span of 35 years. These instruments, the CEQW-II and PEI, have high reliability and validity values. While the ITL instrument has not been used before, the underlying question it answers, "Does the individual intend to leave their job/organization?" has been the same underlying construct in the past. A unidimensional job satisfaction question has been reported through meta-analysis (Wanous, et al., 1997) to have high correlation with job satisfaction scales (r= .63) and was used in this research to reduce respondent burden. The ITL instrument allowed for more detail in the participant's alternative to their present employment situation. Credibility was further pursued by the addition of economic and personal factors that may add to predictability of the model in the future. Rigor was accomplished by adherence to the instruments' tested use and scoring techniques and the use of comparative groups.

Data Analysis

The data analysis for the dissertation research was designed to compare US Army nurses and civilian nurses and the influence of organizational and personal factors on their intent to leave their organizations. Data analysis for the research was accomplished using the statistical package PASW® Statistics 18 (Predictive Analytics software – formerly known as SPSS) for all analysis. Prior to analysis, data were verified and cleaned. The data required minimal cleaning (data cleaning procedures detailed in Chapter IV) due to the electronic format of the survey.

These actions produced a final total of 821 participants for the study. The power analysis required 787 participants for a 95% Confidence Interval with a 3% error rate. Descriptive statistics and Logistic Regression were used to analyze the data. Both unadjusted and adjusted logistic results will be provided to show the impact of adjustments for covariates.

The final statistical analysis performed was a Cluster Analysis of military nurses who indicated intent to leave. Cluster Analysis is a method of classifying cases into groups based on a defined set of variables. This technique defines unknown groups within a data set. This method can be used to classify groups that are relatively homogeneous within themselves and heterogeneous between each other. The groups that are formed by this method are called clusters (www.mvsolution.com). Using PASW® Statistics 18 a Log-Likelihood Distance (Two-Step clustering algorithms) Cluster Analysis was performed to determine if the individuals who intended to leave had further identifying characteristics. This method compares groups and not individuals providing information that may be helpful in identifying characteristics of groups of individuals in targeting retention interventions.

The log-likelihood distance measure can be used with both continuous and categorical variables and is a probability based distance. This cluster analysis method was chosen because of its ability to handle both types of data. The distance between two clusters is related to the decrease in log-likelihood as the process combines the model clusters into one cluster. The Schwarz Bayesian Information Criterion (BIC) are then used for selecting the best number of clusters based on those distances. Log-likelihood assumes normal distributions for continuous variables and multinomial distributions for

categorical variables. Log-likelihood also assumes that the variables and the cases are independent of each other [(PASW® Statistics 18, Help Topics: Log-Likelihood Distance (Two-Step clustering algorithms), SPSS-IBM Co.]. "The distance between clusters j and s is defined as:

$d(i,j)=\xi_i+\xi_j-\xi_{<i,j>}$

where

$$\xi_v = -N_v\left(\sum_{k=1}^{K^A}\frac{1}{2}\log\left(\hat{\sigma}_k^2+\hat{\sigma}_{vk}^2\right)+\sum_{k=1}^{K^B}\hat{E}_{vk}\right)$$

and

$$\hat{E}_{vk}=-\sum_{l=1}^{L_k}\frac{N_{vkl}}{N_v}\log\frac{N_{vkl}}{N_v}$$

If $\hat{\sigma}_k^2$ is ignored in the expression for ξv, the distance between clusters *i* and *j* would be exactly the decrease in log-likelihood when the two clusters are combined. The $\hat{\sigma}_k^2$ term is added to solve the problem caused by $\hat{\sigma}_{vk}^2=0$, which would result in the natural logarithm being undefined (This would occur, for example, when a cluster has only one case.)" [(PASW® Statistics 18, Help Topics: Log-Likelihood Distance (Two-Step clustering algorithms), SPSS-IBM Co.].

CHAPTER IV

RESULTS

Chapter IV provides the results by study aim after an initial presentation of analytic preparation and descriptive statistics. Analytic preparation included the cleaning procedures as well as the identification and treatment of missing data. While both military and civilian nurses were sampled, the civilian respondents only reported 26 individuals who intended to leave. While both groups had similar response rates (military 19.2% and civilian 23.7%) the civilian group included 204 nurses which did not yield a large enough number of participants who intended to leave (26) for a meaningful statistical analysis. Therefore, the statistical analysis was redirected to focus on the Army respondents. The civilian data was explored and there were notable observations, which will be added to the discussion in Chapter V.

The deletion of the civilian group from the analysis necessitated a rewrite of the study hypotheses. The adjusted hypotheses that are addressed in the data analysis and conclusions are:

Ha_1: What are the relationships between structural empowerment factors and intent to leave within a sample of military nurses?

Ha_2: What are the relationships between psychological empowerment factors and intent to leave within a sample of military nurses?

Ha_3: What is the relationship between job satisfaction and intent to leave within a sample of ANC officers?

Ha_4: What are the relationships of personal and economic factors on ITL?

a. What are the relationships between personal demographic factors and intent to leave within a sample of military nurses?

b. What are the relationships between personal factors (Gahol, 2005) and intent to leave within a sample of military nurses?

c. What are the relationships between economic factors and intent to leave within a sample of military nurses?

Data Set Formation

The preliminary analysis led to the decision to focus the analysis on the 607 military respondents. This sample yielded a sufficient number of respondents within that group who intended to leave (112) to provide meaningful statistical analysis of the readjusted hypotheses. The following section describes the details of the data set formation.

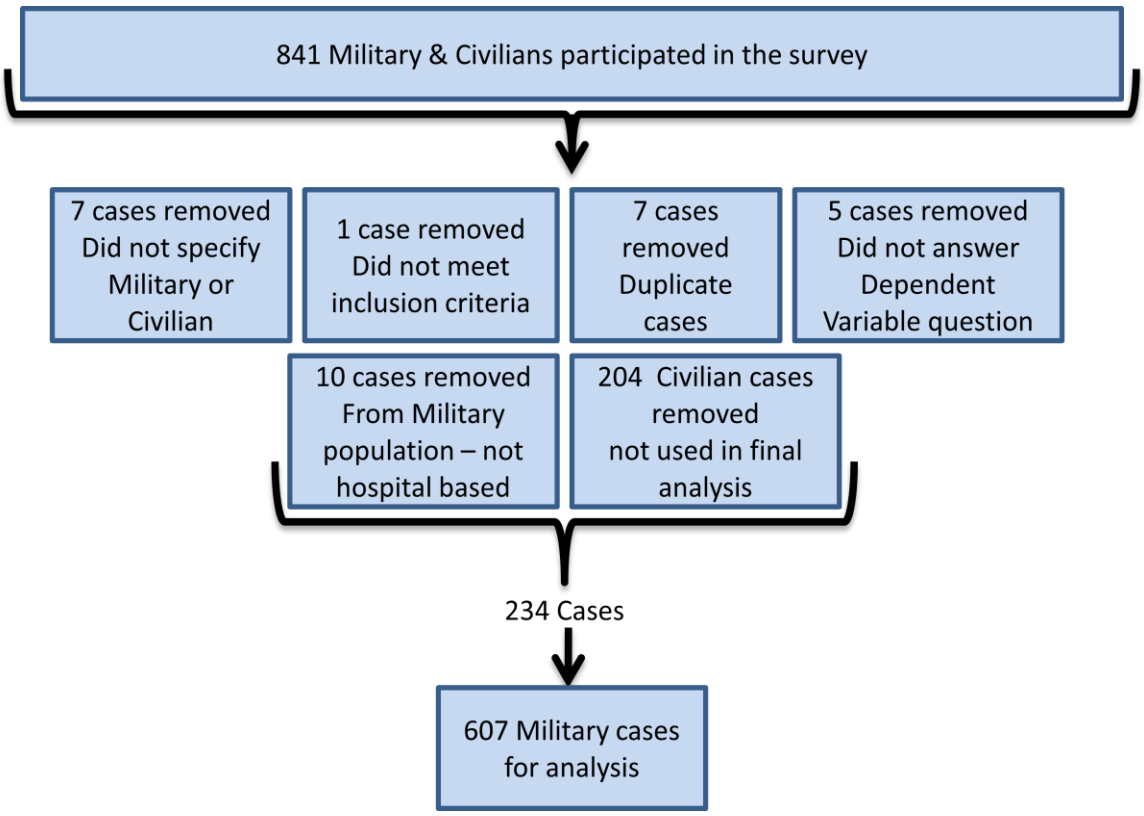


Figure 4. Data Set Formation.

Analytic Procedural Preparation

Data cleaning and response rates. There were 841 completed surveys. As shown in Figure 4, after removal of the civilian cases (N=204), cases that either did not meet the inclusion criteria (N=18), or were missing data on key study variables (N=12), a final sample of 607 military nurses were available for analysis in this research.

Missing data. The two questions that were not answered most often were income questions "total household income" and "individual income". These two questions were missing 2.9% and 3.3% of the time respectively. The number of dependents over 18 years of age was not answered 2.2% of the time. The remainder of the questions, which required an answer, had missing values between 0.0% and 1.5% with the majority of the

values missing less than 1% of the time. Because of the low number of missing values (approximately 1%) and the random nature of the missing data in the data set, cases with missing data were retained. Standardized scale scores (e.g., the empowerment scale scores) required a response to each of their component items. Analyses were completed on the total number of respondents available for each respective analyses (e.g., both unadjusted and adjusted data for a given logistic regression).

Study Respondents

The sample of Army registered nurses (ANC) was self-selected from the population of military nurses in the ranks of Second Lieutenant to Major (n=3163). All were invited to participate. The response rate was 19.2% (607/3163).

Characteristics of the respondents. Characteristics of the military nurses who participated in this research are summarized in Tables 11 through 15. Overall, the Army nurse respondents to this survey are statistically representative of the Army Nurse Corps (ANC) as a whole. The Army respondents were 64.8 percent female, the ANC 65 percent female, the Army respondents were 35.2 percent male and the ANC was 35 percent male. Of the Army Respondents 63.9 percent were married and of the ANC 64 percent were married. The Army respondents reported 6.6 percent Hispanic or Latino Ethnicity and the ANC is 5.4 percent Hispanic or Latino. The distribution of Race was also very close with the following results: American Indian/Alaska Native, Army Respondents (1.5), ANC (0.7); Asian, Army Respondents (9.9), ANC (7.6) combined with Native Hawaiian/Pacific Islander; Black/African American, Army Respondents (15.8), ANC (19.2); and White, Army Respondents (73.0), ANC (61). Lastly, the Army

respondents were 36.2 years old (mean age) and the ANC officers in 2004 had a mean age of 37 years (Gahol, 2005).

Known national characteristics of registered nurses, ascertained through the National Sample Survey of Registered Nurses – 2004 (NSS-RN), are also shown in Table 11 and 12. As summarized in Table 11, the Army respondents were more balanced than the NSS-RN group in terms of gender. The Army respondents had a considerably higher percentage of male nurses than the NSS-RN national sample (35.2 percent versus 7.1 percent). The Army respondents were more diverse than the NSS-RN group with a higher percentage of Hispanic respondents, 6.6% vs, 1.9% respectively. The Army respondents were 73.0 percent white compared to 90.4 percent for the NSS-RN group. The percentage of respondents who were married was where the two groups were most similar (64% military and 71.3% NSS-RN). The Army sample tended to be younger (36.2 years on average) than the NSS-RN group (43.3 years) and tended to have fewer years of RN experience, (Army – 8.5 years on average and NSS-RN – 16.4 years on average) (Table 12).

The descriptive statistical summaries of the scores for Structural Empowerment, Psychological Empowerment, and Job Satisfaction are shown in Table 13. The Structural Empowerment scores reported by the military respondents had mean scores ranging between 3.0 and 3.7 (scale score range 1-5). The highest subscale score of the military respondents for Structural Empowerment was Opportunity at 3.7 and the lowest subscale score was Formal Power at 3.0.

Psychological Empowerment was scored on a 1-7 range scale with the Army respondents scoring between 4.2 and 5.7. The lowest Psychological Empowerment

subscale score in the military respondents was Impact (4.2) and the highest subscale score was Meaning (5.7).

Job Satisfaction was scored on a 1 to 4 scale with a unidimensional tool. The mean score for the Army respondents was 3.0. The Job Satisfaction Factor scores ranged from 2.0 to 4.0.

Table 11. Descriptive Statistical Summaries of Nominal Demographic Variables

	Nurse Group		
	Army[1] Respondents	Army[2*] Total	NSS-RN 2004[3] (Hospital Nurses only)
Variable	(%) n	(%)	(%)
Gender			
Female	(64.8) 392	(65)	(92.9)
Male	(35.2) 213	(35)	(7.1)
Highest Nursing Education		Not	[4]
BSN	(73.4) 445	Available	(33.3)
MSN	(25.9) 157		(0.3)
Doctoral Level	(0.7) 4		(0.0)
Highest Non-Nursing Degrees		Not	Not Available
Bachelor	(20.8) 125	Available	
Master	(12.2) 73		
Doctorate	(0.8) 5		
Practice Area		Not	
Critical care unit (ICU/CCU)	(14.9) 90	Available	(16.5)
Emergency department	(8.3) 50		(8.8)
General/specialty inpatient unit (other than critical care)	(31.2) 188		(24.6)
Operating room	(10.0) 60		(7.4)
Recovery Room	(1.7) 10		Not Available
Outpatient clinic or outpatient surgery	(8.6) 52		(5.9)Not Available
Psychiatric Unit	(3.5) 21		Not Available
Non-clinical duties	(7.1) 43		(36.8)
Other	(14.8) 89		
Position Type		Not	
Nurse Manager (Head Nurse)[5]	(17.6) 106	Available	(4.1)
Administrative[6]	(7.3) 44		(4.5)
Staff Nurse (Charge Nurse)[5]	(52.4) 316		(70.8)
CRNA	(5.6) 34		(1.7)
Nurse Practitioner (Midwives)[5]	(5.5) 33		(1.4)
Clinical Nurse Specialist	(2.8) 17		(1.1)
Community Health Nurse	(1.7) 10		(0.0)
Researcher	(1.0) 6		(0.4)
Nursing Education (Director & Instructor)[5]	(2.7) 16		(1.2)
Other	(3.5) 21		(14.8)

Marital Status			
Married	(63.9) 386	(64)	(71.3)
Divorced	(13.9) 84		(16.5)
Single (never married)	(22.2) 134	(36)[8]	(11.4)
Ethnicity			
Hispanic or Latino	(6.6) 40	(5.4) [9]	(1.9)
Not Hispanic or Latino	(93.4) 562	Other (4.6)	(93.1)
Race			
American Indian/Alaska Native	(1.5) 9	(0.7)	(1.5)
Asian	(8.1) 49	(7.6)[10]	(3.7)
Native Hawaiian/Pacific Islander	(1.8) 11		(0.5)
Black/African American	(15.8) 96	(19.2)	(4.1)
White	(73.0) 443	(61)	(90.4)
Dependents [7]		Not	
Less Than 18 yrs of Age	(50.9) 601	Available	(56.7)
Greater Than 18 years of Age	(35.5) 594		(15.4)

Notes: Items may not always add to 100% because of rounding. [1]Army Nurse Corps survey participants, [2]Army Nurse Corps Total Population, [3]National Sample Survey – Registered Nurses – 2004 (NSS-RN) (population sample of all registered nurses in the US who were licensed nurses and employed in a hospital at the time of the survey), [4]Inital Nursing Program only, [5]Two groups from the NSS-RN sample were collapsed to make up these groups (Nurse Manager & Head Nurse; Staff Nurse & Charge Nurse; Nurse Practitioner & Midwives; Director & Instructor of Nursing Education). [6]Positions include (Administrator of Facility, Administrator or Assistant Administrator, and Supervisor or Assistant Supervisor). [7] The percentage reported is the percentage of "Yes" answers and the (n) reported is the total number of individuals who answered the question. [8]The Army only reported single or married, single was not differentiated by divorced, separated, widowed, and never married. [9]The Army combined Ethnicity and Race as one category. [10]Asian and Pacific Islander were combined as a category. *Army Total demographic data provided by the Office of the Chief, Army Nurse Corps (personal communication, May 14, 2010).

Table 12. Descriptive Statistical Summaries of Continuous Demographic Variables

	Army Respondents		NSS-RN (2004)[1] (Hospital Nurses only)	
	Median (Mean) IQR[2]	Min, Max	Median (Mean) IQR[2]	Min, Max
Age	36 (36.2) 29,42	22,60	44 (43.3) 35,51	20,71
Total RN Years	7 (8.5) 3,13	1,36	15 (16.4) 8,24	1,54
Years in Organization	6 (7.9) 2,13	1,29	Not Available	Not Available

[1]Data from the 2004 National Sample Survey of Registered Nurses. Nurses employed in nursing in hospitals (excludes Psychiatric Hospitals). [2]IQR: 25th and 75th inter-quartile range, representing the middle 50% of responses.

Table 13. Descriptive Statistical Summaries of Study Variables (CWEQ-II, PEI, & JS)

	Army Respondents	
	Median (Mean) IQR[1]	Min, Max[2]
Structural Empowerment Components (CWEQ-II)		
Opportunity	3.7 (3.7) 3.0,4.3	1,5
Information	3.3 (3.4) 3.0,4.0	1,5
Support	3.0 (3.2) 2.7,4.0	1,5
Resources	3.0 (3.1) 2.7,3.7	1,5
Formal Power	3.0 (3.0) 2.3,3.7	1,5
Informal Power	3.5 (3.4) 3.0,4.0	1,5
Psychological Empowerment Components (PEI)		
Meaning	6.0 (5.7) 5.0,6.7	1,7
Confidence	5.7 (5.6) 5.0,6.3	1,7
Autonomy	5.0 (5.0) 4.3,6.0	1,7
Impact	4.0 (4.2) 3.0,5.0	1,7
Job Satisfaction (JS)		
Present Job Satisfaction	3.0 (3.0) 2.0,4.0	1,4

[1]IQR: 25th and 75th inter-quartile range, representing the middle 50% of responses. Increases in the value mean higher levels of the item. [2]Min, Max is the score range for the questions in each variable group. Instruments: Conditions of Work Effectiveness – II (CWEQ-II), Psychological Empowerment Instrument (PEI), and Job Satisfaction Unidimensional (JS).

The descriptive statistical summaries of the Personal variables for the Army respondents are presented in Table 14. The variables were scored on a 1-7 scale. The scores ranged from 3.0 (Job Interferes with Personal Life) to 4.7 (Control over Life). The scale scores variability ranged from 2.0 to 6.0.

Another of the personal variables was the average hours worked per week, which was 51.2 hours per week. The hours worked varied from 44 to 55 hours per week. When asked if they had ever been geographically separated from their families, the Army respondents reported being geographically separated from family due to employment in 71.8 percent of the cases. The separation time for the majority of the individuals was between 12 and 24 months. The variability in the length of the separations was greater than 24 months (13.5%) to 6-12 months (41.6%).

The descriptive statistical summaries of the economic variables assessed in this study are presented in Table 15. This variable was measured with dichotomous and ordinal data. A large portion of the Army respondents were responsible for the care of dependents both under 18 years of age (50.9%) and over the age of 18 (35.5%).

Income was reported as a range (from less than $35,000 to more than $150,000). There were two items related to income. The first item reported "Total Gross Annual Household Income" and the second item reported "Nurse's Income Contribution to the Gross Annual Household Income". The Army respondents ranged from less than $35,000 to greater than $150,000 for both the "Total Gross Annual Household Income" and the "Nurse's Income Contribution to the Gross Annual Household Income". Approximately 74.2 percent had a Total Gross Annual Household Income between $45,001 and $125,000 and approximately 85.1 percent contributed between $45,001 and $125,000 to the Gross Annual Household Income. Home ownership in the Army respondents was 47.9 percent.

Table 14. Descriptive Statistical Summaries of Personal Variables

	Army Respondents	
	Median (Mean) IQR[1]	Min, Max[2]
Control Over Life	5.0 (4.7) 4.0,6.0	1,7
Voluntary Overtime	3.0 (3.3) 2.0,5.0	1,7
Stabilizing Family is Difficult	3.0 (3.3) 2.0,5.0	1,7
Job Interferes with Personal Life	3.0 (3.0) 2.0,4.0	1,7
Difficult to Start a Family	4.0 (3.8) 3.0,5.0	1,7
Prefer to Stay Home with Children	4.0 (4.0) 3.0,5.0	1,7
Average work hours per week	50.0 (51.2) 44,55	36,96

	Army Respondents	
	Yes	No
	% (n)	% (n)
Geographical family separation due to employment (at any time)	71.8 (432)	28.2 (170)
If Yes, how long?	15.6 (67)	
Less than 6 months	41.6 (179)	
6 to 12 months	29.3 (126)	
13 to 24 months	13.5 (58)	
Greater than 24 months		

[1]IQR: 25th and 75th inter-quartile range, representing the middle 50% of responses.
[2]Min, Max is the score range for the questions in each variable group. Selected variables taken from Gahol (2005) study.

Table 15. Descriptive Statistical Summaries of Socio-economic Variables

	Army Respondents	
	Yes	No
	% (n)	% (n)
Children Under 18 in Home	50.9 (306)	49.1 (295)
Dependent Adults in Home	35.5 (211)	64.5 (383)
	% (n)	
Total Gross Annual Household Income		
$35,000 or less	2.2 (13)	
$35,001 to $45,000	6.3 (37)	
$45,001 to $65,000	18.6 (110)	
$65,001 to $75,000	11.8 (70)	
$75,001 to $85,000	11.3 (67)	
$85,001 to $100,000	16.6 (98)	
$100,001 to $125,000	15.9 (94)	
$125,001 to $150,000	8.6 (51)	
More than $150,000	8.8 (52)	
Nurse Contribution to Gross Annual Household Income		
$35,000 or less	3.9 (23)	
$35,001 to $45,000	8.8 (52)	
$45,001 to $65,000	25.9 (153)	
$65,001 to $75,000	18.1 (107)	
$75,001 to $85,000	15.8 (93)	
$85,001 to $100,000	16.1 (95)	
$100,001 to $125,000	9.2 (54)	
$125,001 to $150,000	1.0 (6)	
More than $150,000	1.2 (7)	
Home Ownership		
Own	47.9 (290)	
Rent	52.1 (316)	

Research Questions and Results

Of the 607 Military RNs responding, 112 (18.5%) indicated an intention to leave the Army within one year.

1) What are the relationships between structural empowerment factors and intent to leave within a sample of military nurses?

Table 16. Summaries of unadjusted and adjusted associations of structural empowerment factors with intent to leave in the military nurse respondents (N=580).

	Unadjusted			Adjusted		
Characteristic	O.R	*p*-value	95% C.I. O.R.	O.R.	*p*-value	95% C.I. O.R.
SE Overall Score	0.17	<.001				
Opportunity	0.48	<.001	0.38-0.62	0.67	.010	0.50-0.91
Information	0.52	<.001	0.39-0.69	0.78	.142	0.56-1.09
Support	0.39	<.001	0.30-0.52	0.72	.085	0.49-1.05
Resources	0.54	<.001	0.41-0.73	0.75	.084	0.54-1.04
Formal Power	0.36	<.001	0.27-0.48	0.58	.010	0.39-0.88
Informal Power	0.64	.002	0.48-0.85	1.32	.144	0.91-1.90

*Overall Model: $X^2_{(df=6)} = 71.21$, $p < .001$

Unadjusted and adjusted associations of structural empowerment factors and self-reported intention to leave are summarized in Table 16. Statistically significant inverse associations were found between each of the individual structural empowerment scale scores and intention to leave the military ($p \leq .002$). The overall model was statistically significant ($p < .001$), however the adjusted results revealed that after controlling for the inter-correlation among the individual dimensions of structural empowerment, only the dimensions of opportunity (O.R.= 0.67, p =.010) and formal power (O.R.= 0.58, p =.010)

remained statistically significant. The direction of the adjusted associations remained the same as for the unadjusted associations. For every point of decrease in reported opportunity and formal power scores, there was an approximate 1.5 and 1.7 increase in the likelihood that the respondent would intend to leave the military.

2) What are the relationships between psychological empowerment factors and intent to leave within a sample of military nurses?

Table 17. Summaries of unadjusted and adjusted associations of psychological empowerment factors with intent to leave in the military nurse respondents (N=601).

	Unadjusted			Adjusted		
Characteristic	O.R	*p*-value	95% C.I. O.R.	O.R.	*p*-value	95% C.I. O.R.
PE Overall Score	0.37	<.001				
Meaning	0.60	<.001	0.50-0.72	0.62	<.001	0.51-0.76
Confidence	0.96	.692	0.77-1.19	1.27	.056	0.99-1.63
Autonomy	0.64	<.001	0.54-0.75	0.83	.086	0.68-1.03
Impact	0.63	<.001	0.54-0.74	0.77	.008	0.63-0.93

*Overall Model: $X^2_{(df=4)} = 58.84$, $p < .001$

As shown in Table 17, statistically significant inverse associations were found between each of the individual psychological empowerment scale scores and intention to leave the military ($p < .001$) with the exception of feelings of confidence. The overall model was statistically significant ($p < .001$), however the adjusted results revealed that only the dimensions of meaning (O.R.= 0.62, $p < .001$) and impact (O.R.= 0.77, $p = .008$) were statistically significantly associated with intent to leave. As with the previously summarized structural empowerment variables, the direction of the adjusted associations of psychological empowerment remained the same as for the unadjusted associations. For

every point of decrease in reported meaning and impact scores, there was an approximate 1.3 and 1.6 increase in the likelihood that the respondent would intend to leave the military.

3) What is the relationship between job satisfaction and intent to leave within a sample of ANC officers?

A statistically significant inverse association was found between reported levels of job satisfaction (O.R. = 0.30, $p < .001$) and intention to leave the military. Job satisfaction was analyzed as a unidimensional variable and not adjusted against covariates, therefore; the unadjusted and adjusted associations of job satisfaction and self-reported intention to leave were the same. For every point of decrease in reported job satisfaction scores, there was an approximate 3.3 increase in the likelihood that the respondent would intend to leave the military.

4) What are the relationships of personal and economic factors on ITL?

a. What are the relationships between personal demographic factors and intent to leave within a sample of military nurses?

Unadjusted and adjusted associations of personal demographic factors and self-reported intention to leave are summarized in Table 18. The only significant unadjusted personal demographic factor was Rank ($p = .001$). When Rank was compared using 2LTs as a reference, 1LTs were significant at $p<.001$, CPTs were significant at $p = .004$, and MAJs were not statistically significant.

The overall model for the personal demographic factors was statistically significant ($p = .002$). After controlling for the inter-correlation among the individual dimensions of personal demographic factors completed during the adjusted analyses,

Rank (p =.007), Race (p =.018), and Age (p=.037) were statistically significant. When Rank was compared using 2LTs as a reference, 1LTs were significant at p<.001, CPTs were significant at p =.005, and MAJs were not statistically significant. When Race was compared using Not White as a reference, White was not statistically significant, and those who did not provide an answer was statistically significant at p =.050. Individuals who were white were 1.4 times more likely to intend to leave than those who were not white. The direction of the adjusted associations remained the same as for the unadjusted associations.

Table 18. Summaries of unadjusted and adjusted associations of demographic factors with intent to leave in the military nurse respondents (N=516).

	Unadjusted			Adjusted		
Characteristic	O.R	*p*-value	95% C.I. O.R.	O.R.	*p*-value	95% C.I. O.R.
Years as RN	1.00	.788	0.97-1.03	1.05	.174	0.98-1.11
Years in Organization	0.98	.120	0.94-1.01	0.99	.667	0.95-1.03
Rank[1]		.001			.007	
1LT	5.33	<.001	2.09-13.63	4.94	.001	1.86-13.09
CPT	3.66	.004	1.50-8.90	4.35	.005	1.56-12.17
MAJ	2.38	.063	0.95-5.95	2.99	.103	0.80-11.14
Ethnicity[2]	1.30	.563	0.53-3.18	2.03	.217	0.66-6.26
Race[3]		.139			.018	
White	.070	.136	0.44-1.12	0.69	.151	0.42-1.15
No Answer	1.50	.442	0.53-4.22	4.31	.050	1.00-18.53
Gender[4] Female	1.43	.121	0.91-2.24	1.28	.313	0.79-2.08
Age	0.98	.160	0.96-1.01	0.96	.037	0.92-1.00
Practice Area[5]		.433			.583	
Other	1.08	.746	0.67-1.74	1.24	.449	0.71-2.18
Critical Care	1.48	.212	0.80-2.76	1.43	.314	0.71-2.88
Position Type[6]		.383			.539	
Other	0.80	.350	0.50-1.28	0.88	.690	0.46-1.68
Nurse Manager	0.69	.217	0.38-1.25	0.67	.271	0.32-1.37

Reference categories for this table are: [1]Rank = 2LT. [2]Ethnicity = Hispanic. [3]Race = Not White. [4]Gender = Male. [5]Practice Area = General/Specialty Inpatient Nurse. [6]Position Type = Staff Nurse.
*Overall Model: $X^2_{(df=14)} = 33.57$, p .002.

b. What are the relationships between personal factors (Gahol, 2005) and intent to leave within a sample of military nurses?

Unadjusted and adjusted associations of personal (Gahol, 2005) factors and self-reported intention to leave are summarized in Table 19. Statistically significant associations were found between five out of seven of the individual Personal (Gahol , 2005) factor scores and intention to leave the military (p<.001). The unadjusted results were statistically significant for the Personal (Gahol, 2005) factors, Control Over Life (p<.001), Interference with Personal/Family Life (p=.002), Difficult to Start a Family (p<.001), Prefer to be with Children (p=.015), and Involuntary Overtime (p<.001) in the military respondents. Difficulty Stabilizing Family and Family Separation were not statistically significant. The likelihood of intent to leave for the statistically significant unadjusted personal (Gahol) factors were as follows for every point of decrease in scale scores: Control Over Life (1.6 times more likely), Interference with Personal/Family Life (1.3 times more likely), Difficult to Start a Family (1.3 times more likely), Prefer to be with Children (1.2 times more likely), and Involuntary Overtime (1.3 times more likely) in the military respondents. When adjusted the results revealed that after controlling for the inter-correlation among the individual dimensions of Personal factors, Control Over Life (p<.001) and Difficult to Start a Family (p=.019) were statistically significant. For every point of decrease in Difficulty Starting a Family and Control Over Life scores,

there was an approximate 1.2 and 1.4 increase in the likelihood that the respondent would intend to leave the military.

Table 19. Summaries of unadjusted and adjusted associations of Personal factors with intent to leave in the military nurse respondents (N=607).

	Unadjusted			Adjusted		
Characteristic	O.R	*p*-value	95% C.I. O.R.	O.R.	*p*-value	95% C.I. O.R.
Control Over Life[1]	0.64	<.001	0.55-0.73	0.70	<.001	0.60-0.81
Difficult to Stabilize Family[2]	0.94	.338	0.82-1.07	1.13	.160	0.95-1.35
Interference with Personal/Family Life[3]	0.79	.002	0.68-0.92	1.02	.847	0.83-1.26
Difficult to Start a Family[4]	0.75	<.001	0.66-0.86	0.82	.019	0.70-0.97
Prefer to be with Children[5]	0.85	.015	0.74-0.97	0.93	.331	0.80-1.08
Voluntary Overtime[6]	0.79	<.001	0.69-0.90	0.88	.066	0.76-1.01
Family Separation[7]	1.10	.705	0.69-1.74	1.00	.988	0.60-1.68

[1]I feel like I have a great deal of control over my life. (scale reversed for analysis)
[2]I have found it difficult to stabilize my family in one geographical location because of my job.
[3]My job often interferes with my personal/family life.
[4]I have found it difficult to start a family while working for my present employer.
[5]I would prefer to stay at home with my children.
[6]The overtime I work is voluntary. (scale reversed for analysis)
[7]Have you been geographically separated from your family because of your job? Personal factors taken from Gahol (2005).
*Overall Model: $X^2_{(df = 7)} = 53.52$, $p < .001$

c. What are the relationships between economic factors and intent to leave within a sample of military nurses?

Unadjusted and adjusted associations of socio-economic factors and self-reported intention to leave are summarized in Table 20. A statistically significant inverse association was found between the individual socio-economic scale score for Household Income Contribution Percent of Nurses Salary and intention to leave the military (p=.048) in the military respondents. The remaining socio-economic factors were not statistically significant, however the adjusted results revealed that after controlling for the inter-correlation among the individual dimensions of socio-economic factors, none of the variables were statistically significant (p=.070). While not statistically significant, it was noted that for every point of decrease in Household Income Contribution Percent of Nurses Salary, there was an approximate 3.0 increase in the likelihood that the respondent would intend to leave the military.

Table 20. Summaries of unadjusted and adjusted associations of socio-economic factors with intent to leave in the military nurse respondents (N=606).

	Unadjusted			Adjusted		
Characteristic	O.R	*p*-value	95% C.I. O.R.	O.R.	*p*-value	95% C.I. O.R.
Highest Nursing Degree	0.79	.336	0.50-1.27	0.84	.505	0.51-1.40
Highest Non-nursing Degree	1.06	.399	0.93-1.21	1.02	.749	0.89-1.18
Marital Status[1]	1.25	.071	0.98-1.58	1.09	.612	0.79-1.50
Household[2] Income Contribution %	0.36	.048	0.13-0.99	0.33	.064	0.10-1.07
Dependents < 18 years old	0.84	.057	0.70-1.01	0.85	.136	0.69-1.05
Dependents > 18 years old	0.78	.058	0.60-1.01	0.79	.123	0.58-1.07
Home Ownership[3]	1.06	.770	0.72-1.57	0.95	.822	0.61-1.48

[1]Marital Status = Married or Not Married. [2]Household Income Contribution% = Range of Nurse's Gross Individual Income/Range of Total Gross Household Income. [3]Home Ownership = Own or Rent. *Overall Model: $X^2_{(df = 7)} = 13.11$, p .070

Cluster Analysis

A clustering analysis (method described in Chapter III) of the respondents stating an intention to leave the military (N=90) revealed three groups with some distinctly different characteristics (see Table 21). For the purpose of reporting results and later discussion the clusters are designated as Cluster X, Y, and Z.

Cluster X (N=24) tended to be older than the other two clusters (Mean age ~42 years), contributed the most of the three clusters to the household income (~90% contribution to household income), and had the most time, of the three clusters, in the military (~13-14 years). However, they tended not to have advanced degrees, and were new (4 years or less) to the Army Nurse Corps (~93% 2^{nd}-1^{st} LT). They were primarily single (~33% married), without dependents (~17% children < 18 yrs.; 0% > 18 yrs.), and tended to rent the homes they live in (92% rent).

Cluster Y (N=43) was slightly younger than Cluster X (mean age of ~34 years) and have been employed by the Army ~6-7 years. Cluster Y individuals contribute ~80% to the household income, approximately 12% have advanced degrees, and they are mostly CPTs (~93%). They are mostly married (~67%) and have a large number of dependents (~44% children < 18 yrs.; 33% > 18 yrs.). Slightly more than half of the individuals in this group own their homes (~47% rent the homes they live in).

Cluster Z (N=23) seemed to represent the opposite end of a possible continuum in that they tended to be the youngest cluster (mean age ~28 years), contribute the least to the household income (~75% contribution to household income), and had the least amount of time in the military (mean ~2-3 years). They had the highest level of formal education (~57% Advanced degree) and all were MAJs. They tended to be married

(~65%), have the most dependents (~65% children < 18 yrs.; 39% > 18 yrs.), and own their homes (~44% rent the homes they live in).

Table 21. What do the nurses who intend to leave look like? Three clusters:

Cluster X (N=24)	**Cluster Y (N=43)**	**Cluster Z (N=23)**
~90% contribution to household income	~80% contribution to household income	~75% contribution to household income
		↑ Involuntary overtime
Mean age ~42 years	Mean age ~34 years	Mean age ~28 years
Mean employment-present employer ~13-14 years	Mean employment-present employer ~6-7 years	Mean employment-present employer ~2-3 years
~93% 2^{nd}-1^{st} LT	~93% CPT	100% MAJ
0% Advanced degree	~12% Advanced degree	~57% Advanced degree
~33% married	~67% married	~65% married
~17% children < 18 yrs.; 0% > 18 yrs.	~44% children < 18 yrs.; 33% > 18 yrs.	~65% children < 18 yrs.; 39% > 18 yrs.
~92% rent	~47% rent	~44% rent

CHAPTER V

CONCLUSIONS

Chapter V provides the interpretation of the results by research questions and in light of previous studies. Limitations of the research, implications for nursing, suggested uses of the civilian data collected, and recommendations for further research are included.

Structural Empowerment

It is interesting that Kanter (1993) observed as early as 1977 that opportunity and power appeared to be important aspects of individual behavior and attitudes within organizations. When the six variables that make up the Structural Empowerment scale were adjusted for covariates, it was opportunity and formal power that remained significant in the overall model of Structural Empowerment (p=<.001) for Army nurses. This was consistent with studies conducted since Kanter's original research (Laschinger, 1996; Laschinger, et.al, 2001; Nedd, 2006). Two studies found opportunity to be the most important and formal power to be the least important of the structural empowerment variables (Matthews, Laschinger, & Johnstone, 2006; McDonald, 2010). In the two studies where formal power scored low, informal power was scored high. This suggests that while the type of power may differ between groups, some type of power is important in the work environment.

The four variables that were not significant, information, support, resources, and informal power, had significance levels between p=.084 - .144. Although these were not

significant, they may still play a supporting role in this model and warrant further study. Using path analysis may determine to what degree and where their influence lies in structural empowerment. It seems logical to posit that access to information, support, and resources, with the aid of informal power could support the perception of empowerment.

Psychological Empowerment

Psychological empowerment has been shown to be highly associated with structural empowerment and job satisfaction (Laschinger, Finegan, Shamian, and Wilk, 2004). The overall model for psychological empowerment was statistically significant at $p < .001$. This was consistent with previous studies (Manojlovich and Laschinger, 2002; Larrabee, 2003; Sarmiento, Laschinger, & Iwasiw, 2004; Casey, Saunders, and O'Harat, 2010). Meaning and impact were the two variables in the psychological empowerment model that were significant. Confidence was the least significant. This suggests that while an individual may be confident in their job that they may not be satisfied unless they are able to attach meaning to the job and feel that they have an impact.

This is not an unexpected finding since because of the nature of the job that Army nurses do, taking care of America's Soldiers, they attach a lot of meaning to their jobs. It would be interesting, as a secondary analysis, to explore the hypothesis that nurses who have been deployed with hospital units have higher scores in psychological empowerment than those who have not deployed. It would also be interesting to note if there was a positive relationship between psychological empowerment and job satisfaction in this same group and that deployment may improve job satisfaction.

Two of the four variables in psychological empowerment were not significant but, as in structural empowerment they were very close to significant (confidence p=.056, and autonomy p=.086) and may play a supportive role in psychological empowerment. It is reasonable to assume that in order for an individual to perceive that they have an impact they must feel confident in their abilities and that they have some autonomy to affect that impact.

Job Satisfaction

The level of job satisfaction was scored on a 1 to 4 scale using a unidimensional tool. The mean score for the Army respondents was 3.0. Job satisfaction was extremely important in that for every point of decrease in the reported job satisfaction scores, there was a 3.3 increase in the likelihood that the respondent would intend to leave the military.

Although not enough nurses in the civilian population reported ITL for a comparable analysis, it is interesting that the civilian nurses' mean score for job satisfaction was 3.1. Job satisfaction is a strong indicator in ITL but because there was such a large difference in the ITL percentages between the two groups (military 18.5% and civilian 12.7%) this indicates that even though job satisfaction (p <.001) is clearly important to military nurses, other influences may override the fact that a military nurse is satisfied with their job.

Job satisfaction has a strong inverse relationship with intent to leave. Job satisfaction (p <.001) in this study was consistent with findings of previous studies (Price and Mueller, 1981; Yoder, 1995; Larrabee, 2003, and McCarthy, 2007). Job satisfaction in this study was a unidimensional variable and was used to decrease response burden

and determine if job satisfaction warranted further inclusion in future studies. Job satisfaction clearly influences intent to leave in the Army population and future studies would benefit from use of a standardized widely accepted job satisfaction questionnaire such as the Nurse Work Index – Revised (NWI-R) (Aiken and Patrician, 2000).

Personal Demographic Factors

The personal demographic factors provided two expected outcomes. Rank and age were significant (p=.007 and p=.037 respectively). The grouping of personal demographic factors was also statistically significant (p=.002). As this group of Army nurse respondents increase in age and rank they are more likely to leave. This is different from the civilian population where an increase in age and time with an employer usually is accompanied by a decrease in ITL. The difference may be because the Army nurses sampled held the rank of Major and below. This particular group is at a decision point of deciding to commit to a 20-year career with the Army. This does not generally happen in the civilian population since an individual may move retirement savings with them from job to job. Serving in the Armed Forces is different because leaving prior to completing a 20-year career usually results in the loss of any retirement monies, therefore; at this point if the incentive is not high enough the nurses will leave the active duty Army for a civilian position.

The personal demographic factor that was an unexpected significant finding was race (p=.018). Race was not a significant finding in another study recently conducted (Zurmehly, Martin, & Fitzpatrick, 2009). The category of race was truncated into white, not white, and no answer. The group most likely to leave was whites. The analysis did

not look at race as a dependent variable. Job satisfaction was within a narrow range for the five different racial groups with between 74 and 79 percent (all scoring 3 or 4 on a 1 to 4 scale, with 4 being very satisfied). In light of this information is does not appear that whites leave because they are less satisfied with their jobs. Race seems to be important in this population but the question remains why? The effects of race should be explored further in future studies.

Personal Factors

The overall model for the personal factors (Gahol, 2005) was statistically significant at $p < .001$. Control Over Life ($p < .001$) and Difficulty Starting a Family ($p = .019$) are extremely important and consistent with findings in a previous study (Gahol, 2005) that analyzed job exit interview data of US Army nurses. In the Gahol (2005) study Control Over Life was the second most cited reason (9.9%) for leaving the Army Nurse Corps and Difficulty Starting a Family was the fourth most cited reason (7.5%) for leaving. The participants in this study were not asked to rank the most important reason for intending to leave.

These findings validate the previous study findings (Gahol, 2005) and provide areas of focus for possible interventions or future areas of study. Control over life and difficulty starting a family could be linked to military deployments. The unpredictability of deployments and difficulty in planning a family around those deployments in a predominately-female group with a Mean age of 36.2 may be an intent to leave decision point for women who want to start families.

Unfortunately, deployments are a fact of military life. It is the reason that the military exists and nurses are needed to provide nursing care for Soldiers during war. The disruption to family life may be lessened through planning for a deployment by volunteering to go at a time that better fits with family plans. There are also a small number of positions that are non-deployable (usually two years in length) and may provide the opportunity for family planning. However, these jobs are highly competitive and should not be counted on as the only opportunity to start a family.

The issue of control over one's life is closely related to the difficulty starting a family issue. The Army nurse moves where the Army sends them, works the shift the Army assigns, and may even be assigned to work in an area different from what they planned. Some of the issues can be negotiated through communication and career planning but, remain at the center of military life. To overcome this reality the Army may need to provide incentives in other areas (e.g. financial) to reach the same level of retention that civilian employers enjoy.

Socio-Economic Factors

Although the overall model was not significant for the socio-economic factors, there were three variables of interest. The percent of contribution a nurse's salary makes to the total household income was the only socio-economic factor that was significant (p=.048) in the unadjusted association with intent to leave. Because of the wide and varying ranges in salary categories (ranges of $10,000-$25,000) this factor deserves further investigation and should be included in future studies. These results

indicate that the nurses' total household contribution percent is an important factor in ITL decisions.

Two other variables of interest were very close to significant, dependents < 18 years of age (p=.057) and dependents > 18 years of age (p=.058). These additional economic responsibilities are important to consider because of the healthcare benefit that is part of the employment package for military individuals. If these individuals are considered military dependents of the service member they are covered under the military sponsor's healthcare insurance. This could be significant in the case of special needs children and/or family members. Parents may also be dependents of military members if they meet criteria to qualify. The presence of these two additional variables may intensify the importance of the contribution percent by adding to the socio-economic burden of the military nurse. The healthcare benefits increase the actual value of the nurse's income and their monetary contribution to their families.

Normally it would be desirable to have adjusted the actual income level by more variables associated with dependents or other economic burdens such as debt prior to entering the Army. By adding the additional depth, these factors may have more influence than was noted in this study. Stone et.al. (2007) determined that the depressed labor market was a negative predictor of ITL. Taking into account the present state of the economy, this could also be an underlying factor that was not explored in this study. Future studies should include a question that asks if the present labor market had an influence over the individual's decision to stay or leave. A study is needed to determine how the factors underlying the nurse's contribution to the total

household income influences ITL, at what monetary levels, and the relationship to the labor market.

Cluster Analysis

The three-cluster solution was interesting in that it seemed to follow the observations I had made while working at Recruiting Command. The groups were individuals who were on a traditional career path (graduating with a BSN and joining the military, those that came to the Army after completing advanced degrees and individuals making a transition from other military jobs or those who had completed nursing degrees on their own while serving in another military job. These modes of entry into the military were identifiable in the cluster results.

In Cluster X the Mean age was approximately 42 years of age and the Mean employment length was approximately 13-14 years, but the individuals in this cluster had no advanced degrees and were very junior in military rank (2^{nd} -1^{st} LT). Because of the age and number years with low rank, this groups is most likely prior enlisted or they have branch transferred (members of a branch of the Army or other service but not Nurse Corps that have recently become Army Nurse Corps officers). This would explain their having 13-14 years with the employer (military) but little rank (2^{nd} -1^{st} LT). They may be products of enlisted to officer programs or have worked on their degrees on their own and applied for a commission as an Army Nurse Corps officer.

In contrast, the individuals in Cluster Y were approximately 34 years of age and employed by the Army approximately 6-7 years. This cluster had some advanced degrees (12%), and they were mostly CPTs (approximately 93%). The individuals in

Cluster Y are most likely what are referred to as due course officers, meaning they joined the Army upon graduating from a BSN program and the Army was the first employer of their nursing careers. A few of these officers at this point in their Army careers would have been sent by the Army for graduate education and the others would be deciding if they wanted to obligate themselves to additional time by accepting graduate school offers.

It is interesting that in Cluster Z the Mean age was approximately 28 years and the Mean length of employment was approximately 2-3 years. Approximately 57% of the Cluster Z individuals had advanced degrees and 100% were MAJs. The individuals in Cluster Z most likely entered the Army with an advanced degree or completed their advanced degrees shortly after joining the Army. This would explain their young age, low number of employment years, and advanced rank. Several of these individuals probably entered the Army as a response to incentives offered for educational loan repayment.

The individuals in Cluster X because they are a more mature cluster may be interested in incentive packages that offer educational funds for children or stabilization of their families to allow older children to complete high school in one high school. They may also be interested in stabilizing family close to elderly parents or incentives that help them purchase a home (~92% rent). Only 33% of this cluster is married and many may be single parents. Stabilizing near extended families, for added support, may be desirable for this cluster. Individuals in this group have a history with the military. They have specific goals for their career. There are likely to be two other major incentives that will appeal to this group, either monetary or guarantees to do a specific job and/or obtaining a

specific specialty. It will be important that supervisors of these individuals recognize the unique experience that they bring to the workforce as both experienced in the military and an increased maturity level.

Cluster Y individuals with a Mean age of approximately 34 and mostly married (~67%) have children less than 18 years of age (~44%) and care for adult dependents as well (~33%). These adult dependents may be parents living with them. Because only 12% of this cluster has advanced degrees and are mid-careerists, Educational incentives may appeal to this group. They may also be interested in educational benefits for children and spouses. Low rate medical insurance packages for dependent adults who are not military beneficiaries may also be of interest to this cluster.

Cluster Z was the youngest cluster (Mean age of 28 years old) of the three, earliest in careers (approximately 2-3 years for length of employment), and most highly educated, approximately 57% had advanced degrees. They may be more certain of the direction they would like to take their careers, because this cluster has a higher education level. This cluster may find guaranteed specific jobs are a desirable incentive. Guarantees of educational certifications and/or bonuses for educational certifications may appeal to this group. Because they have already chosen career paths, based on the pursuit of advanced degrees, these individuals may want guarantees that they will be working in their chosen specialties or at least be assured they will be able to maintain certifications or special skills.

The individuals in this cluster also were mostly married (~65%) and most had children (~65%) and like the Cluster Y individuals they too had a large number of dependents > 18 years of age (most likely parents). Other items that may appeal to this

group as incentives might be family educational funds that match percentages saved by the service member, low rate medical insurance packages for dependent adults, and job incentives for spouses (this cluster had the lowest contribution to total household income at approximately 75%). This lower contribution percent to total household income indicated that they have working spouses.

Devising Incentive Scenarios. In the present constrained budget climate there are two incentive scenarios that may be most effective. The first option would be a flexible package of incentives that could be offered for retention depending on the cluster targeted. The second option is aggressively targeting one cluster with a packaged tailored to appeal to that particular cluster.

The most successful approach may be a hybrid of the two options. Most individuals (approximately 50%) that intend to leave are members of Cluster Y and the remaining 50% are divided between Clusters X and Z. An incentive package that predominately appeals to Cluster Y and has the flexibility to interchange options, which appeal to the other two groups, could be a beneficial retention strategy.

Although several suggestions are listed here as recruiting or retention incentives, prior to implementing any of these programs, additional research would be required to identify the level at which the incentives would most likely be effective. Additional research is also needed to determine the most cost beneficial incentives and the incentives that would have the widest appeal to individuals.

Limitations

This study collected data on a group of civilian nurses in addition to the Army respondents. Unfortunately, the civilian group of nurses did not contain a large enough number of individuals who intended to leave their organization to conduct the planned comparison between the two groups. Larger populations or multi-site designs will be needed to obtain sufficient numbers of civilian nurses to perform rigorous statistical analyses and a comparison study. A limitation of this study was that not enough civilian nurses indicated intent to leave to perform a comparison between the two groups. Based on the overall percent of reported intent to leave it would be suggested that future studies in these populations with the same model variables would require approximately 1000 completed surveys from each group. The larger groups would also allow analysis of the full model in hierarchal regression.

This study is limited to Army Nurse Corps officers in the ranks of 2^{nd} LT, 1^{st} LT, CPT and MAJ. The information may not apply to other ranks or to other branches of service (i.e. Navy or Air Force).

There are also a few limitations to be aware of when conducting cluster analysis. These limitations are summarized below (http://www.statisticshell.com/cluster.pdf):

1. The different methods of clustering can provide different results. The difference in criterion for merging clusters (including cases) is why the results are different among methods. A method should be carefully chosen based on your data. The Log-Likelihood Distance (Two-Step clustering algorithms) Cluster Analysis was used because it can handle both continuous and categorical variables. The Schwarz Bayesian Information

Criterion (BIC) is then used for selecting the best number of clusters based on those distances. This resulted in three clusters for this study.

2. The results may be affected by the way the variables are ordered. Only one ordering of the variables was used, they were ordered as they appeared in the data set. If using this method to create incentive packages (monetary investment), at least three different orderings should be attempted to ensure similarity in the clusters between runs. In the future it may be best to complete the modeling and enter the variables according to their importance based on the model outcomes.

3. The analysis depends on similarity of one case to the cluster and may become unstable when cases are dropped (or clusters are merged). Dropping cases can affect the course in which the analysis progresses. This was not a problem in this study because of the high completion rate of the requested data in the survey.

4. Early decisions affect the outcome because of the hierarchical input of the variables and the research will need to be aware of this issue. If the outcome is not explainable, the input hierarchy may be the culprit.

Cluster analysis is exploratory in nature and while it provides insight into the differences between members of the intend to leave group, further study is required to quantify those differences.

There were also many limitations in the socio-economic factors. The response burden of the survey severely limited the detail required in fully answering the socio-economic influence question. Although the data gathered provided useful and interesting information, a study with much more detail is needed to answer the question of socio-

economic influence and to suggest actual socio-economic interventions that may impact intent to leave.

Implications for Nursing

This research contributes to the knowledge on retention of nurses and intent to leave by validating previous findings that are directly related to Army nurses, recognizing the influence of contribution percent and socio-economic influence, and introducing the clustering of characteristics as a possible tool for building Army Nurse Corps retention packages.

This research may be of interest to civilian organizations because of possible homogeneity of professional nurse cohorts. Because the study group consists of professional nurses, some of the influences may also be applicable to civilian nurse populations. This study contains details of age, education, and specialties that may parallel nurses in other organizations. A larger study would be required to determine the influence of the study variables related to intent to leave in a civilian organization. Interventions that may be proposed or eventually used in the Army population may also work in the civilian population.

The use of cluster analysis in both the military and civilian nurse populations, to determine the target group for intervention, may prove useful for increasing return on investment of recruiting and/or retention dollars in both military and civilian populations. However, cluster analysis is not a rigorous statistical tool and further study should be conducted before committing resources to using this particular methodology for a retention tool.

Civilian Data Set

Possible future uses for the civilian data set, although not include in this analysis, might be an analysis of Structural and Psychological Empowerment and the relationship to Job Satisfaction since this group of nurses are all employees of the same organization. This might be useful information for the organization because it is a Magnet recognized hospital and Structural Empowerment is one of the Magnet model components (ANCC, 2008). The analysis could be performed on the characteristics of individuals who intend to stay. Analyzing data on the individuals who intend to stay may provide insight into the characteristics of individuals who are most likely to be drawn to a Magnet recognized organization. This could be useful for organizations attempting to obtain Magnet recognition.

Another possible use of the civilian data would be an analysis of the structural characteristics of an organization that retains individuals within its workforce.

Recommendations for Future Research

In designing a comparative study, a larger population or multi-site design will be needed to obtain sufficient numbers for civilian comparisons (the target should be 1000 per group).

This study, which was administered to all Army nurses (2LTs through MAJ), is an example of the kind of information that can be gained by using standardized surveys. The Army Nurse Corps does not presently use a standardized job satisfaction survey throughout the entire ANC. Adopting a standardized job satisfaction survey for Army

nursing would provide a means to compare and trend issues that influence ANC intent to leave. The results could also be used for guiding and evaluating intervention studies.

An ANC may benefit from an expanded and standardized exit survey. Capturing Job Satisfaction, Economic, & Personal factors highly associated with Intent to Leave could provide valuable insight when used in conjunction with a standardized ANC wide job satisfaction survey. The ANC may also consider further study to determine economic influence on Intent to Leave. More in-depth economic instruments are needed to fully understand the income contribution influence on intent to leave.

One of the most important concepts recognized in this study is the need of targeted retention efforts based on cluster analysis. The ANC should be aware that one retention solution may not fit all. The most important next step is further research to ensure the proper mix for retention incentives and proper group or cluster identification for those incentives.

A large gap remains in the nurse retention knowledge. There remains a need to determine ratios of ITL to actual resignations. A study designed to determine if ITL translates to actual resignations is necessary. To use ITL effectively in targeting individuals for early intervention, it is necessary to gain the knowledge of the actual turnover ratio when ITL is indicated . The study to determine the actual individuals who left vs. those who intended to leave was planned as a follow-on to this study. The design is provided in Chapter III. Contact information was collected on individuals in this study in preparation for the execution of the follow-on study. A total of 473 Army nurses provided contact information. All of these individuals, 473 provided an email address

and most of the 473 also provided mailing addresses. Of the 473 individuals who provided contact information, 76 individuals indicated an intent to leave the Army.

The steps required to do the follow-on study would require writing a study protocol and contacting each of the individuals to verify if they followed through with their intent to leave and if they would be interested in participating in the follow-on study. Because of the small number of individuals involved a mixed method study using quantitative and qualitative methods would yield the most information about why these individuals left their employers or why they changed their minds if they did not leave.

The resources needed to conduct the follow on study may include transcription services for interview data, purchase of qualitative software, and consulting fees for a statistician.

Conclusions

There are several interesting conclusions that can be conceived from the results of this research. That ANC officers are more likely to remain in the Army if they are satisfied with their jobs may not be that surprising, but it is important to understand that if they are not satisfied with their jobs other interventions may not work or may require large doses to be effective. Improvement in job characteristics that make starting a family less difficult could increase ANC retention (requires further study). This could include timing of deployments, reducing geographical separation of families, timing of particularly difficult assignments, or other career considerations. Improving the Total Gross Household Income of ANC officers through either direct or indirect methods (i.e.

programs to increase spousal employment or incentive packages that decrease loss on real estate associated with military moves) may increase ANC retention.

Previous investigators reported high associations between Job Satisfaction & ITL (p=<.001) (Larrabee, 2003) and control over life, difficulty starting a family & actual leaving (Gahol,2005). This study validates those findings. However, the Income Contribution Percent appears to be a new finding in the ANC population. This finding warrants further investigation and attention.

There were high CPT and MAJ intent to leave rates. Further study to determine why these ranks are more likely to leave could provide insight not only into retaining these individuals but could also provide insight into needed organizational improvements that when accomplished could benefit the entire ANC. The areas that help explain ITL are job satisfaction, socio-economic factors, and personal factors.

Perhaps the most interesting finding is that for all that military nurses do and the different lifestyle imposed on them because of military needs, they do not seem to be that different from their civilian counterparts in terms of decisions about employers. They want to enjoy their jobs, have families, be able to contribute financially to their families, and feel as if they have some control over their lives. They stay with employers who they perceive meet these needs.

Appendix A
Civilian Participant Electronic Mail Invitation

Dear Nurse,

This is to ask you to participate in an approximately 15 minute survey. I am a military nurse who is currently conducting research as part of my program requirements for a Doctoral Degree in Nursing Science at Vanderbilt University, Nashville, TN. The survey is being offered to registered nurses in civilian and military settings. It is important for gaining knowledge about how to retain nursing professionals.

Participation will qualify you to win a $50 gift card from American Express. If you win the drawing, the card will be mailed to the address you provide at the end of the survey. You must fill out the identifying information to be included in the drawing.

Your identity will not be known to anyone unless you elect to participate in a follow-up study next year when I hope to resurvey you about your career development. The follow-up portion of the study is an important part of identifying organizational workplace changes that will improve nurses' work environments. If you wish to be contacted for the follow-up study, only I will have your contact information. To protect you as an individual your answers will only be reported in the aggregate, never at the unit level.

When the research is complete, the knowledge gained will be available as a presentation and submitted for publication in a peer-reviewed journal. An abstract will be sent to your organization for general dissemination. If you have questions, I would be glad to answer them. You may contact me at linda.w.fisher@vanderbilt.edu

Thank you for your time and consideration.
Sincerely,

Linda W. Fisher RN, MHA, FACHE
Lieutenant Colonel, US Army Nurse Corps
PhD(c), Vanderbilt University

You may open the survey in your web browser by clicking the link below:
Take the survey

Military Participant Electronic Mail Invitation

Dear Army Nurse Corps officer,

This is to ask you to participate in an approximately 15 minute survey. I am an Army Nurse Corps officer who is currently conducting research as part of my program requirements for a Doctoral Degree in Nursing Science at Vanderbilt University, Nashville, TN. The survey is being offered to registered nurses in civilian and military settings. It is important for gaining knowledge about how to retain nursing professionals.

Your identity will not be known to anyone unless you elect to participate in a follow-up study next year when I hope to resurvey you about your career development. The follow-up portion of the study is an important part of identifying organizational workplace changes that will improve nurses' work environments. If you wish to be contacted for the follow-up study, only I will have your contact information. To protect you as an individual your answers will only be reported in the aggregate, never at the unit level.

When the research is complete, the knowledge gained will be available as a presentation and submitted for publication in a peer-reviewed journal. An abstract will be sent to your organization for general dissemination. If you have questions, I would be glad to answer them. You may contact me at linda.w.fisher@vanderbilt.edu

Thank you for your time and consideration.
Sincerely,

Linda W. Fisher RN, MHA, FACHE
Lieutenant Colonel, US Army Nurse Corps
PhD Candidate, Vanderbilt University

You may open the survey in your web browser by clicking the link below:
Take the survey

Information page and Survey as it will be formatted for the research participants.

**This is how the first page of the survey is formatted. The copy of the survey which follows is the paper version of the electronic survey. The paper version does not maintain the same background colors and fonts as the electronic version.

Welcome!
to the
Survey on Nurse Retention

This page includes:

- Information about the survey,
- How your information will be used,
- How your information will be protected, and
- Access to the survey.

The Survey on Nurse Retention will take approximately 15 minutes. The questions are about your satisfaction with certain aspects of your job, demographic information, and your plans for the future.

Your identity will not be known to anyone unless you elect to participate in a follow-up study next year when I hope to resurvey you about your career development. The follow-up portion of the study is an important part of identifying organizational workplace changes that will improve nurses' work environments. If you wish to be contacted for the follow-up study, only I will have your contact information. To protect you as an individual your answers will only be reported in the aggregate, never at the unit level.

There is a follow-up portion to this study and only individuals who participate in the initial survey will be eligible to participate in the follow-up portion. You will never be contacted in person, only by email, or mail in the event of a returned email, and your individual information will not be shared with anyone.

When you complete the survey, your survey answers will be stored on a secure server, developed to protect medical information. Your survey answers will be assigned an automated identification number (ID) and that ID and your identifying information will be stored on a secure server. Follow-up data will be entered into a file that contains only the ID and the identifying information. Once the new data is entered the identifying information will be removed leaving only the ID number, this will then be used to match the new data to the existing file.

**After the follow-up is completed, the file with the identifying information will be destroyed.

If you have questions, I would be glad to answer them. You may contact me at linda.w.fisher@vanderbilt.edu

Linda W. Fisher RN, MHA, FACHE
Lieutenant Colonel, US Army Nurse Corps
PhD(c), Vanderbilt University, Nashville TN

Please choose one answer (1 through 5) for each of the following questions that best represents how you feel. 1 = No Knowledge, 2 = Very Little Knowledge, 3 = Some Knowledge, 4 = Better than Average Knowledge, 5 = A Lot of Knowledge

HOW MUCH ACCESS TO INFORMATION DO YOU HAVE IN YOUR PRESENT JOB?

1. The current state of the hospital.
O 1 = No Knowledge
O 2 = Very Little Knowledge
O 3 = Some Knowledge
O 4 = Better than Average Knowledge
O 5 = A Lot of Knowledge

2. The values of top management.
O 1 = No Knowledge
O 2 = Very Little Knowledge
O 3 = Some Knowledge
O 4 = Better than Average Knowledge
O 5 = A Lot of Knowledge

3. The goals of top management.
O 1 = No Knowledge
O 2 = Very Little Knowledge
O 3 = Some Knowledge
O 4 = Better than Average Knowledge
O 5 = A Lot of Knowledge

Please choose one answer (1 through 5) for each of the following questions that best represents how you feel. 1 = None, 2 = Very Little, 3 = Some, 4 = Better Than Average, 5 = A Lot.

HOW MUCH OF EACH KIND OF OPPORTUNITY DO YOU HAVE IN YOUR PRESENT JOB?

4. Challenging work.
O 1 = None
O 2 = Very Little
O 3 = Some
O 4 = Better Than Average
O 5 = A Lot

5. The chance to gain new skills and knowledge on the job.
O 1 = None
O 2 = Very Little
O 3 = Some
O 4 = Better Than Average
O 5 = A Lot

6. Tasks that use all of your own skills and knowledge.
O 1 = None
O 2 = Very Little
O 3 = Some
O 4 = Better Than Average
O 5 = A Lot

HOW MUCH ACCESS TO SUPPORT DO YOU HAVE IN YOUR PRESENT JOB?

7. Specific information about things you do well.
O 1 = None
O 2 = Very Little
O 3 = Some
O 4 = Better Than Average
O 5 = A Lot

8. Specific comments about things you could improve.
O 1 = None
O 2 = Very Little
O 3 = Some
O 4 = Better Than Average
O 5 = A Lot

9. Helpful hints or problem solving advice.
O 1 = None
O 2 = Very Little
O 3 = Some
O 4 = Better Than Average
O 5 = A Lot

HOW MUCH ACCESS TO RESOURCES DO YOU HAVE IN YOUR PRESENT JOB?

10. Time available to do necessary paperwork.
O 1 = None
O 2 = Very Little
O 3 = Some
O 4 = Better Than Average
O 5 = A Lot

11. Time available to accomplish job requirements.
O 1 = None
O 2 = Very Little
O 3 = Some
O 4 = Better Than Average
O 5 = A Lot

12. Acquiring temporary help when needed.
O 1 = None
O 2 = Very Little
O 3 = Some
O 4 = Better Than Average
O 5 = A Lot

IN MY WORK SETTING/JOB:

13. The rewards for innovation on the job are:
O 1 = None
O 2 = Very Little
O 3 = Some
O 4 = Better Than Average
O 5 = A Lot

14. The amount of flexibility in my job is:
O 1 = None
O 2 = Very Little
O 3 = Some
O 4 = Better Than Average
O 5 = A Lot

15. The amount of visibility of my work-related activities within the organization is:

O 1 = None
O 2 = Very Little
O 3 = Some
O 4 = Better Than Average
O 5 = A Lot

HOW MUCH OPPORTUNITY DO YOU HAVE FOR THESE ACTIVITIES IN YOUR PRESENT JOB?

16. Collaborating on patient care with physicians.

O 1 = None
O 2 = Very Little
O 3 = Some
O 4 = Better Than Average
O 5 = A Lot

17. Being sought out by peers for help with problems.

O 1 = None
O 2 = Very Little
O 3 = Some
O 4 = Better Than Average
O 5 = A Lot

18. Being sought out by managers for help with problems.

O 1 = None
O 2 = Very Little
O 3 = Some
O 4 = Better Than Average
O 5 = A Lot

19. Seeking out ideas from professionals other than physicians, e.g., Physiotherapists, Occupational Therapists, Dieticians.

O 1 = None
O 2 = Very Little
O 3 = Some
O 4 = Better Than Average
O 5 = A Lot

Please choose one answer (1 through 5) for each of the following questions that best represents how you feel. 1 = Strongly Agree, 2 = Agree, 3= Neutral, 4 = Disagree, 5 = Strongly Disagree.

20. Overall, my current work environment empowers me to accomplish my work in an effective manner.

O 1 = Strongly Agree
O 2 = Agree
O 3 = Neutral
O 4 = Disagree
O 5 = Strongly Disagree

21. Overall, I consider my workplace to be an empowering environment.

O 1 = Strongly Agree
O 2 = Agree
O 3 = Neutral
O 4 = Disagree
O 5 = Strongly Disagree

***Items 1-21 from the Conditions of Work Effectiveness Questionnaire-II (CWEQ-II), used with permission.**

Please choose one answer (1 through 7) for each of the following questions that best represents how you feel. 1= Very Strongly Agree, 2 = Strongly Agree, 3 = Agree, 4 = Neutral, 5 = Disagree, 6 = Strongly Disagree, 7 = Very Strongly Disagree.

22. The work I do is meaningful.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

23. The work I do is very important to me.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

24. My job activities are personally meaningful to me.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

25. I am confident about my ability to do my job.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

26. I am self-assured about my capability to perform my work.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

27. I have mastered the skills necessary for my job.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

28. I have significant autonomy in determining how I do my job.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

29. I can decide on my own how to go about doing my work.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

30. I have considerable opportunity for independence and freedom in how I do my job.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

31. My impact on what happens in my department is large.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

32. I have a great deal of control over what happens in my department.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

33. I have significant influence over what happens in my department.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

Job Satisfaction. Choose one answer.

34. On the whole, how satisfied are you with your present job?

O Very satisfied
O Somewhat satisfied
O Somewhat dissatisfied
O Very dissatisfied

Please choose one answer for the following question that best represents your employment plans in the next year.

35. My employment intentions are within the next year to:

O Remain employed by the same employer, in the same job.
O Remain employed by the same employer, but in a different job.
O Seek employment with another employer, but in the same job.
O Seek employment with another employer, and in a different job.
O Not be employed.
O plan to retire.
O plan to pursue education.
O plan to stay at home with my children.
O I will not work due to medical reasons.
O Other
What are your other plans? Please answer in 25 words of less.

_____

Please choose one answer (1 through 7) for each of the following questions that best represents how you feel. 1= Very Strongly Agree, 2 = Strongly Agree, 3 = Agree, 4 = Neutral, 5 = Disagree, 6 = Strongly Agree, 7 = Very Strongly Disagree

36. I feel like I have a great deal of control over my life.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

37. I have found it difficult to stabilize my family in one geographical location because of my job.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

38. My job often interferes with my personal/family life.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

39. I have found it difficult to start a family while working for my present employer.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

40. I would prefer to stay at home with my children.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

41. The overtime I work is voluntary.

O 1 = Very Strongly Agree
O 2 = Strongly Agree
O 3 = Agree
O 4 = Neutral
O 5 = Disagree
O 6 = Strongly Disagree
O 7 = Very Strongly Disagree

This is the last portion of the survey. There are a combination of question types in this section.

42. On average, I work _ _ _ hours per week. (WHOLE NUMBERS ONLY). _____

43. Have you been geographically separated from your family because of your employer?

O Yes
O No

If yes, how long were you separated?

O Less than 6 months
O 6 months to 12 months
O 13 months to 24 months
O Greater than 24 months

44. Nursing Education: (CHOOSE YOUR HIGHEST NURSING DEGREE)

O Diploma Program
O Associate Degree
O Bachelor Degree
O Master Degree
O Doctoral Degree

45. What is YOUR HIGHEST NON-NURSING DEGREE?

O Associate Degree
O Bachelor Degree
O Master Degree
O Doctoral Degree
O Not Applicable / I do not have a degree outside of nursing.

46. How many years have you been a Registered Nurse? _ _ year(s).(WHOLE NUMBERS ONLY - Round to the nearest whole year). _____

47. How many years have you worked for your present employer? _ _ year(s). (WHOLE NUMBERS ONLY Round to the nearest whole year). _____

48. In which specialty area do you most frequently work (Choose the area which most closely relates to your principal duties)?

O Critical care unit (ICU/CCU)
O Emergency department
O General/specialty inpatient unit (other than critical care)
O Operating room
O Recovery Room
O Outpatient clinic or outpatient surgery
O Psychiatric Unit
O Non-clinical duties
O Other
In what specialty area (not listed in the previous question) do you most frequently work? _____

49. Which one of the following best corresponds to the position title for your principal nursing position? (Choose only one).

O Head nurse or Nurse manager
O Administrative position (Other than Head nurse or Nurse manager)
O Staff nurse
O Certified nurse anesthetist (CRNA)
O Nurse practitioner (other than CRNA)
O Clinical nurse specialist
O Community health nurse
O Researcher
O Nursing staff development/hospital education
O Other
What is your position title?

_____

50. Do you presently have an obligation to stay in your job for more than one year (from today) due to a sign-on bonus or other contractual agreement?

O Yes
O No

51. Is the organization where you are employed a Military organization?

O Yes
O No

What is your rank? (MILITARY NURSES ONLY).

O 2LT
O 1LT
O CPT
O MAJ

52. What is your marital status?

O Married
O Divorced, Widowed, Separated
O Single (Never Married)

53. What is your current, TOTAL gross annual household income (pre-tax)? Please include the income of both yourself and others who contribute to your household's total income.

O $35,000 or less
O $35,001 to $45,000
O $45,001 to $55,000
O $55,001 to $65,000
O $65,001 to $75,000
O $75,001 to $85,000
O $85,001 to $100,000
O $100,001 to $125,000
O $125,001 to $150,000
O More than $150,000

54. How much does your salary as a nurse contribute to the gross annual household income (pre-tax)? YOUR INCOME ONLY.

O $35,000 or less
O $35,001 to $45,000
O $45,001 to $55,000
O $55,001 to $65,000
O $65,001 to $75,000
O $75,001 to $85,000
O $85,001 to $100,000
O $100,001 to $125,000
O $125,001 to $150,000
O More than $150,000

55 Number of children under 18 years of age: _ _ children. (Enter 0 if you do not have children).
_____

56. Number of children or dependent adults over 18 years of age that you support financially (i.e. college students, adult children living at home, dependent parents). _ _ dependents over 18 years of age. (Enter 0 if you do not have adult dependents). _____

57. Do you own your home or rent?

O Own
O Rent
O Neither, I do not pay for the place where I live. (Example: live in parents/ relatives/ friends home)

58. Ethnicity: (CHOOSE ONLY ONE).

O Hispanic or Latino
O Not Hispanic or Latino

59. Race: (CHOOSE ALL THAT APPLY).

O American Indian/Alaska Native
O Asian
O Native Hawaiian or Other Pacific Islander
O Black or African American
O White

60. What year were you born? _ _ _ _. (ie...1978, 1988). _____

61. Gender:

O Male
O Female

****This is your personal information and will be stored separately from your survey answers. This information is requested for contact in a future phase of this study. The contact will be by email or mail, you will not be called or contacted in person.**

First Name:
_____
Last Name:
_____
Street Address:
_____
City:
_____
State:

O AK
O AL
O AR
O AZ
O CA
O CO
O CT
O DC
O DE
O FL
O GA
O HI
O IA
O ID
O IL
O IN
O KS
O KY
O LA
O MA
O MD
O ME
O MI
O MN
O MO
O MS
O MT

O NC
O ND
O NE
O NH
O NJ
O NM
O NV
O NY
O OH
O OK
O OR
O PA
O RI
O SC
O SD
O TN
O TX
O VT
O VA
O VT
O WA
O WI
O WV
O WY
O -Military- (choose from below if you are located OCONUS)
O AA
O AE
O AP

Zip Code: (5-digits) _____

Email Address: _____

Appendix B
Conditions of Work Effectiveness Questionnaire - II

HOW MUCH OF EACH KIND OF OPPORTUNITY DO YOU HAVE IN YOUR PRESENT JOB?

		None		Some		A Lot
1.	Challenging work	1	2	3	4	5
2.	The chance to gain new skills and knowledge on the job.	1	2	3	4	5
3.	Tasks that use all of your own skills and knowledge.	1	2	3	4	5

HOW MUCH ACCESS TO INFORMATION DO YOU HAVE IN YOUR PRESENT JOB?

		No Knowledge		Some Knowledge		Know A Lot
1.	The current state of the hospital.	1	2	3	4	5
2.	The values of top management.	1	2	3	4	5
3.	The goals of top management.	1	2	3	4	5

HOW MUCH ACCESS TO SUPPORT DO YOU HAVE IN YOUR PRESENT JOB?

		None		Some		A Lot
1.	Specific information about things you do well.	1	2	3	4	5
2.	Specific comments about things you could improve.	1	2	3	4	5
3.	Helpful hints or problem solving advice.	1	2	3	4	5

HOW MUCH ACCESS TO RESOURCES DO YOU HAVE IN YOUR PRESENT JOB?

		None		Some		A Lot
1.	Time available to do necessary paperwork.	1	2	3	4	5
2.	Time available to accomplish job requirements.	1	2	3	4	5
3.	Acquiring temporary help when needed.	1	2	3	4	5

IN MY WORK SETTING/JOB:		None				A Lot
1.	The rewards for innovation on the job are	1	2	3	4	5
2.	The amount of flexibility in my job is	1	2	3	4	5
3.	The amount of visibility of my work-related activities within the institution is	1	2	3	4	5

HOW MUCH OPPORTUNITY DO YOU HAVE FOR THESE ACTIVITIES IN YOUR PRESENT JOB?

		None				A Lot
1.	Collaborating on patient care with physicians.	1	2	3	4	5
2.	Being sought out by peers for help with problems	1	2	3	4	5
3.	Being sought out by managers for help with problems	1	2	3	4	5
4.	Seeking out ideas from professionals other than physicians, e.g., Physiotherapists, Occupational Therapists, Dieticians.	1	2	3	4	5

		Strongly Agree				Strongly Disagree
1.	Overall, my current work environment empowers me to accomplish my work in an effective manner.	1	2	3	4	5
2.	Overall, I consider my workplace to be an empowering environment.	1	2	3	4	5

Appendix C
Psychological Empowerment Instrument

Key to Subscales

M = Meaning subscale (3 items)

C = Competence subscale (3 items)

S = Self-determination subscale (3 items)

I = Impact (3 items)

7-point response scale, ranging from very strongly agree to very strongly disagree

	Very Strongly Agree						Very Strongly Disagree
M 1. The work I do is meaningful.	1	2	3	4	5	6	7
M 2. The work I do is very important to me.	1	2	3	4	5	6	7
M 3. My job activities are personally meaningful to me.	1	2	3	4	5	6	7
C 1. I am confident about my ability to do my job.	1	2	3	4	5	6	7
C 2. I am self-assured about my capability to perform my work.	1	2	3	4	5	6	7
C 3. I have mastered the skills necessary for my job.	1	2	3	4	5	6	7
S 1. I have significant autonomy in determining how I do my job.	1	2	3	4	5	6	7
S 2. I can decide on my own how to go about doing my work.	1	2	3	4	5	6	7
S 3. I have considerable opportunity for independence and freedom in how I do my job.	1	2	3	4	5	6	7
I 1. My impact on what happens in my department is large.	1	2	3	4	5	6	7
I 2. I have a great deal of control over what happens in my department.	1	2	3	4	5	6	7
I 3. I have significant influence over what happens in my department.	1	2	3	4	5	6	7

Appendix D
Job Satisfaction

1. On the whole, how satisfied are you with your present job?

    a. □ Very satisfied

    b. □ Somewhat satisfied

    c. □ Somewhat dissatisfied

    d. □ Very dissatisfied

**This question has been used with the permission of :
Peter I. Buerhaus, PhD, RN, FAAN; Vanderbilt University, Nashville TN

Appendix E
Intent to Leave Instrument

1. My employment intentions are:
   Within the next year to:

   a. □ Remain employed by the same employer, in the same job.

   b. □ Remain employed by the same employer, but in a different job.

   c. □ Seek employment with another employer, but in the same job.

   d. □ Seek employment with another employer, and in a different job.

   e. □ Not be employed. (drop down)

      i. I plan to retire.

      ii. I plan to pursue education.

      iii. I plan to stay at home with my children.

      iv. I will not work due to medical reasons.

      v. Other _____

Appendix F
Demographic Information Instrument

		Agree						Disagree
1.	I feel like I have a great deal of control over my life.	1	2	3	4	5	6	7
2.	I have found it difficult to stabilize my family in one geographical location because of my job.	1	2	3	4	5	6	7
3.	My job often interferes with my personal/family life.	1	2	3	4	5	6	7
4.	I have found it difficult to start a family while working for my present employer.	1	2	3	4	5	6	7
5.	I would prefer to stay at home with my children.	1	2	3	4	5	6	7
6.	The overtime I work is voluntary.	1	2	3	4	5	6	7

7. On average, I work _ _ _ hours per week. (Drop down numbers)
8. Have you been geographically separated from your family because of your employer?
    a. □ Yes
    b. □ No
9. If yes, how long were you separated?
    a. □ Less than 6 months
    b. □ 6 months to 12 months
    c. □ 13 months to 24 months
    d. □ Greater than 24 months
10. Nursing Education: (CHOOSE HIGHEST NURSING DEGREE)
    a. □ Diploma Program
    b. □ Associate Degree
    c. □ Bachelor's Degree
    d. □ Master's Degree

e. □ Doctoral Degree

11. What is your HIGHEST NON-NURSING DEGREE?

    a. □ Associate Degree

    b. □ Bachelor Degree

    c. □ Master Degree

    d. □ Doctoral Degree

    e. □ Not Applicable / I do not have a degree outside of nursing.

12. How many years have you been a Registered Nurse? _ _ year(s). (WHOLE NUMBERS ONLY – Round to the nearest whole year).

13. How many years have you worked for your present employer? _ _ year(s). (WHOLE NUMBERS ONLY – Round to the nearest whole year).

14. In which specialty area do you most frequently work (Choose the area which most closely relates to your principal duties)?

    a. □ Critical care unit (ICU/CCU)

    b. □ Emergency department

    c. □ General/specialty inpatient unit (other than critical care)

    d. □ Operating room

    e. □ Recovery Room

    f. □ Outpatient clinic or outpatient surgery

    g. □ Psychiatric Unit

    h. □ Non-clinical duties

    i. □ Other _____

15. Which one of the following best corresponds to the position title for your principal nursing position? (Choose only one)

    a. □ Head nurse or Nurse manager

b. □ Administrative position (Other than Head Nurse or Nurse Manager)

c. □ Staff nurse

d. □ Certified nurse anesthetist (CRNA)

e. □ Nurse practitioner (other than CRNA)

f. □ Clinical nurse specialist

g. □ Community health nurse

h. □ Researcher

i. □ Nursing staff development/hospital education

j. □ Other _____

16. Do you presently have an obligation to stay in your job for more than one year (from today) due to a sign-on bonus or other contractual agreement?

    a. □ Yes

    b. □ No

17. Is the organization where you are employed a Military organization?

    a. □ Yes (skip to 18)

    b. □ No (skip to 19)

18. What is your Rank? (MILITARY NURSES ONLY)

    a. □ 2LT

    b. □ 1LT

    c. □ CPT

    d. □ MAJ

19. Marital Status:

    a. □ Married

    b. □ Divorced, Widowed, Separated

c. □ Single (Never Married)

20. What is your current, **TOTAL** gross annual <u>household income</u> (pre-tax)? Please include the income of both yourself and others who contribute to your household's total income.

a. □ $35,000 or less

b. □ $35,001 to $45,000

c. □ $45,001 to $55,000

d. □ $55,001 to $65,000

e. □ $65,001 to $75,000

f. □ $75,001 to $85,000

g. □ $85,001 to $100,000

h. □ $100,001 to $125,000

i. □ $125,001 to $150,000

j. □ More than $150,000

21. How much does <u>your salary as a nurse</u> contribute to the gross annual household income (pre-tax)? YOUR INCOME ONLY.

a. □ $35,000 or less

b. □ $35,001 to $45,000

c. □ $45,001 to $55,000

d. □ $55,001 to $65,000

e. □ $65,001 to $75,000

f. □ $75,001 to $85,000

g. □ $85,001 to $100,000

h. □ $100,001 to $125,000

i. □ $125,001 to $150,000

j. □ More than $150,000

22. Number of children under 18 years of age: _ _ children. (Enter 0 if you do not have children).
23. Number of children or dependent adults over 18 years of age that you support financially (i.e. college students, adult children living at home, dependent parents). _ _ dependents over 18 years of age. (Enter 0 if you do not have adult dependents).
24. Do you own your home or rent?
    a. □ Own
    b. □ Rent
    c. □ Neither, I do not pay for the place where I live. (Example: live in parents/ relatives/ friends home)
25. Ethnicity: (CHOOSE ONLY ONE)
    a. □ Hispanic or Latino
    b. □ Not Hispanic or Latino
26. Race: (CHOOSE ALL THAT APPLY)
    a. □ American Indian/Alaska Native
    b. □ Asian
    c. □ Native Hawaiian or Other Pacific Islander
    d. □ Black or African American
    e. □ White
27. What year were you born? _ _ _ _ . (ie… 1978, 1988)
28. Gender :
    a. □ Male
    b. □ Female

**This is your personal information and will be stored separately from your survey answers.

First Name: _____

Last Name: _____

Street Address: _____

City: _____ State: ___ (Drop Down)

Zip Code (5-digits): _____

Email Address: _____

Thank you for participating in this survey your input is valuable to improving the work environment for nurses and nurse retention. If you have questions about this survey feel free to contact me at linda.w.fisher@vanderbilt.edu.

The knowledge gained from the results of this survey will be shared through presentations and a published article.

Appendix G
Permission for use of Instruments

NURSING WORK EMPOWERMENT SCALE

Request Form

I request permission to copy the Nursing Work Empowerment Scale as developed by Dr. G. Chandler and Dr. Heather K. Spence Laschinger. Upon completion of the research, I will provide Dr. Laschinger with a brief summary of the results, including information related to the use of the Nursing Work Empowerment Scale used in my study.
Questionnaires Requested:
Conditions of Work Effectiveness-I (includes JAS and ORS): Yes
Conditions of Work Effectiveness-II: Yes

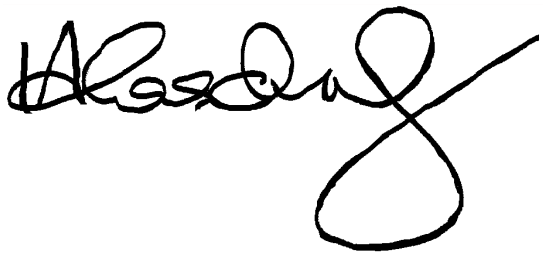
Job Activity Scale only:
Organizational Relationship Scale only:
Organizational Development Opinionnaire
or Manager Activity Scale:
Other Instruments:

Please complete the following information:

Date: May 26, 2008
Name: Linda W. Fisher
Title: PhD Student
University/Organization: Vanderbilt University
Address: Nashville, Tennessee USA
Phone: 615-661-6438
E-mail: linda.w.fisher@vanderbilt.edu
Description of Study: The study will be a two group, two phase design using a group of civilian nurses and a group of military nurses. Both groups will be given the same survey measuring the construct variables of Kanter's Theory of Organizational Structure and Empowerment and at the end of a 6-month period there will be a measurement to determine which nurses stayed in their organizations and which nurses left their organizations. The two groups original surveys will then be compared for differences between groups and within groups.

Permission is hereby granted to copy and use the Nursing Work Empowerment Scale.

Date: May 29, 2008 Signature:



Dr. Heather K. Spence Laschinger, Professor
School of Nursing, University of Western Ontario
London, Ontario, Canada N6A 5C1
Tel: 519-661-4065 Fax: 519-661-3410
E-mail: hkl@uwo.ca

Permission for use of Instruments (continued)

CDC/National Institute for Occupational Safety and Health
http://www2a.cdc.gov/niosh-workorg/detail.asp?id=56

Psychological Empowerment at Work Scale
http://webuser.bus.umich.edu/spreitze/#Empowerment%20Research

Content Area(s)	Instrument Type
• Job content • Job control • Power structure • Empowerment	Questionnaire

Occupation and Sector Specificity

Occupation(s):	Generic
Sector(s):	Generic

Name and Size of Work Organization and/or Workplace Psychosocial Measures

Measure	Size (# items)
Psychological empowerment	12

Other Content Areas Included in the Instrument

None

Developmental Status of the Instrument

Instrument used widely; well-defined properties

Languages

Original:	English
Other:	Don't know

Reliability and Validity Information (or Relevant Citation)

Spreitzer GM, McMcall MW & Mahoney JD (1997). Early identification of international executive potential. Journal of Applied Psychology, 28:6-29.

Selected Reference

Liden RC, Wayne SJ, Sparrowe RT (2000) An examination of the mediating role of psychological empowerment on the relations between the job, interpersonal relationships, and work outcomes. Journal of Applied Psychology, 85, 407-416.

Accessibility of the Instrument	User Fees
Public Domain	None

Where to Obtain a Copy of the Instrument

The instrument can be obtained in print at Spreitzer GM (1995) Psychological empowerment in the workplace: Dimensions, measurement, and validation. Academy of Management Journal, 38: 1442-1465, or online at http://webuser.bus.umich.edu/spreitze/empowermentinstrument.pdf.

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