THE RELATIONSHIP BETWEEN ARMY CRNA JOB SATISFACTION AND TURNOVER

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ABSTRACT

The purpose of this study was to identify components of job satisfaction of Army CRNAs and their relationship to turnover. There is a shortage of Certified Registered Nurse Anesthetists (CRNAs) in the Army. Presently, only 80% of the allocated CRNA slots are filled. If the annual attrition rate continues to average 25-30 CRNAs, and the Army continues to produce 30-35 CRNAs per year, there will only be an average of 5-10 new CRNAs annually. The ability to perform the peacetime and wartime mission must not be compromised by a shortage of CRNAs. The descriptive/exploratory design utilized demographics and a 57-item questionnaire utilized by Cowan (1995) and Stamps (1997). Both instruments were sent to active duty Army CRNAs in clinical positions, n = 213, with a response rate of 60% (n = 123). Civilian job offers (r = .333); age (r = .248); rank (-. 373); position within department (- .321); and job satisfaction (r = .328) correlated with the respondents decision to choose the Army as a career at $p \leq .01$. Job satisfaction (r = .485, $p \leq .01$), a sense of belonging to the department (r = .200, $p \leq .01$), liking the department very much (r = .243, $p \leq .01$), and being satisfied with present job (r = .238, $p \leq .01$) correlated with respondents who initially were not career Army. Job satisfaction was influenced by interpersonal relations (r = .439, $p \leq .01$) and organizational work satisfaction (r = .317, $p \leq .01$). Organizational work satisfaction was influenced by interpersonal relations (r = .540, $p \leq .01$). Thirty-eight percent of respondents who chose to resign their commission prior to retiring (Leavers) felt they did not contribute much to the decision making in their department, compared to 17.6% of those who chose the Army as a career (Stayers). Forty-three percent of Leavers, compared to 22% of the Stayers, reported bickering and back biting within their department. Key Words: CRNA Job satisfaction Army Turnover Military

THE RELATIONSHIP BETWEEN ARMY CRNA JOB SATISFACTION AND TURNOVER

By

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DEDICATION

I would like to thank my wife Julia, and my daughters Paige and Peyton for inspiring me. You were a constant reminder of what is the most important aspect of my life. I love you very much.

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CHAPTER I - INTRODUCTION

Background

Significant changes are occurring in military health care delivery. There is increasing emphasis on cost-effective quality health care. Reforming healthcare delivery systems has increased demand for new types of providers. These new providers, along with technical and organizational changes, have significantly altered the way in which health professionals interact. The examination of existing roles, the creation of new ones, and the impact of specialization have created demands on many healthcare professionals for increased status and greater independence. This, in turn, has affected their relationship to other health professionals (Stamps, Piedmonte, Slavitt, & Haase, 1978).

Changes in the military healthcare system create a need to identify factors that affect the job satisfaction of health professionals. Lack of job satisfaction has been linked to turnover, absenteeism, and lowered productivity. Job satisfaction has also been shown to influence an employee s loyalty, and commitment to organizational objectives (Munro, 1983). Turnover of professional staff merits attention because its consequences in terms of quality care and economic costs are deleterious to a system trying to maintain quality of care while decreasing cost (Hinshaw, Smeltzer, & Atwood, 1987).

These issues are valid concerns for Certified Registered Nurse Anesthetists (CRNAs). CRNAs practice as a specialty within the nursing profession and are licensed by the Board of Nursing in the state in which they practice anesthesia and, in addition, must meet the requirements of the American Association of Nurse Anesthetists (AANA) for education and credentialing. CRNAs are classified as Advanced Practice Nurses (APNs).

Two decades ago, CRNAs outnumbered anesthesiologists two to one, but now their numbers are approximately equal (Rosenbach, Cromwell, Pope, Butrica, & Pitcher, 1991).

In a 1990 survey by the American Society of Anesthesiologists, only 25% of civilian anesthesiologists were practicing independently. CRNAs and anesthesiologists working in a team approach is widely practiced in the military; however, in smaller hospitals and when deployed, the CRNA may work alone.

CRNAs continue to face practice issues as a result of functioning in a role that is often perceived as a traditionally medical role by other health care professionals as well as the public at large. Medicine and nursing are facing significant challenges secondary to the evolution of a new health care delivery system, with a subsequent increasing need for APNs.

The practice roles of CRNAs in the Army are similar to that of their civilian counterparts. Additionally, Army CRNAs must manage their professional military career as a commissioned officer as well as a clinician.

Current Pay, Incentives, and Obligations for Army CRNAs

CRNAs receive the standard pay for their grade plus incentives. Current incentives include an annual $6,000 bonus for CRNAs who still have an active duty obligation (ADO) for their CRNA schooling. For those CRNAs who have completed their ADO and remain on active duty voluntarily the annual bonus increases to $15,000. In addition, CRNAs receive board specialty pay from $2,000 to $5,000 per year based on creditable service (Gordan & Smith, 1997, p. 30). Without these inducements, attrition rates might rise, increasing the serious shortage that presently exists in the Army and further limiting the ability of the Army to complete its mission.

CRNA Shortages and Attrition Rates

There is presently a shortage of CRNAs in the Army. As of May 1998, only 80% of the allocated CRNA slots were filled, an increase of 15% from the average strength over the last five years. In a needs assessment for APNs Levine (1994) revealed a shortage of 148

CRNAs in the three services, 84 in the Army alone. It is further noted that adding to the severity of the shortage of CRNAs is the annual attrition rate of 18.2%.

Attrition rates have averaged approximately 25-30 CRNAs per year for the last three years. Personnel management attempts to provide an average of 35 new CRNAs annually. If the annual attrition rate of 25-30 CRNAs continues, and the Army produces approximately 35 CRNAs per year, there will only be an average of 5-10 additional CRNAs per year.

Why does the Army have difficulty recruiting and retaining CRNAs? The AANA conducted a survey in 1989 of all three services that addressed attrition, pay, promotion, and practice issues (AANA, 1989). The survey was distributed to Chief Nurse Anesthetists in 112 medical treatment facilities, with a 79% response rate. The survey s purpose was to acquire data that could help in the retention and recruitment of military CRNAs.

The survey revealed the following: (a) CRNA shortages on active duty are significantly larger than anesthesiologist shortages; (b) of 362 CRNAs covered by the survey, 68 planned to leave the military during the next year, and 155 others were seriously considering leaving the military; (c) the practice environment has deteriorated significantly; (d) CRNAs perform a significantly larger proportion of anesthetic procedures than their numbers would suggest, both during and after normal duty hours; (e) unwarranted, and more frequent evaluations of CRNAs by anesthesiologists are causing a significant irritant to CRNAs; (f) CRNAs are the sole anesthesia providers in 22 of the hospitals surveyed; (g) there appeared to be an unwarranted spreading of practice restrictions within all three services; (h) most CRNAs cited promotion potential, or lack there of, as a major disincentive to remain in the military; and (i) the significant disparity in pay between military and civilian CRNAs is a major disincentive to stay.

Cost of Turnover to the U.S. Army

The most obvious consequence of turnover is change in the quantity and/or quality of care. In addition, high turnover creates other indirect or direct cost to the agency (Wolf, 1981). Direct costs are associated with recruitment and training of CRNAs. These costs include, but are not limited to, salary, health care benefits, tuition, and overhead cost of training and recruitment programs, which also includes the cost of moving and caring for dependents.

The economic cost of training military CRNAs is higher than civilian CRNAs because of the duality of their role as a commissioned officer, and a CRNA. Military CRNAs must receive additional military education to perform their role as an officer and to remain competitive for promotion.

Indirect costs are more difficult to measure than direct costs. Wolf (1981) notes that new employees are less efficient initially than experienced ones. Also, high turnover negatively affects morale and productivity.

The ability to perform the wartime mission is negatively affected by turnover. Presently, Army CRNAs are deployed in Thailand, Honduras, Bosnia, Croatia, and are participating in Special Operations. The experience gained during these operations is lost if these CRNAs resign from active duty. The experience gained from deployment is unique to Army CRNAs and cannot easily be replaced.

Statement of the Problem

There are solutions to high turnover. Staff turnover is a symptom of larger problems in an organization, thus, each institution must be analyzed, its unique combination of problems identified, and a solution formulated on an individual basis (Wolf, 1981). The historical shortage of CRNAs experienced by the Army and possible impairment of the military mission as a consequence, make it imperative to identify factors that influence CRNAs to separate from military service prior to retirement. Identification will assist in formulating a solution. With reduction in military spending, and debate over balancing the national budget, the cost of turnover of CRNAs is important to the Department of Defense (DOD).

As the mission of the Army is changing, with a smaller more mobile force, and subsequent increased opportunities for deployment, the role of the CRNA is also changing. A number of studies have explored job satisfaction of CRNAs, but a review of the literature have revealed no studies of job satisfaction of Army CRNAs. A study conducted by Cowan (1995) explored the relationship between Navy anesthesia providers job satisfaction and anticipated turnover. The Cowan study included both CRNAs and anesthesiologists and was replicated by Stamps (1997) for Air Force anesthesia providers.

Statement of the Purpose

The purpose of this study is: (a) to replicate for the Army the CRNA portion of the 1995 study conducted by Cowan ; (b) to identify the factors that would have an affect on turnover of Army CRNAs; and (c) to identify factors that can be modified to improve to practice environment of Army CRNAs, thus aiding in their retention and recruitment.

Research Questions

1. What is the relationship of initial expectation of service and anticipated turnover of Army CRNAs?
2. What is the relationship between professional or occupational job satisfaction and anticipated turnover of Army CRNAs?
3. What is the relationship between organizational work satisfaction and anticipated turnover of Army CRNAs?
4. What is the relationship between status accorded and anticipated turnover in Army CRNAs?
5. What variables account for turnover of Army CRNAs?
6. How do Army, Navy, and Air Force CRNAs compare in terms of job satisfaction and anticipated turnover?

Conceptual Framework

The research model contains four stages (Figure 1) of anticipated turnover as utilized by Cowan (1995). Cowan adapted this model from a five-staged theoretical model of anticipated turnover among nursing staff constructed by Hinshaw et al. (1987). Permission to use this model was obtained from Lippincott-Raven publishers (Appendix A). The four-

staged model includes demographics, initial expectation of service, factors that influence job and work satisfaction and anticipated turnover.

Stages I through IV signify the causal ordering and theoretical predictions of the factors; for example, factors in Stage I are expected to influence factors in Stage II. Stages I through IV will be discussed in order.

Stage I

The two major components of this stage are initial expectation of service and mobility factors related to the demographic variables of position, age, sex, rank, marital status, dependents, military experience, and years of service. Initial expectation of service is defined as the expected or anticipated length of military commitment of an enlisted service member or commissioned officer when he or she initially entered the military service. This component was predicted to be negatively related to anticipated turnover by Hinshaw et al. (1987) and Vroom (1964).

Stage II

Stage II consists of four components; professional or social status, interpersonal relationships, job related factors and practice issues.

Status is the hierarchical position one holds in the professional or social community. In the work place, professional status is the ranking of a health care provider in the eyes of his or her peers through compensation of reward and pay. Reward is that which is of value when returned for something positive that was done. Pay is financial compensation for professional duties including fringe benefits, bonuses, and future pay increases. Social status is the chance to be recognized in the community. These factors would be expected to influence organizational work satisfaction positively and have a negative relation to anticipated turnover.

The second component of Stage II, job related factors which has the following subscales: work itself, enjoyment, knowledge and skills, and competence. Work itself involves task in administrative duties, work duties, and time to do one s job. Enjoyment is the agreeable emotion accompanying the expectation of what is good. Knowledge and skills are the possessing of a broad -based education with extensive anesthesia experience and technical expertise. Competence is ability to perform adequately in administration of anesthesia as revealed in actual performance. These factors would be predicted to influence job satisfaction.

The third component in Stage II, interpersonal relations which includes group cohesion, team support, and team respect. All would have a positive effect on Stage III. Group cohesion is the unity in the principle and interest of anesthesia care provided, and team support is the assisting and promoting anesthesia team members to administer high quality anesthesia care. Team respect is the estimation of worth of personal value given as an anesthesia team member.

The fourth component group in Stage II, practice issues, includes five subscales: physical environment, control over practice, autonomy, collaboration, and research utilization. Autonomy, collaboration, and research utilization should be factors influencing work satisfaction (Hinshaw & Atwood, 1983; Weiss & Davis, 1985). Control over practice is the factor that references the concept of centralization and the degree of decision-making allotted to individual staff members (Hinshaw et al., 1987). Collaboration is the working together of nurse anesthetists and physicians in sharing responsibility for problem-solving and decision-making in patient care (Weiss & Davis, 1985). Autonomy is a characteristic of a position that allows or encourages individuals to make major decisions in daily operational

activities, equipment used, and selection of anesthetics and or procedures. Rigid control over practice would be expected to have an inverse relation to work satisfaction.

The remaining subscale in practice issues is research utilization. Research utilization is the degree to which staff engage in research activities. Although research activities are generally referred to as studies of a subject by one or more investigators, one does not have to be a researcher to utilize research. Research activities can include reading research articles in order to improve the practice of anesthesia.

Stage III

Stage III describes two major component groups that influence anticipated turnover: organizational/work satisfaction and professional job satisfaction.

Organizational work satisfaction is the positive opinion of the job in terms of pay or reward, administrative style, professional status and interaction with colleagues (Stamps et al., 1978). Professional job satisfaction is the specific aspect of work that health providers find positive and pleasurable in regard to enjoyment of position, quality of care delivered, and time to conduct one s work (Hinshaw et al.,1987). Both types of satisfaction are expected to influence anticipated turnover negatively; that is, the higher the job satisfaction, the lower the anticipated turnover.

There is no agreement in the literature on how to measure job satisfaction. Most methods cited in this study see satisfaction as a combination of factors reported as one appraisal-job satisfaction. In this study, factors intrinsic to the work itself contribute to professional and occupational job satisfaction. Factors extrinsic to the work itself contribute to organizational work satisfaction.

Stage IV

Anticipated turnover as defined for this model is the degree to which the CRNA perceives he or she would resign from active duty at some unspecified time in the future. In addition to work and job satisfaction scale, interpersonal relationships, job satisfaction factors, and initial expectation of service are expected to influence anticipated turnover.

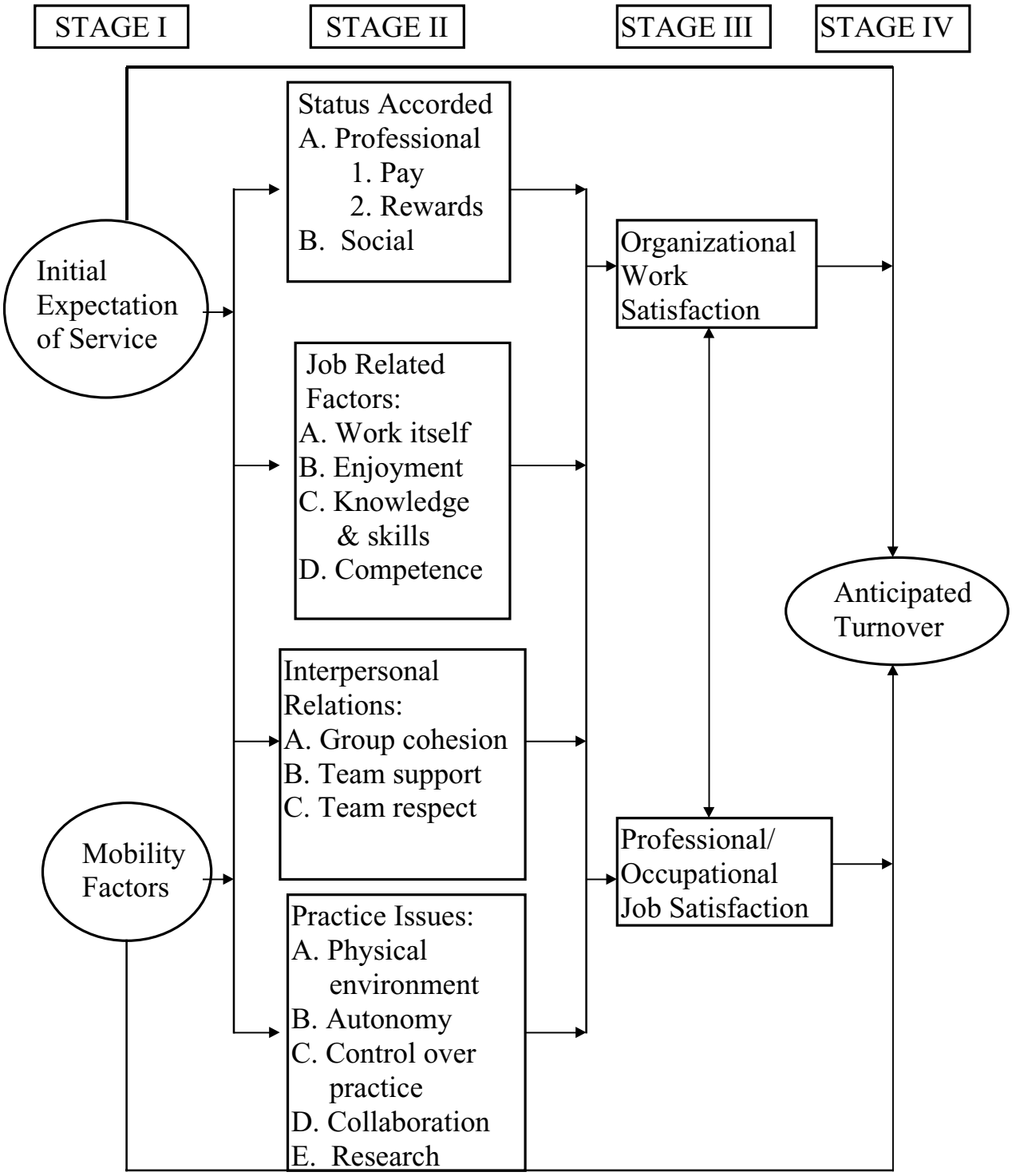

Figure 1. Anticipated Turnover Among Army CRNAs
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Definition of Terms

Anticipated turnover: The degree to which the CRNA perceives he or she would resign his or her commission from active duty.

Autonomy: Characteristics of a position that allows or encourages individuals to have a major say in work schedule, equipment used and, selection of procedures to be used.

Collaboration: Nurses and physicians cooperatively working together, sharing responsibility for problem solving and decision making in patient care.

Initial expectation of service: The anticipated length of military commitment of a commissioned officer when he or she initially entered the service.

Interpersonal relationships: The cooperation, group cohesion, and team support of health professionals functioning as a team encountered in the performance of duties.

Job-related factors: The aspects of employment that influence a worker s perception of his or her ability to accomplish daily assignments and enjoy the work itself.

Mobility factors: Characteristics of Army CRNAs that are predicted to influence turnover including age, family responsibilities, position, military experience, and years of military service.

Organizational work satisfaction/work satisfaction: The positive opinion of the job in terms of pay or reward, administrative style, professional status accorded, and interaction with colleagues.

Physical environment: The general work environment that includes equipment, supplies, noise level, and safety considerations.

Position: The position a CRNA fills, i.e., Staff, phase II clinical instruction, chief or assistant chief.

Professional/occupational job satisfaction /job satisfaction: The specific aspects of work that health providers find positive and pleasurable in regard to enjoyment of position, quality of care delivered, and time to conduct anesthesia activities.

Professional status: The ranking of a health care provider in the eyes of his/her peers through compensation of rewards, pay, team respect, and competence.

Research activity: The degree to which staff engages in research activities.

Reward: That which is of value when returned for something good that was done.

Social status: The chance to be somebody in the community.

Status accorded: The combination of professional status and social status.

Team respect: The estimation of worth of personal value given as an anesthesia team member.

Teams support: To assist and promote anesthesia team members to administer high quality anesthesia care.

Work itself: Task involved with administrative duties, work schedule, and time to do one s job.

Summary

CRNAs will continue to be an integral part of Army anesthesia care. Although the present strength has increased 15% over the last five years, CRNA slots are only 80% filled. With a smaller, more mobile force, CRNAs may experience more deployments than at any other time in history. The ability to perform the peacetime and wartime mission must not be compromised by a shortage of CRNAs. Identification of factors that influence job satisfaction will help to decrease attrition, and maintain quality anesthesia care.

Assumptions

1. It is possible to study a population such as CRNAs that is highly mobile and located throughout the world.

2. The degree of satisfaction among CRNAs does not vary significantly in the short run.

Limitations

1. The study will be limited by the willingness and ability of the respondents to participate in a timely manner.

2. Only Army CRNAs are included in this study, therefore, the results cannot be generalized to the civilian population.

CHAPTER II — REVIEW OF LITERATURE

Most work satisfaction studies have focused on the level of job satisfaction of factory or assembly work employees. An interest in job satisfaction is documented as early as 1911 by Frederick Taylor. Taylor presented research linking job satisfaction with both individual and organizational variables. His theories were based on the assumption that individuals would be motivated to do their work well if rewards were directly related to performance. Little attention was given to the occupational needs of service -oriented professionals. This was primarily a result of Taylor s theories that employees job satisfaction was some how related to their level of productivity.

Later studies (Mayo, 1945) shifted this focus, investigating job satisfaction from a humanitarian point of view. Mayo investigated work needs such as security, esteem, affiliation achievement, and job interest. He believed that the most determinant factor of job satisfaction was group interaction. This perspective reflected the American social thought where the ideas of equal opportunity influence both social research and policy (Stamps et al., 1978).

This shift in perspective did not last. The practical rationale for examining job satisfaction remains based upon the supposition that a satisfied worker will produce more although this is not consistently substantiated (Vroom, 1964).

Vroom (1964) found that job satisfaction was directly related to the perceived reward outcomes of pay, promotion, interaction with coworkers, an opportunity to influence decisions, and control over their work. He developed a subtractive theory on the motivation to work. He believed job satisfaction was inversely related to the discrepancy between what an individual needs from the job, and what is supplied by the job in terms of needs. Vroom identified an inverse relationship between job satisfaction and turnover.

Hertzberg (1966) recognized that the attitude of employees toward their work may determine success or failure of an organization. He initiated studies of attitudes toward work and developed a Motivation Hygiene Theory or Two Factor Theory. In a study of 200 engineers and accountants, he identified factors related to job satisfaction that he called motivators or hygiene factors. Motivators were identified as achievement, recognition, work itself, responsibility, and advancement. Motivators focused on the job. Hygiene factors related to the environment in which the work was performed and included salary, interpersonal relations, supervision, working conditions, and company policy and administration. Hygiene factors were shown to lead to job dissatisfaction, and motivators were related to job satisfaction. Hertzberg believed emphasis should be place on strengthening motivators that relate to job content because they offer the potential for long range effects.

Most studies concerned with job satisfaction have a practical goal of establishing relationships between satisfaction and productivity or between satisfaction and employee turnover (Stamps et al., 1978). Steers and Porter (1983) conducted a retrospective analysis of the literature from 1960 through 1972 . They examined job turnover as it relates to job satisfaction and absenteeism, and concluded there was a consistent inverse relationship between job satisfaction and turnover.

Nurse Job Satisfaction

Nurse job satisfaction has been studied extensively. High turnover within the profession was the impetuous for most of this research. Review of the literature conducted by Wolf (1981), identified causes of job dissatisfaction and turnover among nurses. Unrealistic job expectations were cited as the foremost difficulty in employee-related problems. Administrative policies and philosophies contributed more than any other factor to turnover rate. Wolf also noted that dissatisfaction with the work environment was a major factor associated with turnover. Nurse interpersonal relations with coworkers and supervisors contributed to job dissatisfaction.

Hinshaw and Atwood (1983) also reviewed the literature and identified key factors influencing nurse job satisfaction. Those influencing job satisfaction in multiple settings included age, sex, intelligence, education, experience as a nurse, tenure, and position in the hierarchy. Environmental factors included degree of professionalization, organizational climate, supervision, and interpersonal relationships. Characteristics of the job itself included pay, autonomy, and job outcomes. They organized the review into stages, Initial Stage Factors and Midstage Factors, each impacting on the other. It was noted that for the initial factors, the research findings showed that turnover was less apt to occur with higher pay, increased participation in decision making, longer expectations of tenure at hire, and increased colleague group cohesion. Individual staff who were younger and had fewer family responsibilities were more apt to terminate. In addition, multiple job opportunities in the community increased potential for turnover.

Midstage Factors that consistently influenced turnover were job satisfaction, intent to stay (intent to leave), performance rewards and incentives, job stress, role expectations and

conflicts, and anticipated turnover. Job satisfaction was suggested to mediate the effect of midstage and initial stage factors on turnover.

Hinshaw and Atwood (1983) note the weaknesses in the body of research on staff turnover. The major ones were a lack of replication of existing research, and use of different instruments to measure the factors, which made comparison across the studies difficult.

Nurse Anesthetists and Job Satisfaction

Eibeck (1987) sampled 500 randomly chosen members of the American Association of Nurse Anesthetists (AANA). Eibeck found the level of job satisfaction among CRNAs had increased from 56% in 1980 to 64% in 1986. Autonomy, pay, and working conditions were ranked as the three most important job factors.

The following were concluded from the data: (a) CRNAs are generally satisfied with their jobs; (b) pay most frequently elicits perceptions of dissatisfaction and is seen as one of the most important factors; (c) satisfaction levels increased slightly over a six year period; and (d) satisfaction is relatively unaffected by a variety of demographic data.

Loeffler (1992) in her study Job Satisfaction and Turnover of Nurse Anesthetists randomly sampled 350 practicing CRNAs and obtained a response rate of 46%. Respondents completed the Minnesota Satisfaction Questionnaire. CRNAs reported most satisfaction with moral values, social service, ability utilization, and achievement. Respect and recognition was specified as highly important to satisfaction, but least satisfying in their profession. General satisfaction with their jobs was much lower than among other nurses surveyed with the same instrument.

There was no difference in general job satisfaction between CRNAs who changed jobs or remained five years or more. Those who stayed reported greater satisfaction with autonomy, supervision, and company policies. These were labeled as intrinsic factors.

CRNAs in new jobs were more satisfied with extrinsic factors of compensation, coworkers, and recognition. Neither family living in the community nor a spouse s job relocation significantly influenced the decision to stay on the job. Loeffler concluded that more attention to intrinsic job satisfiers might reduce turnover in anesthesia departments.

Several studies have been done on military CRNAs. Chaney (1991) utilized a questionnaire to collect data from 154 Air Force CRNAs. The purpose of his study was to describe and determine the relationship among job satisfaction, organizational commitment, and intent to stay in the Air Force. The four most important job satisfaction components were autonomy, promotional opportunities, pay, and professional status. Pearson correlation s revealed moderate positive correlation s between job satisfaction and organizational commitment ($r = .4884$, $p < 0.05$). There was also a weak, positive correlation between job satisfaction and intent to stay ($r = .2141$, $p < 0.05$). Correlational analysis also revealed a weak positive correlation between organizational commitment and intent to stay ($r = .3351$, $p < 0.05$). Chaney (1991) also found that job satisfaction and organizational commitment scores were significantly lower among CRNAs who planned to separate prior to retirement, compared to those who planned to retire from the Air Force.

Cowan (1995) adapted a conceptual framework on Anticipated Turnover Among Nursing Staff developed by Hinshaw and Atwood (1983), for her study, The Relationship Between Navy Anesthesia Provider s Job Satisfaction and Anticipated Turnover. The research instrument contained questions were standardized by the Nursing Job and Work Satisfaction scale, also by Hinshaw and Atwood, and by Weiss and Davis (1985). A 57-item questionnaire was sent to all Navy anesthesia providers, (n=288), with a return rate of 65.3 percent. Cowan found that mobility factors showed a negative correlation to anticipated turnover. Pay and rewards and professional status revealed a weak negative, but not

statistically significant, relationship to job satisfaction. There was no significant relationship between organizational work satisfaction and anticipated turnover. Multiple regression analysis of eight components revealed that job satisfaction and mobility accounted for 27% on the variance in anticipated turnover, $r = .27$, $f = 34.18$, $p < .0001$. The analysis reflected a positive relationship between intent to stay in the military and level of job satisfaction, $r = .47$, $p < .001$, and between intent to stay and interpersonal relationships, $r = .20$, $p = .007$.

Summary

The literature indicates there is no agreement on which of the many factors are more significant in terms of job satisfaction. Theorists have defined the incentives that produce job satisfaction and those that create dissatisfaction. Several important concepts are consistently repeated in relation to level of satisfaction. The most common factors cited are pay, occupational status, supervision, achievement, interpersonal relationships, promotion, and turnover. The literature supports an inverse relationship between job satisfaction and turnover.

CHAPTER III - METHODS

Research Design

The research design of this study was descriptive and exploratory. The relationship between Army CRNAs job satisfaction and turnover was investigated.

Population

The population was all active duty Army CRNAs (213) working in clinical settings.

Instrumentation/Materials

A letter of invitation to participate in the study was mailed with each packet (Appendix B). A Demographic Collection Tool (Appendix C) was completed by the respondents.

The instrument, a questionnaire, was adapted by Cowan (1995) for use with anesthesiologists and nurse anesthetists. The 57 questions are the same for each provider except for some wording adaptations. This study used the survey adapted for nurse anesthetists (Appendix D). The major elements of the Cowan (1995) questionnaire are work-related factors, job-related factors, anticipated turnover, group cohesion, autonomy, and control over practice.

Cowan (1995) conducted a pretest on 18 active duty Army anesthesia providers at Walter Reed Army Medical Center (WRAMC). After the pretest, 57 questions were obtained from 67 original ones. The pretest provided validity and reliability of the questions as well as establishing comprehensiveness and clarity of questions and instructions. The mean time to complete the questionnaire was 12.5 minutes. Cronbach s alpha was determined for each of the components. Cronbach s alpha measures the internal consistency of an instrument. This assures the items in the instrument measure the same construct. The standardized alpha coefficients are reported in Table 1.

Table 1.

WRAMC Anesthesia Provider Job Satisfaction

Variable	Alpha Coefficient
Anticipated turnover	.70
Initial expectations	.60
Interpersonal relationships	.88
Job related factors	.76
Mobility factors	.57
Organizational/work satisfaction	.65
Practice issues	.67
Professional/occupational job satisfaction	.81
Status accorded	.55

A combination of data on demographics and responses to the 57 items formed the base for the study as shown in the model Anticipated Turnover of Army CRNAs (see Figure 1). Nine components were used in this study. The 57-item questionnaire supplied data for eight of the nine components; data for the ninth component (mobility) was drawn from the demographic form. Mobility includes age, sex, position, marital status, rank and

number of dependents. The questions were answered on a Likert scale. Likert scales are designed to determine attitudes of subjects on a graded scale. The scale used in this study consists of four categories: 4 - strongly agree, 3 - agree, 2 - disagree, and 1 - strongly disagree . For all items negatively worded, the scoring was reversed.

Items of the components were derived by a factor analysis of the data by Cowan (1995). Components were scored so that higher scores indicate a higher level of satisfaction and a decreased desire to leave the Army before the minimum required 20 years for service retirement. Initial expectation should indicate a higher score if the respondent desires to commit to a military retirement when initially entering the service. For the variables included in the mobility component a high score indicates higher mobility and a low score indicates lower mobility. Data from the ninth component (mobility) provided information on how mobile a CRNA is in terms of separating from service. For coding of mobility factors, see (Appendix E).

Fifty-seven items comprised eight of the nine components of job satisfaction. All components, except mobility factors, were measured using the Likert scale of strongly agree to strongly disagree. Mobility factors, the ninth component, were measured by a scoring system that rates higher scores as being more mobile. The nine components of the study are operationally defined:

1. Anticipated Turnover: The degree to which the CRNA perceives that he or she would resign his or her commission from active duty. Assessed by items 12, 13, 26, 41, and 45 of the questionnaire

2. Initial Expectations of Service: The expectation of military commitment of at least 20 years by the service member when he or she initially entered military service. Assessed by items 35 and 44 of the questionnaire.

3. Interpersonal Relations: The group cohesion, respect, and support of health professionals functioning as a team encountered in the performance of duties. Assessed by items 7, 32, 39, 42, 43, 47, 51, and 52 of the questionnaire.

4. Job-related Factors: The aspects of employment which influence a worker s perception of his or her ability to accomplish daily assignments and enjoy the work itself. Assessed by items 9, 11, 17, 31, 33, and 38 of the questionnaire.

5. Status Accorded: The ranking of a CRNA in the eyes of one s peers through compensation of rewards and pay and in the feeling of respect from within the social community. Assessed by items 4, 19, 28, and 57 of the questionnaire.

6. Organizational Work Satisfaction or Work satisfaction: The positive opinion of the job in terms of pay or reward, administrative style, professional status accorded and interaction with colleagues. Assessed by items 14, 23, 24, and 50 of the questionnaire.

7. Practice Issues: The combination of control over practice and research utilization. Assessed by items 20, 25, and 46 of the questionnaire.

8. Professional or Occupational Job Satisfaction or Job satisfaction: The specific aspects of work that health providers find positive and pleasurable in regard to enjoyment of position, quality of care delivered, and time to conduct anesthesia activities. Assessed by items 3, 16, 22, 30, and 55 of the questionnaire.

9. Mobility Factors: Characteristics of Army CRNAs that are predicted to influence turnover which include age, sex, marital status, rank, position, and number of dependents. Data obtained by the demographic questionnaire.

Data Analysis

Eight of the nine components of job satisfaction were measured using a Likert scale. Numerical values were assigned to the four categories: strongly agree, agree, disagree, and strongly disagree. Statistical Package for Social Science (SPSS) standard version 7.5.1 was used for statistical analysis. Values obtained from each item in the instrument were summed to obtain a single score for each subject. The summed scores were treated as interval data for the purpose of statistical analysis. Pearson product moment correlation was used to assess research questions 1 through 4, and the additional correlates specific to this study. Stepwise multiple regression was used for research question 5, and to explore variance in the additional correlates identified by this study.

CHAPTER IV - ANALYSIS

Analysis of study data is discussed in this Chapter. Demographic characteristics will be discussed first, then the six research questions will be discussed.

Sample and Demographics

A total of 213 questionnaires were mailed to active duty Army CRNAs, of which 123 (60%) were returned and usable for data analysis. Thirty percent were female and 70% were male (Figure 2). Mean age of respondents was 41 years with a Range of 28 to 51 years (Figure 3).

Figure 2.

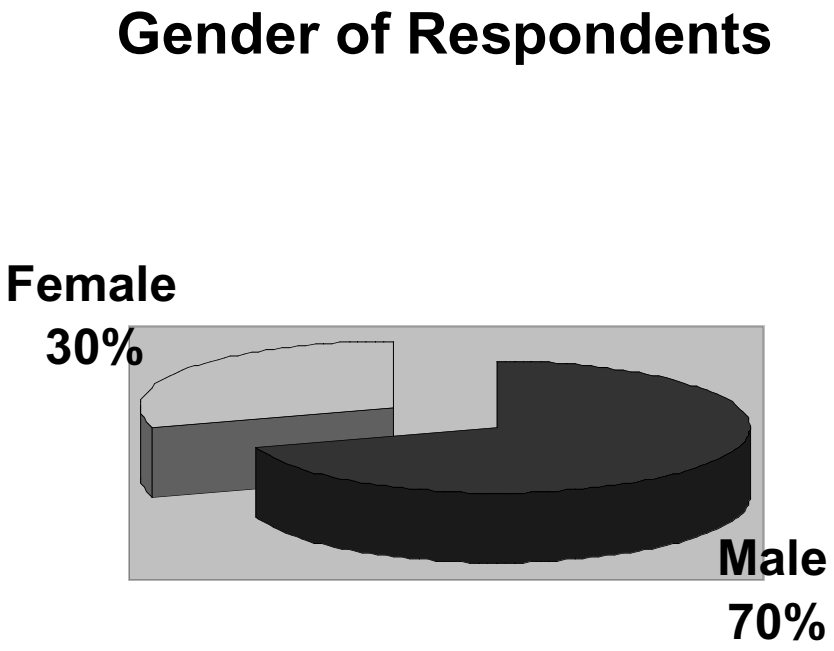
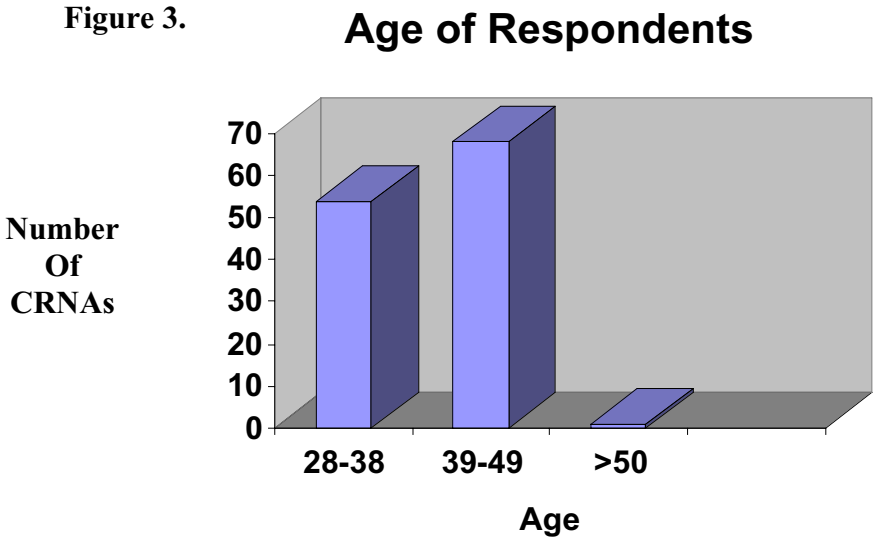


Figure 3.



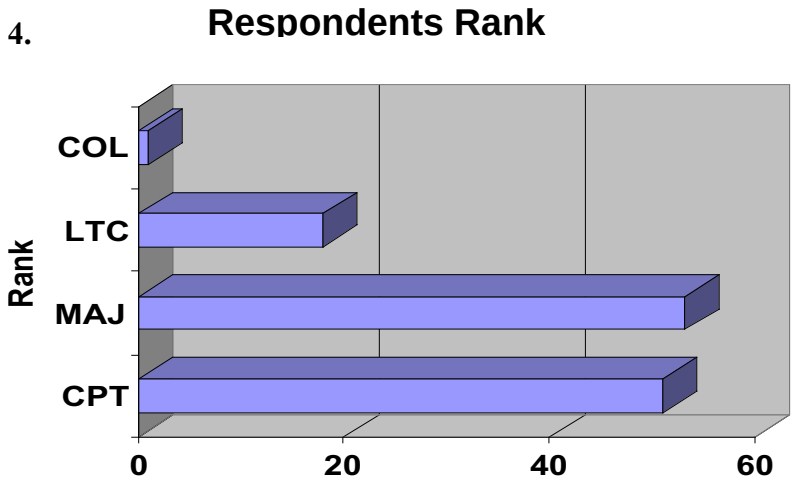
The mean years of military service reported were13.6, a range of 1-30 years and a standard deviation of 4.8 (Table 2). Years of military anesthesia experience averaged 5.7 with a range of none to 22 years and a standard deviation of 4.7. The years of prior non military anesthesia experience was reported with a range of no experience to 12 years . The mean was .55 years with a standard deviation of 2 (Table 2.)

Table 2.

Respondents Years of Military and Military Anesthesia Experience.

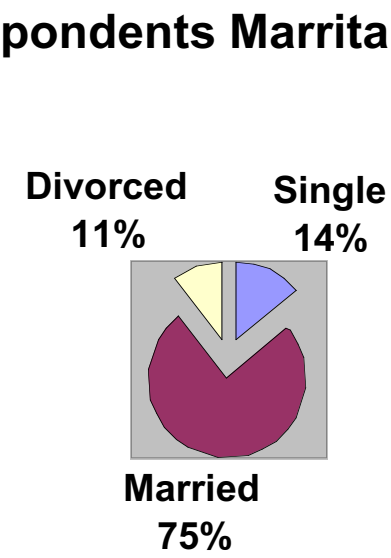
Variable	Mean	Standard Deviation	Range
Years Military Service	13.6	4.8	1 - 30
Years Military Anesthesia Experience	5.7	4.7	0 - 22
Years Non Military Anesthesia Experience	0.55	2	0 - 12

Figure 4.



Fifty three of the 123 respondents (43%) held the rank of major and 51 (42%) held the rank of captain (Figure 4). Eighteen (15%) were lieutenant colonels and one respondent was a colonel. Ninety three (75%) were married.

Figure 5.



Sixty-nine percent of respondents reported having one to three dependents while 18% reported none. Respondents reported that they spent two-thirds of their time in primary

patient care and the remainder was equally divided between clinical instruction/supervision and administrative duties.

Nearly 93% of Respondents obtained their CRNA education in the Army Nurse Anesthesia Program. One respondent attended the USUHS program and eight were trained in civilian programs.

Research Questions

The study explored the relationship of anticipated turnover to eight components: Initial expectation of service, interpersonal relationships, job-related factors, mobility factors, organizational and work satisfaction, practice issues, professional and occupational job satisfaction, and status accorded. Eight components were measured by the questionnaire, and mobility factors (the ninth component) were obtained from demographics.

Additionally, the study explored the relationship of multiple independent variables and their relationship to the dependent variable, the respondent s intention to retire from active duty. The questionnaire provided the independent variables. The respondent s intention to retire was obtained by an additional demographic question, which was not utilized by Cowan (1995) or Stamps (1997). These data are presented after the research questions.

Correlation coefficients were used to assess the strength and direction of the relationships among variables. This includes research questions 1 through 4.

Research Question 1.

What is the relationship of initial expectation of service and anticipated turnover of Army CRNAs?

The anticipated turnover component was constructed by summing the means of questionnaire items 12, 13, 26, 41, and 45, and dividing by the number of valid responses. Initial expectations were measured by summing the means of questionnaire items 35 and 44, and dividing by the number of valid responses. The correlation between initial expectation of service and anticipated turnover of Army CRNAs was r = .289, statistically significant at the 0.01 level.

Research Question 2.

What is the relationship between professional/occupational job satisfaction and anticipated turnover of Army CRNAs?

Professional and occupational job satisfaction was comprised of questionnaire items 3, 16, 22, 30, and 55. A weak positive correlation (r = .149) was found between professional and occupational job satisfaction and anticipated turnover, not significant at the .05 level.

Research Question 3

What is the relationship between organizational work satisfaction and anticipated turnover?

Organizational work satisfaction was comprised of questionnaire items 14, 23, 24, and 50. A weak correlation (r = .141) was also found between organizational work satisfaction and anticipated turnover.

Research Question 4.

What is the relationship between status accorded (including pay and rewards) and anticipated turnover of Army CRNAs?

The component of status accorded was comprised of questionnaire items 4, 19, 28, and 57. There was no statistically significant correlation between the two components at the .05 level. A weak correlation (r= .159) exists between these variables.

Research Question 5

What variables account for turnover of Army CRNAs?

The eight components of the theoretical framework were entered into a stepwise multiple regression analysis with anticipated turnover as the dependent variable. Of the variance in anticipated turnover 8.4% was accounted for by initial expectations of service (r^2 = .084, $p \leq .001$). No other statistically significant correlations were observed.

Additional Findings

This study utilized additional demographic questions as well as, data analysis not reported by Stamps (1997) or Cowan (1995). This section will present theses findings.

Eight of the nine components of the theoretical framework (anticipated turnover was excluded) were correlated with the following question: Do you intend to retire from active duty? Respondents answered yes, no, or unsure. This is a direct measure of the respondent s intentions to choose the Army as a career or to separate from service prior to retiring.

Professional and occupational job satisfaction positively correlated (r = .328 $p \leq .01$) with the intent to retire. A stepwise multiple regression revealed that professional occupational job satisfaction accounted for 10.7% ($p \leq .01$) of the variance in intent to retire. Mobility factors demonstrated a negative correlation with intent to retire (r = -.305 $p \leq .05$). Stepwise multiple regression revealed mobility accounted for 9.3 % ($p \leq .01$) of the

variance in the respondent s intention to retire. Items of mobility that were statistically significant were: age, gender, rank, and position (Figure 6.).

The 57 items of the questionnaire were entered into a bivariate correlation with intent to retire. Items with a statistically significant correlation are displayed in Table 3.

Table 3.

Questionnaire Items With Significant Correlation to Intent to Retire.

Question	r value
37. As an anesthesia provider, I often feel as if I am used to fill an empty slot.	-.208*
38. I feel satisfied with the anesthesia care that I have provided.	.190*
41. With the present civilian job offers that I am getting, it is worth it financially for me to resign my commission early.	.-333**
22. It makes me proud to talk to other people about being an anesthetist in the military.	.291**

*Sig. $p \leq .05$ **Sig. $p \leq ..01$

The factors influencing the respondent s decision to stay in the military and retire or resign prior to retiring were explored. Question 12 of the survey (When I entered the military I had full intentions of staying until retirement, but now I have changed my mind) was correlated with eight of the nine components of the theoretical framework. The component, anticipated turnover, was excluded. Professional/occupational job satisfaction correlated negatively ($r = -.356$, $p \leq .01$) with the decision to leave the Army- the higher the satisfaction the less likely to leave (Figure 7.). Professional/occupational job satisfaction was entered into stepwise multiple regression with question 12 as the dependent variable, and accounted for 12.7% of the variance ($p \leq .01$). Questionnaire items specific to

professional/occupational job satisfaction with significant correlation to question 12 are displayed in Table 4.

Table 4.

Components of Professional/Occupational Job Satisfaction With Significant Correlation to Questionnaire Item 12.

Question	r value
22. It makes me proud to talk to other people about being an anesthetist in the military	-.186*
30. Though I could make more money in civilian practice, I am more satisfied in the military because of the quality of care given to patients.	-.197*
55. I feel the military offers more chances to participate in research studies than most comparable civilian jobs.	-.229*

*Sig. $p \leq .05$

Question 45 of the survey (When I entered the military, I was unsure of the intent to stay more than a few years, but now I have decided to stay until retirement) was also correlated with the same eight components as question 12. Professional/occupational job satisfaction ($r = .485$, $p \leq .01$), and interpersonal relations ($r = .200$, $p \leq .05$) correlated positively with question 45. Mobility factors correlated negatively ($r = -.187$, $p \leq .05$) (Figure 8.). Items of mobility factors of significance were age, rank, and position. Mobility, interpersonal relations, and professional and occupational job satisfaction were then entered into a stepwise multiple regression with question 45 as the dependent variable. Professional and occupational job satisfaction accounted for 23.5% of the variance ($p \leq .01$), and interpersonal relations for 4% of the variance ($p \leq .05$).

The individual components of professional and occupational job satisfaction (questions 16, 3, 22, 30, and 55), and interpersonal relations (questions 7, 32, 39, 42, 43, 47,

51, and 52) were correlated with question 45. Questionnaire items with significant correlation coefficients are presented in Table 5.

Table 5.

Components of Professional/Occupational Job Satisfaction and Interpersonal Relations With Significant Correlation to Questionnaire Item 45.

Question	r value Prof/Occ	r value Inter/Rela
16. If I had my career to do all over again I would still choose to go into the military.	.284*	
30.Though I could make more money in civilian practice, I am more satisfied in the military because of the quality of care given to patients.	.305*	
43. I have a strong feeling of belonging to my anesthesia department.		.201*
51. I am satisfied with my job at the present time.		.238*
52. In terms of personal feelings about the department, I like it very much.		.243*

*Sig. $p \leq .05$

As the theoretical framework illustrates, a dynamic relationship exists between the components that influence professional and occupational job satisfaction. Organizational work satisfaction (items 12, 14, 23, 24, and 50 of the questionnaire) correlates positively with professional and occupational job satisfaction ($r = .317$ $p \leq .01$). Interpersonal relations (items 7, 32, 39, and 42 of the questionnaire) correlates positively with organizational work satisfaction ($r = .540$, $p \leq .01$), and professional and occupational job satisfaction ($r = .439$, $p \leq$

.01) Figure 9. Specific items of organizational work satisfaction, and interpersonal relations significant statistically in their relation to professional and occupational job satisfaction are reported in Tables 6, and 7, respectively.

Table 6.

Components of Organizational Work Satisfaction and Their Correlation to Professional/Occupational Job Satisfaction.

Question	r value
12. When I entered the military, I had full intentions of staying until retirement, but now I have changed my mind.	-.356**
14. There is adequate staff coverage to allow me to attend continuing education events.	.248**
23. I have adequate breaks and lunch- time on a regular basis.	.327**
50. Most of the time I can balance patient care and administrative duties in my weekly schedule.	.205*

*Sig. $p \leq .05$ **Sig. $p \leq .01$

Table 7.

Components of Interpersonal Relations and Their Correlation to Organizational Work Satisfaction and Professional/Occupational Job Satisfaction.

Question	r value Org/work	r value Prof/Occ
7. I do receive recognition by other team members for work when it is well done.	.417**	.184**
32. A feeling of team spirit usually exists during my duty hours.	.451**	.366**
39. In general, the anesthesiologists and the CRNAs work well with each other in my department.	.433**	.348**
42. The anesthesiologists are willing to help me improve my clinical skills in my department.	.256**	.276**

**Sig. $p \leq .01$

Questionnaire items with content of specific interest to an Army CRNA were selected. Percent agreement with each item by respondents is as follows:

Question 4. An upgrading of the Incentive Specialty Pay is seriously needed: 82.2%

Question 14. There is adequate staff coverage to allow me to attend continuing education events: 59.3%

Question 19. I definitely would consider staying until retirement if the incentive specialty pay increased from the original amount issued a few years ago: 75.2%

Question 23. I have adequate breaks and lunch-time on a regular basis: 65%

Question 25. I feel CRNAs within the military should be prepared and proven capable of functioning independently of an anesthesiologist: 95.1%

Question 27. I have the opportunity for independent thought and action: 93.5%

Question 28. Even if the incentive specialty pay would be significantly increased from the original amount issued, it would not be a critical issue in whether or not I would stay active duty until retirement: 45%

Question 29. Promotions of nurse anesthetists are a big problem within the military: 46.3%

Question 41. With the present civilian job offers that I am getting, it is worth it financially for me to resign my commission early: 47.9%

Question 52. In terms of personal feelings about the department, I like it very much: 75.6%

Question 55. I feel the military offers more chances to participate in research studies than most comparable civilian jobs: 56.1%

Question 57. I feel I have been awarded adequate medals/ribbons for my achievements in the military: 56.9%

CHAPTER V — SUMMARY

Discussion

Forty-eight percent of Army CRNAs resign their commissions after completing their initial obligation of service. Approximately 30 CRNAs leave each year. It is important to identify factors that influence their decision to resign prior to retirement. This study explored the various components that determine job satisfaction, and how they relate to desire to separate from service prior to retiring. Additionally, it identified data specific to this study not described by Stamps (1997) or Cowan (1995). When possible, comparisons of Army, Air Force, and Navy CRNAs were made. Stamps' raw data were accessible to allow splitting of CRNAs and anesthesiologists (MDAs). Cowan s raw data were not available. Limitations of the research, suggestions for further research, and the implications of the study will be presented.

Demographic Data

This study is based on 123 respondents with a response rate of 60%. The Stamps (1997) study had 159 respondents with a response rate of 49.3%. Of the 159 respondents, 59% were CRNAs , and 32% were MDAs. Cowan (1995) included 188 respondents, with a response rate of 65.3%. Of the 188 respondents 70% were CRNAs and 61% were MDAs. This study s response rate (60%) parallels the response rate of Air Force CRNAs (59%), but differs from Navy CRNAs (70%). The difference may be due to the Navy's having a smaller population (157), when compared to the Army (205) and the Air Force (204). The Army and Navy CRNA respondents were similar in gender. Seventy-percent of Army respondents were male, and 69.6% of Navy respondents were also male. The Air Force CRNA response rate was 58% male. The differing gender percentages may be related to the difference in the military mission: the Air Force has a smaller combat role for CRNAs. Marital status was

very similar between the Air Force and the Army. Army CRNAs (75.6%), and 76.9% of Air Force CRNAs reported being married. Navy CRNA marital data were not available. CRNAs in the Army reported years of military service with a mean of 13.6 years, and Air Force CRNAs reported a mean of 12.8. Years of military anesthesia experience were similar between Army (mean 5.7 years) and Air Force (5.5 years) CRNAs.

Research questions 1-4

Initial expectation of service was the only component of the framework (as measured by the Cowan model) with a significant relationship to anticipated turnover ($r = .225$, $p \leq .01$). This positive correlation is consistent with the findings of Hinshaw et al. (1987). This indicates that if an Army CRNA anticipated staying in the military until retirement when he or he was first commissioned, then they were more likely to have decreased turnover. This is in contrast to the Stamps' (1997) findings. Utilizing Cowan s model, Stamps reported a significant relationship exists between initial expectation of service ($r = .171$, $p \leq .05$) and anticipated turnover, and professional/occupational job satisfaction ($r= .203$, $p \leq .05$) and anticipated turnover.

Upon isolating the CRNA data from Stamps combined MDA/CRNA data, the results changed, and were consistent with the findings of this study. The Stamps CRNA data revealed only a significant correlation between initial expectation of service and anticipated turnover ($r = .370$, $p \leq .01$). This is a stronger correlation than reported with the combined MDA/ CRNA data ($r = .171$, $p \leq .05$).

Research Questions 5 & 6

Multiple regression analysis was undertaken to determine what variables accounted for turnover (as measured by the Cowan model) of Army CRNAs. Initial expectation of

service accounted for 8.4% of the variance in anticipated turnover. None of the other eight components accounted for statistically significant variation in anticipated turnover. The stepwise multiple regression analysis was performed with the Stamps (1997) CRNA data, and again were consistent with the findings of this study. Initial expectation of service accounted for 13.7% of the variance ($r^2 = .137$, $p \leq .01$). The individual data obtained upon isolating the Stamps CRNA data, is again in contrast to the reported MDA/CRNA data. Combined MDA/CRNA data reported by Stamps revealed interpersonal relationships accounted for 5.9% of the variance in anticipated turnover.

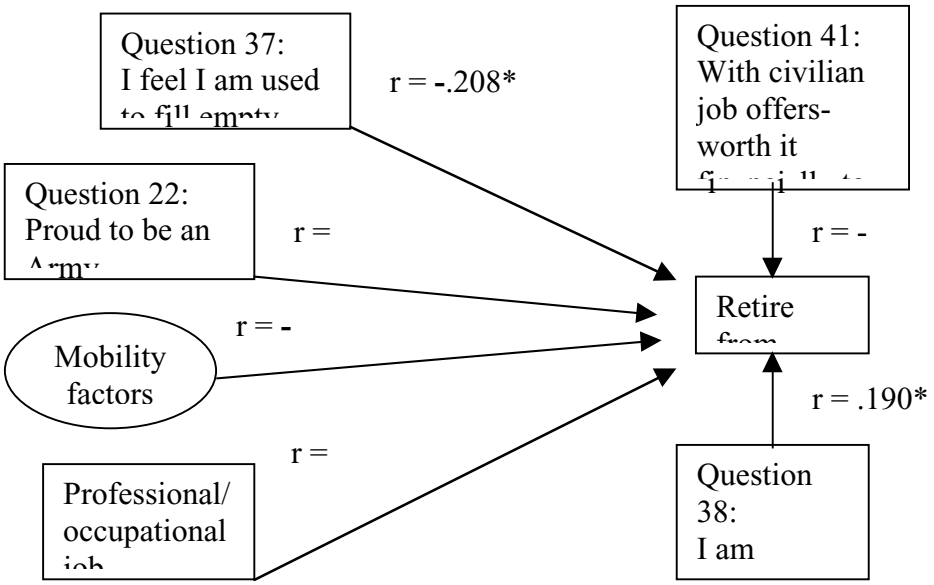
This study revealed that Army and Air Force CRNAs report similar demographics. Additionally, when CRNA data is compared for Army and Air Force, the same component initial expectation of service influences anticipated turnover. The differences that exist between the individual CRNA data and the combined MDA/CRNA data indicate the two groups are not homogeneous. The factors that influence job satisfaction and turnover of CRNAs and MDAs are different and the two should be studied individually, rather than combined.

Additional Findings

This study explored the relationship between eight of the components of the theoretical framework and the respondent s intention to retire, as assessed by the demographic form (Appendix C). Analysis of the responses of Army CRNAs revealed a

moderate correlation ($r = .328$, $p \leq .01$) between professional/occupational job satisfaction and intent to retire. Intent to stay or leave is a factor which has been found to be related to job/work satisfaction (Hinshaw, Smeltzer, & Atwood, 1987; Steers & Porter, 1983) and indicated as a dimension of commitment. With a high level of job satisfaction, Army CRNAs could be predicted to have a greater desire to stay in the Army until retirement. Mobility factors revealed a negative correlation ($r = -.305$, $p \leq .05$) to intent to retire. Items of mobility most related to negative correlation were age, rank, and position. The younger the respondent, and the lower the rank, the higher degree of mobility in the service. The higher degree of mobility could indicate the respondent s desire to separate from service prior to retirement. Position (staff Vs phase II clinical instruction Vs chief/assistant chief) indicates the more an individual has invested in their career, achieving higher status, the more likely they are to retire. These finding are consistent with those of Hinshaw and Atwood (1983), in which they indicate tenure and position in the hierarchy as factors influencing job satisfaction and turnover. Additionally, these findings support the validity of the study. It is expected the greater the age, the higher the rank; therefore, the higher the position. Individuals with higher position are less likely to resign their commission prior to retiring.

Figure 6. **Factors Influencing Turnover**



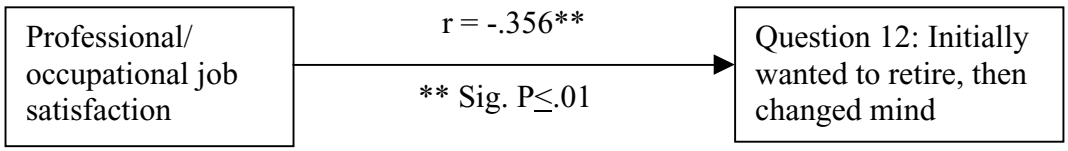
*Sig. ≤ .05 **Sig. ≤ .01

Questions 22, 38, and 41 revealed a significant correlation with intent to retire. Question 37 revealed a negative correlation, and indicates if a respondent feels as if they are used to fill an empty slot. This may be interpreted as an individual feeling they are just pulled from one job to another, or from one case to another, without a specific role in the department. This is supported by Loeffler s (1992) study of job satisfaction and turnover of CRNAs. Loeffler found that CRNAs reported ability utilization as an important component of job satisfaction. If an individual feels they are being utilized to the best of their ability the greater the job satisfaction and the increased probability this individual will retire from active duty. Questions 22 and 38 address the respondent s satisfaction with the level of care they provide, and whether they are proud to be an Army CRNA. It reasons that if the CRNA feels

he or she are providing quality care, and are proud to provide it in the Army, the more satisfied they are with their job. Question 41 confronts the issue of civilian jobs and pay. The greater the number of high paying civilian jobs available to Army CRNAs the higher the turnover. This finding is consistent with that of Hinshaw and Atwood (1987) which found that multiple job opportunities in the community increased an individuals potential for turnover.

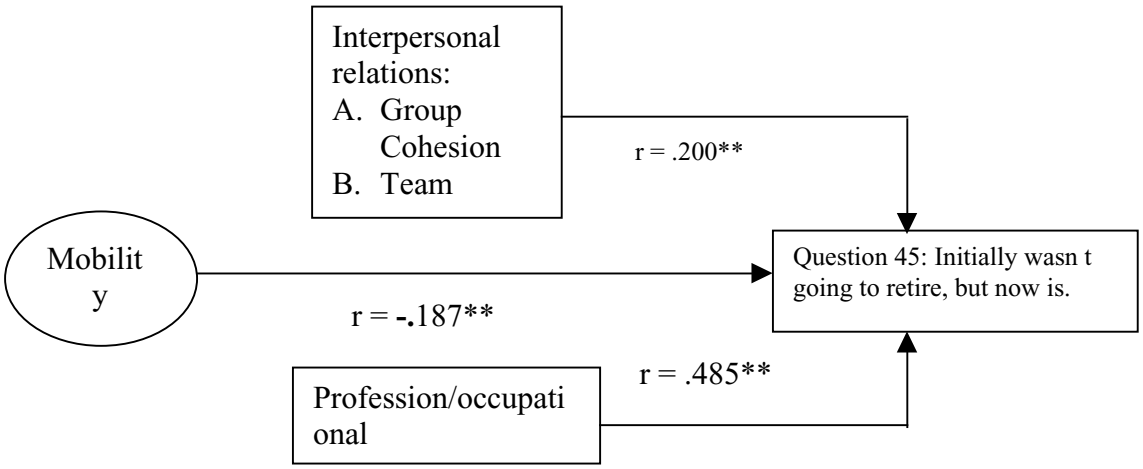
Factors influencing an individual s decision to stay in the military and retire, or to resign their commission were explored. Question 12 of the survey (When I entered the military, I had full intentions of staying until retirement, but now I have changed my mind) was correlated with eight of the nine components of the theoretical framework. Job satisfaction correlated negatively ($r = -.356$, $p \leq .01$) with question 12 (Figure7). This indicates the lower respondent's job satisfaction, the more likely they will decide not to stay until retirement, even if their initial expectation of service was high. Professional/occupational job satisfaction is comprised of items 3, 16, 22, 30, and 55 of the questionnaire. These individual items were correlated with question 12. Items 22 (proud to be an anesthetist in the military); 30 (though I could make more money in civilian practice, I am more satisfied in the military because of the quality of care given); and 55 revealed the most significant correlation with question 12. Item 55 of the questionnaire states the military offers more chances to participate in research. Respondents who changed their mind about staying in the military felt this fact was not true.

Figure 7. Factors Influencing Decision to Leave the Army



Conversely, Question 45 of the survey (When I entered the military, I was unsure of the intent to stay more than a few years, but now I have decided to stay until retirement) was also correlated with the same eight components as question 12. Professional/occupational job satisfaction ($r = .485$, $p \leq .01$), and interpersonal relations ($r = .200$, $p \leq .05$) correlated positively with question 45 (Figure 8). Mobility factors correlated negatively ($r = -.187$, $p \leq .05$).

Figure 8. Factors Influencing Decision to Stay in the Army



**Sig. P ≤ .01

Job satisfaction consistently represents a component of an individual s desire to stay or leave the military. This is substantiated by the literature (Hinshaw et al., 1987; Steers & Porter, 1983) and further validates the findings of this study. Interpersonal relations (group cohesion, team support, and team respect) appears to be influential in the decision process of individuals who change their minds and decide to make the Army a career. Items of interpersonal relations that displayed the most significance were item 43, having a strong sense of belonging to a department; item 51, being satisfied with their job; and 52, liking their department very much . Mobility

factors correlated negatively ($r = -.187$, $p \leq .05$). Items of mobility factors of significance were age, rank, and position. This is congruent with results previously reported by this

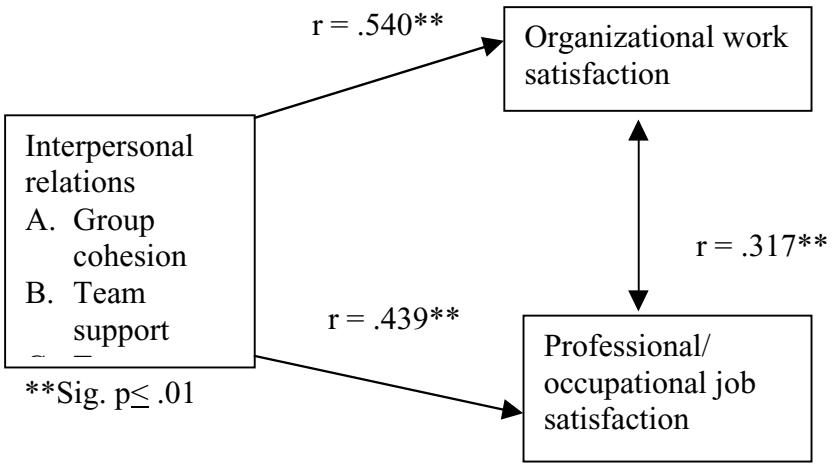
study. It indicates that the more individuals achieve in their military career, the more likely they are to retire.

It can be concluded from the data presented that a different set of factors influence an individual s intent to stay (interpersonal relations, mobility factors, job satisfaction) when compared to the decision to leave (job satisfaction). This is supported by the literature. Hertzberg (1966) initiated studies of attitudes toward work and developed a Motivation Hygiene Theory or Two Factor Theory. He identified factors related to job satisfaction that he called motivators or hygiene factors. Motivators were identified as achievement, recognition, work itself, responsibility, and advancement. Hygiene factors related to the environment in which the work was performed and included salary, interpersonal relations, supervision, working conditions, and company policy and administration. Hygiene factors were shown to lead to job dissatisfaction, while motivators were related to job satisfaction. Hertzberg believed emphasis should be placed on strengthening motivators that relate to job content because they offer the potential for long range effects. Loeffler (1992) in her study, Job Satisfaction and Turnover of Nurse Anesthetists, found those who stayed reported greater satisfaction with autonomy, supervision, and company policies. These were labeled as intrinsic factors. CRNAs in new jobs were more satisfied with extrinsic factors of compensation, coworkers and recognition. Loeffler concluded that more attention to intrinsic job satisfiers might reduce turnover in anesthesia departments.

As outlined by the theoretical framework (Figure 1.), a dynamic and almost inseparable relation exists between components. This study revealed job satisfaction (the specific aspects of work that health providers find positive and pleasurable in regard to enjoyment of position, quality of care delivered, and time to conduct anesthesia activities) as the common component. It became imperative to identify the major influences of the

respondent s level of job satisfaction (Figure 9). Organizational work satisfaction (the positive element of the job in terms of pay or reward, administrative style, professional status accorded and interaction with colleagues work satisfaction) correlates positively with professional/occupational job satisfaction (r= .317 p≤ .01). Interpersonal relations (the group cohesion, respect, and support of health professionals functioning as a team encountered in the performance of duties) correlates positively with organizational work satisfaction (r= .540, p≤ .01), and professional/occupational job satisfaction (r= .439, p≤ .01).

Figure 9. Factors Influencing Job Satisfaction



This study identified the following organizational work factors as being important to Army CRNAs: Adequate staff coverage to allow attendance of continuing education meetings, the need for adequate breaks and lunch on a regular basis, and the ability to balance patient care with administrative duties.

Components of interpersonal relations that were identified as important to Army CRNAs are: Recognition by other team members for work well done, a feeling of team spirit

in the department, MDAs and CRNAs working well together in the department, and MDAs willing to help CRNAs improve their skills.

If these factors are satisfied within a department, the individual s intent to retire may be positively influenced. With 48% of CRNAs leaving the Army after their initial obligation, it is clear this is the focal group. It is important to send new graduates to assignments with positive leadership, and excellent departmental dynamics. It can be concluded by the data presented that these are important determinants in an individuals decision process to stay in the Army until retirement or to resign their commission.

Respondents were divided into three groups. If they chose to stay in the Army until retirement they were placed in the Stayers group, if they did not intend to retire they were placed in the Leavers group, and those who were unsure became the Unsure group. Frequency tabulations were performed on the individual groups and reported in Table 8.

Table 8.
Comparison of Stayers , Leavers , and Unsure

A. Demographics

VARIABLE	STAYERS	LEAVERS	UNSURE
Mean age	40.7	35.6	37.5
Mean years military service	15.5	8.8	10.3
Mean years military anesthesia experience	6.8	2.6	3.8
Percent married	77.6%	76.2%	64.7%
Percent single	11.8%	14.3%	23.5%
Percent male	77.6%	57.1%	47.1%
Percent with no dependents	16%	19%	23.5%
Percent with 1-3 dependents	68%	66.7%	76.5%

B. Percent agreement on various questionnaire items

# 43: I have a strong feeling of belonging to my anesthesia department.	72.9%	57.1%	64.7%
#51: I am satisfied with my job at the present time.	83.5%	71.4%	76.5%
#52: In terms of personal feelings about the department, I like it very much.	80%	66.7%	64.7%
#47: Anesthesia personnel at my hospital do a lot of bickering and backbiting.	22.4%	42.9%	23.5%
#7: I do receive recognition by other team members for work when it is well done.	82.4%	66.7%	82.4%
#15: I find real enjoyment in my work as an anesthesia provider.	92.9%	95.3%	94.2%
#16: If I had my career to do all over again I would still choose to go into the military.	83%	71%	76.5%
#27: I have the opportunity for independent thought and action.	96.5%	85.7%	88.2%
#4: Upgrading of the Incentive Specialty Pay is seriously needed.	78.8%	90.5%	88.2%
#28: Even if the incentive specialty pay would be significantly increased from the original amount issued, it would not be a critical issue in whether or not I would stay active duty until retirement.	40.5%	81%	23.5%

Table 8 B. (continued).

Comparison of Stayers , Leavers , and Unsure

VARIABLE	STAYERS	LEAVERS	UNSURE
#54: If I had the time, I would like to be an investigator in an anesthesia research study.	46.4%	52.4%	70.6%
#55: I feel the military offers more chances to participate in research studies than most comparable civilian jobs.	58.8%	52.4%	47.1%
#22: It makes me proud to talk to other people about being an anesthetist in the military.	94.1%	76.2%	88.2%
#14: There is adequate staff coverage to allow me to attend continuing education events.	63.5 %	47.6%	52.9%
#56: I attend at least one professional meeting a year.	80%	66%	58.8%
#57: I feel I have been awarded adequate medals/ribbons for my achievements in the military.	60%	42.9%	58.8%
#18: I do not contribute much to the decision making process in my department.	17.6%	38.1%	11.8%
#32: A feeling of team spirit usually exists during my duty hours.	82.4%	66.7%	64.7%
#37: As an anesthesia provider, I often feel as if I am used to fill an empty slot.	33.3%	57.1%	58.8%

As shown in Table 8, it could be predicted that the Stayers group would have the highest mean for years of service, and years of military anesthesia service. Items 43, 51, 52, 7, 32, and 47 are all components of interpersonal relations, and are very important to the Stayers. This research has demonstrated that interpersonal relations were influential in the respondent's decision to stay in the military, even if initially they had no intentions to retire. Item 14 is a component of organizational work satisfaction, and item 22 is a component of job satisfaction. Both are important to Stayers, and are correlated with respondents' intent to retire. Leavers (90.5%) report that an upgrading of the incentive specialty pay is needed. However, 81% of Leavers report that even if the pay were increased this would not be a

critical issue in their decision to stay on active duty. This demonstrates that although pay is important, it may not be crucial to the decision to stay on active duty.

Leavers (57.1%) and the respondents that were unsure of their intentions (58.8%) reported they often feel as if they are used to fill an empty slot. Only 33% of Stayers feel this way. This indicated that it is important for individuals to feel they are being utilized to the best of their potential.

Thirty-eight percent of Leavers feel they do not contribute much to the decision making process in their department. This is in contrast to the Stayers (17.6%) and the Unsure (11.8%) who report this same feeling.

Of the Unsure group, 70.6% report they would like to be an investigator in an anesthesia research study, compared to 46.2% of Stayers, and 52.4% of Leavers. However, the Unsure group reported the highest dissatisfaction with the military s opportunity to participate in research, only 47.1% agree that the military offers more chances to participate in research compared to civilian jobs. If the opportunity to participate in research is presented to these individuals, it may be influential in the decision to stay on active duty.

Eighty-percent of Stayers report attending at least one professional meeting a year, compared to Leavers (66%), and the Unsure group (58.8%). This may represent the level of professionalism of the Stayers group. However, the Leavers and the Unsure group also report there is not adequate staff coverage to allow attendance of continuing education. This is in contrast with the Stayers group in which 63.5 % agree there is adequate staff coverage, compared to Leavers (47.6%), and Unsure (52.9%).

Ninety-five percent of the Leavers find real enjoyment in their work as an anesthesia provider, compared to Stayers (92.9%), and the Unsure (94.1%). Thus, while leavers enjoy their profession, they do not appear to be satisfied with their present job.

These findings are congruent with previously discussed study data and give confidence in validity of the results. They also strengthen the importance of job satisfaction as a factor in retention of CRNAs and support the relationship that exists between interpersonal relations, organizational work satisfaction and job satisfaction as demonstrated by this research.

Limitations

Sample population is exclusive to Army CRNAs and therefore cannot be generalized to other military branches or civilian CRNAs.

Suggestions for Further Research

A longitudinal study of CRNAs that exit the Army prior to retiring would be helpful in determining factors that lead to turnover. Additionally, factors important to new graduates must be identified so that retention of this group can be increased. The Army is becoming more mobile, and the possibility of deployment is high. This study did not explore what impact this may have on a CRNA s decision to stay in the military. This issue and its relation to turnover needs to be explored. Finally, current data need to be analyzed to determine if the retention focus of Army anesthesia administrators is congruent with the components that Army CRNAs report as being important to their job satisfaction.

Implications of the Study

This study is the first to utilize the Cowan (1995) adapted job satisfaction questionnaire for CRNAs only. This study identified that CRNAs and MDAs are not a homogeneous group, and should be studied individually. Results of this study may also help to focus on the importance of interpersonal relationships within a department, and how they may impact turnover. By improving the identified factors that Army CRNAs reported as

important to their practice and job satisfaction, the Army may increase the retention of CRNAs. This in turn will decrease cost, while increasing the number of experienced CRNAs, thus assuring a better prepared Army for it s wartime mission.

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APPENDICES

APPENDIX A

Letter of Permission

APPENDIX B

Invitation to Participate

APPENDIX C

Demographic Tool

Demographics

Confidentiality statement: Your answers to the questions listed below and all other information given will be held in the strictest confidence.

1. Circle one: Male Female

2. Age: _____years

3. Rank: _____

4. Position: _____

5. Marital status/ Dependents
   Single___ Separated___ Divorced____
   Married____ Widowed___
   Number of dependents_____

6. Education completed to date: (check all that apply)

	Cert/ Nur	AD BS/ BA	Cert/ Anes	MS/ MA	Doctorate
HPSP	____	_____	____	____	_____
Civilian:	____	_____	____	____	_____

Military:

Army Nurse	____	____
Anesthesia Program		

7. The total proportion of my daily duties consist of the following activities (please fill out in percentages that equal 100%) :
   a. Primary patient care_____
   b. Clinical instruction /supervision_____
   c. Administrative duties_____
8. Please complete:
   a. Years of military service:_____
   b. Years of military experience in anesthesia:_____
   c. Years of prior non-military professional experience:_____
   d. Years of prior non-military anesthesia experience:_____
   e. Number of years on duty: CONUS_____ OVERSEAS_____
   f. Designated conflicts/war: _____years _____months
   g. Humanitarian acts: _____years _____months
   h. Additional skill identifiers_____
   i. How long (years/months) do you intend to stay in the Army? _____
   k. Do you intend to retire from the military?_____

APPENDIX D

Questionnaire

Strongly Agree = S/A
Agree = A
Disagree = D
Strongly Disagree = S/D

	S/A	A	D	S/D
1. I do not have any specific idea how much longer I will stay in the military.				
2. I always have enough supplies and/or anesthesia equipment to administer anesthesia without making changes to the anesthetic plan or methods.				
3. If I had my career to do all over again I would not have selected to do anesthesia in the military.				
4. An upgrading of the Incentive Specialty Pay is seriously needed.				
5. When I work in an Anesthesia care team with MDA s we discuss expectations regarding guidelines and choices for that anesthetic and the degree of the Anesthesiologist s involvement.				
6. It is basically my responsibility to decide how my assignment gets done.				
7. I do receive recognition by other team members for work when it is well done.				
8. When I first entered the military I planned to get at least part of my education and then retire from active duty.				
9. My knowledge of anesthesia is respected by my coworkers.				
10. I find I am often unable to finish my assignment or be relieved by the end of the shift.				
11. While under pressure, I am capable of giving my patient anesthesia care which conforms to departmental quality indicators.				
12. When I entered the military, I had full intentions of staying until retirement, but now I have changed my mind				
13. I won t stay active duty much longer, but I plan to retire from active reserves.				
14. There is adequate staff coverage to allow me to attend continuing education events.				

Strongly Agree = S/A
Agree = A
Disagree = D
Strongly Disagree = S/D

	S/A	A	D	S/D
15. I find real enjoyment in my work as an anesthesia provider.				
17. If I had my career to do all over again I would still choose to go into the military.				
17. I am able to perform general anesthetics for all surgical operations, regional blocks and/or central line placement without the help of my peers.				
18. I do not contribute much to the decision making process in my department.				
19. I definitely would consider staying until retirement if the incentive specialty pay increased from the original amount issued a few years ago.				
20. I am willing to clarify the level of my expertise when it is greater than the anesthesiologist thinks it is.				
21. I do not feel my anesthesia practice is as current as it should be.				
22. It makes me proud to talk to other people about being an anesthetist in the military.				
23. I have adequate breaks and lunch time on a regular basis.				
24. My work environment is generally noisy.				
25. I feel CRNAs within the military should be prepared and proven capable of functioning independently of an anesthesiologist.				
26. There is no doubt in my mind that I will consider another tour of duty.				
27. I have the opportunity for independent thought and action.				
28. Even if the incentive specialty pay would be significantly increased from the original amount issued, it would not be a critical issue in whether or not I would stay active duty until retirement.				

Strongly Agree = S/A
Agree = A
Disagree = D
Strongly Disagree = S/D

	S/A	A	D	S/D
29. Promotions of nurse anesthetists is a big problem within the military.				
31. Though I could make more money in civilian practice, I am more satisfied in the military because of the quality of care given to patients.				
31. My clinical judgments are questioned by my peers.				
32. A feeling of team spirit usually exists during my duty hours.				
33. Anesthesiologists value my clinical judgment during emergencies				
34. I would prefer to administer anesthesia individually rather than be part an anesthesia care team.				
35. When I first entered the military, I planned on staying until retirement.				
36. I am able to keep up with new anesthesia technological advances.				
38. As an anesthesia provider, I often feel as if I am used to fill an empty slot.				
38. I feel satisfied with the anesthesia care that I have provided.				
39. In general, the anesthesiologists and the CRNAs work well with each other in my department.				
40. I often have doubts about the clinical judgment of the anesthesiologists with whom I work.				
42. With the present civilian job offers that I am getting, it is worth it financially for me to resign my commission early.				
42. The anesthesiologists are willing to help me improve my clinical skills in my department.				
43. I have a strong feeling of belonging to my anesthesia department				

Strongly Agree = S/A
Agree = A
Disagree = D
Strongly Disagree = S/D

	S/A	A	D	S/D
44. Initially, a few years is about all I expected to stay on active duty before completing time for retirement in the reserves.				
45. When I entered the military, I was unsure of the intent to stay more than a few years, but now I have decided to stay until retirement.				
46. At my present duty station, I do anesthetics on call as the sole anesthesia provider.				
47. Anesthesia personnel at my hospital do a lot of bickering and backbiting.				
48. I usually take the time and/or opportunity to discuss patient anesthesia care with my peers.				
49. I feel I am at the end of a chain in the health care system. I have little impact in decision making at the hospital.				
50. Most of the time I can balance patient care and administrative duties in my weekly schedule.				
51. I am satisfied with my job at the present time.				
53. In terms of personal feelings about the department, I like it very much.				
53. I frequently read research articles and transfer the knowledge, if warranted, to my daily practice.				
54. If I had the time, I would like to be an investigator in an anesthesia research study.				
56. I feel the military offers more chances to participate in research studies than most comparable civilian jobs.				
56. I attend at least one professional meeting a year.				
57. I feel I have been awarded adequate medals/ribbons for my achievements in the military.				

APPENDIX E

Coding of Mobility Factors

Age was divided into three groups with age groups separated into three categories coded 1,2,3. Marital status was coded as an ordinal variable with the highest value, 4, given to the single group, considered most mobile. Divorced persons were given a code of 3, separated persons 2, and married persons 1. Rank was coded so that the lower the rank, the higher the mobility. Dependents were grouped so the persons with no dependents were considered most mobile (3), those with one to three dependents (2), and those with more than three dependents (1). Position was coded so that the lower the position, the higher the mobility. The variables were then summed to form the mobility factor.

APPENDIX F

Uniformed Services University of the Health Sciences

IRB-Approval