

The Impact Of Job Satisfaction, Stress And Career Needs On
Navy Nurses Intent To Stay On Active Duty

A dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy at George Mason University

By

Claire M. Pagliara

Bachelor of Science, Nursing
Seton Hall University, 1977

Master of Science, Nursing
Catholic University of America, 1982

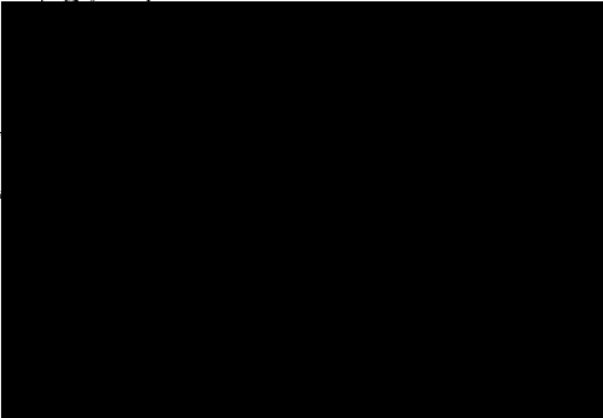
Director: James Vail, DNSc.
College of Nursing and Health Science

Fall Semester 2003
George Mason University
Fairfax, VA

THE IMPACT OF JOB SATISFACTION, STRESS AND CAREER NEEDS ON
NAVY NURSES INTENT TO STAY ON ACTIVE DUTY

by

Claire M. Pagliara
A Dissertation
Submitted to the
Graduate Faculty
of
George Mason University
in Partial Fulfillment of
The Requirements for the Degree
of
Doctor of Philosophy
Nursing



Director

Reader

Reader

Coordinator, Doctoral Program

Dean, College of Nursing and Health Science

Date: 12-2-03

Fall Semester, 2003
George Mason University
Fairfax, VA

Copyright 2003 Claire M. Pagliara
All Rights Reserved

DEDICATION

This is dedicated to my loving husband, William Miller, and my two wonderful children, Tiffany and Jeffrey Miller for their love, support and encouragement.

ACKNOWLEDGEMENTS

My sincere appreciation is extended to the Navy Nurse Corps for their support through selection for Duty Under Instruction, thus making this dissertation possible, and for the nurses who participated in the study.

I am equally grateful to Dr. James Vail, chairman of my committee, and my other dissertation committee members, Dr. Jeanne Sorrell and Dr. Heibatollah Baghi. Their unique contributions afforded me many learning opportunities.

CDR Mark Bourne, MSC, USN, one of the authors of the instrument for this study and LT Bonita McClenny, MSC, USNR were extremely helpful in providing me with the information I requested.

My most sincere thanks are given to my classmates: Pam Cangelosi, Karen Clark, Joyce Hahn, Chanphen Manosilapakorn, Della Stewart, Noi Wichaikhum, and Nazik Zakari for sharing their knowledge, expertise and friendship.

Holly Simon, librarian at Stitt Medical Library, always has a wealth of information to share and she treats each of her patrons as if they are the most important people she has to serve. I am grateful for all that I have learned from Holly over the years.

Special thanks to Fr. Marcus Pollard who mentors my spiritual journey with wisdom and kindness.

Words cannot describe my heartfelt appreciation to my husband, Bill, my children, Tiffany and Jeffrey and my extended family members for their love, support and encouragement especially when I needed it most.

Ultimately I acknowledge my greatest gratitude to God, the center of my life and the source of my strength.

The information contained in this study does not represent the views, position, or official policies of the Department of Defense nor the U.S. Navy.

TABLE OF CONTENTS

	Page
Abstract.....	ix
1. Introduction.....	1
Purpose.....	5
Research Questions.....	5
Conceptual and Operational Definitions.....	6
2. Literature Review.....	10
Supply and Demand.....	10
Intent to Stay.....	12
Job Satisfaction.....	14
Job Stress.....	18
Life Career Needs.....	21
Conclusion.....	23
3. Methodology.....	26
Research Design.....	26
Sample.....	27
Instruments.....	28
Estimation of Reliability.....	29
Validity.....	30
Procedure.....	31
Data Analysis.....	32
Summary.....	35
4. Presentation and Analysis of Data.....	37
Description of Sample.....	37
Demographics.....	38
Major Findings.....	40
Research Question One.....	40
Research Question Two.....	43
Research Question Three.....	47
Summary.....	51

5. Discussion, Conclusions, Limitations, Implications and Recommendations.....	52
Introduction.....	52
Descriptives.....	54
Discussion and Conclusions.....	55
Research Question One.....	55
Research Question Two.....	61
Research Question Three.....	62
Limitations.....	63
Implications.....	65
Nursing Administration.....	64
Nursing Research.....	65
Recommendations for Future Research.....	66
References.....	68
Appendices:.....	77
Appendix A. Content Validity Questionnaire.....	77
Appendix B. Organizational Assessment Questionnaire.....	80
Appendix C. Reliability for Analysis for the Retention, Job Satisfaction, Job Stress, Career Needs, Importance, and Career Needs, Satisfied Scales	86
Curriculum Vitae.....	92

LIST OF TABLES

Table	Page
1. Reliability – Alpha Coefficients for the OAQ	30
2. Description of Samples.....	38
3. Rank Comparison	40
4. Levels of Intent to Stay, Job Satisfaction, Job Stress and Career Needs	42
5. Correlations Table	44
6. Regression Model Summary.....	49
7. Regression Coefficients for the Model.....	50

LIST OF FIGURES

Figure	Page
1. Regression Standardized Predicted Value	48

Abstract

THE IMPACT OF JOB SATISFACTION, STRESS AND CAREER NEEDS ON NAVY NURSES INTENT TO STAY ON ACTIVE DUTY

Claire M. Pagliara, RN, BSN, MSN

George Mason University, 2003

Dissertation Director: Dr. James Vail

The nursing profession is experiencing a shortage of registered nurses that is only expected to escalate. The Navy Nurse Corps (NC) takes the shortage seriously and would like to prevent a shortage from occurring in the Navy. Beginning in 1998 and continuing annually an Organizational Assessment Questionnaire (OAQ) is mailed to a random sample of Navy Medical Department personnel. The OAQ addresses several variables that could be related to intent to stay on active duty. The purpose of this study was to use the OAQ data to examine the levels of job satisfaction, job stress, and career needs, including the importance and how satisfying career needs are, as perceived by Navy nurses. In addition, the study explored the relationship among job satisfaction, job stress, importance of career needs and how satisfying career needs are with the impact on intent to stay on active duty. Finally the study determined which of the following four predictor variables: job satisfaction, job stress, importance of career needs, and degree of

satisfaction with career needs were most influential in predicting Navy nurses' intent to stay on active duty.

Secondary data analysis of 1998, 1999, and 2000 surveys occurred. Descriptive statistics and multiple regression analysis were used to help provide the best prediction possible. Data from the 1998 survey was referred to as the calibration sample. Because there were data from 1998 through 2000, three samples from the same population, a double-cross validation study determined how well the regression equation obtained from the original study in 1998 performed in another sample from the same population in 1999 and 2000.

The findings of this study indicated an overall intent to stay on active duty, a moderate level of job satisfaction, and that Navy nurses are not especially stressed on the job. The purpose of multiple regression is to model or group variables that best predict a criterion variable. The correlations between the predictor variables and intent to stay were all positive except for job stress, which was expected. While an increase in job stress is associated with intent to stay, when the other predictor variables are held constant, an increase in job stress is related to a decrease in intent to stay in the Navy.

Thorough analysis of the data specifically for the Nurse Corps provided a solid base to ground strategic planning for the Corps. This study provided a reliable benchmark and accessibility for subsequent studies annually. Knowing their input is being thoroughly analyzed, published, and used for decision making may encourage NC officers to continue to complete the survey annually. Other Navy Medical Departments such as the Navy Dental Corps, which is currently experiencing a shortfall of dentists,

may use this methodology to establish a relationship among the same variables for their community.

CHAPTER 1

INTRODUCTION

In the past the nursing shortage seemed to be related to wages and the unwillingness of nurses to work for those wages that were no longer compatible with the increasing market demands (Berliner & Ginzberg, 2002). Today's problem is more complex. The most important factors contributing to the shortage are the declining interest in nursing due to other career opportunities, working conditions, salary compression and the overall decrease in individuals born after 1955 (Buerhaus, Staiger, & Auerbach, 2000; Bednash, 2000; Nelson, 2002; Berliner & Ginzberg, 2002). Nation wide the nursing shortage is predicted to reach a 20% deficit by 2020 (Nelson, 2002).

Other factors that might influence the nursing shortage are regulatory mechanisms, credentialing and ambiguity regarding the profession itself. To add to the complexity, it is worth considering if there really is a nursing shortage at all. In 2000, almost 494, 727 or 18.3% registered nurses were not employed in nursing, indicating that there are alternative career choices outside of traditional nursing assignments (USDHHS, (n.d.)). In the old model of the health care delivery system the provision of patient care was a revenue center. In the new system of healthcare delivery, the provision of patient care is an expense center.

Despite the duration, rationale and volumes of documentation, as well as the

increase in nationwide publicity, we as a country have yet to find the key to reverse the shortfall of nurses. Neither quality nor cost of health care are more important than the shortfall of nurses. Neither quality nor cost of health care are more important than the other. Because the growing shortage of nurses is putting patient lives in danger the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) presented a white paper, a product of their Public Policy initiative, as a call to action. The JCAHO Expert Roundtable identified the following three strategies for all those who will lead the way to resolving the nursing crisis: transforming the workplace, bolster nursing education, and making new federal money available (Joint Commission on Accreditation of Healthcare Organizations [JCAHO], 2003).

The Navy Nurse Corps accesses most of its nurses upon completion of their baccalaureate program. Unlike the Uniformed Services University of the Health Sciences (USUHS) that trains physicians, the military does not have a training program for entry-level nurses. Therefore the pipeline of accessions is dependent on nurses who graduate from schools of nursing within the civilian community outside of the military. The Navy is interested in not only the enrollment of students in nursing programs but also in recruiting and retaining those ever diminishing numbers of nurses upon graduation. It becomes paramount to identify the job satisfiers, stressors and life career needs that impact Navy nurses' intent to stay in the Navy, not only to retain them but also to attract them as they graduate from nursing school.

With the dominant emphasis on curing, most discussion of health care neglects the concept of caring (Backer, 1993). Since the nursing profession can neither promise nor provide a labor force for the current health system, the choice

facing nursing is whether to work toward a health care system that approximates nursing's values or to manipulate itself into a system that is increasingly removed from the profession's concerns and expertise (Moccia, 1988). To care and to cure are not mutually exclusive, neither are ministrations and administration. Fifteen years have passed since Moccia wrote about the nursing crisis but not much has changed and today's high tech values are cure, cost-benefits, specialization, and development of science and technology (Backer, 1993). Wolf (1989) refers to the unseen work of nursing that makes it a profession: caring, system maintenance, safety, comforting, privacy, and sacred work. Reverby (1987) identified professional ambiguity from the onset, noting that nurses have been given the duty to care but they are forced to act as if altruism and autonomy are separate ways of being (Reverby, 1987). Reverby (1987) concluded that this dilemma of a nursing shortage is related to the fact that nursing is a caring profession and yet society no longer seems to value caring. In other words the nursing profession does not need to look inward at some failure of commitment but rather to the external problem, healthcare and society. Technology and chronic illness offer conflicting values for nurses as evidenced by the ambiguity of life and death at any cost co-existing in the same patient and displayed in do not resuscitate/resuscitate decisions which nurses are involved (Wolf, 1989). There are no quick fixes but systems must be carefully built and maintained. George Santayana (1906) once wrote, "Those who cannot remember the past are condemned to repeat it" (p.284).

The United States health care system is being restructured from an earlier emphasis on hospital-based acute care facilities, where the vast majority of registered

nurses provided nursing care, to a focus on disease prevention and modification of lifestyle. The population itself is undergoing significant changes. Not only is there a significant increase in the elderly population but in a recent study by the US Department of Health and Human Services Division of Nursing, the census bureau projects that by the end of the first quarter of this century, 38 percent of the population will come from racial/ethnic minorities (USDHHS, n.d. 2002). These changes may have a profound effect on the roles of registered nurses and may affect the shortage. Not only will the need for continuing education in the technology of the medical profession be in the forefront, but also the need for education on the care of elderly and for a culturally diverse population as well. Evidence based practice, outcomes effectiveness and multidisciplinary team-based practices present another educational and implemental challenge. The key will be in finding a balance that keeps the science and the art of nursing at its core.

The Navy Nurse Corps (NC) had an endstrength of 3157 nurses as of 30 September 2002. In fiscal year (FY) 1999 and FY 2000, the NC had fewer losses of lieutenant commanders (LCDR), lieutenants (LT), and lieutenant junior grades (LTjg) as compared to FY 1998 and FY 1997. This pattern continued throughout FY 2002. The Nurse Corps has remained at its end strength every year since 1998. In other words, Navy nurses are being recruited and they are not leaving the Navy in a manner other than anticipated. Navy nursing is unique in its responsibility for professional nursing care during peace and war times. They choose to come and they are choosing to stay. However this does not imply that the Navy should become cavalier and think that the nursing shortage will not eventually affect them. More than ever the Navy

needs to identify what are satisfiers, and dissatisfiers, as well as job stressors and life career needs so they can recruit nurses from an ever-dwindling supply.

Purpose

The purpose of this study was to examine the relationships between job satisfaction, stress, and career needs upon Navy nurses and their impact on intent to stay on active duty. Generic information was obtained from an annual Organizational Assessment Questionnaire (OAQ) that was mailed by the Personnel Division of the Bureau of Naval Personnel to a random sample of Navy Medical Department personnel for the years 1998, 1999, and 2000. The OAQ was used to examine organizational alignment, job/career issues and organizational assessment. Although the demographics clearly separated each Corps, specific variables such as job satisfaction, job stress and career needs were not thoroughly analyzed for the Nurse Corps data. Because the OAQ is mailed annually and as opposed to composing a new assessment tool, thus burdening its members with another survey that would measure the same variables, the former Deputy to the Admiral of the Nurse Corps, Captain Virginia Beeson, wanted to use the data from the OAQ to establish a firm baseline for which future decisions regarding recruiting and retention of the Nurse Corps could be made.

This study was not guided by a theoretical framework or model because the data used for this study were secondary data and there was no report that the authors of the OAQ used a framework in guiding their survey.

Research Questions

1. What are the levels of job satisfaction, job stress, and career needs, including

the importance and how satisfying career needs are, as perceived by Navy nurses?

2. What is the relationship between job satisfaction, stress and importance of career needs and how satisfying career needs are with their impact on intent to stay on active duty?

3. Which of the following four predictor variables: job satisfaction, job stress, importance of career needs, and degree of satisfaction with career needs are most influential in predicting Navy nurses' intent to stay on active duty?

Conceptual and Operational Definitions

There are various definitions for intent to stay, job satisfaction and job stress in the literature while a definition for life career needs is absent from the literature. Therefore it is important to specify precise meanings for these variables. Following are conceptual and operational definitions for the variables in this study.

Intent to Stay

Conceptual definition: the estimated likelihood of continued membership in an organization (Price & Mueller, 1981). Organizational commitment reflects attachment to the organization and not just to the profession (Lee & Henderson, 1996). Retention is affected by the interaction of multiple internal and external factors that are difficult to predict based on their complexity (Curran & Minnick, 1989).

Operational definition: intent to stay will be synonymous with organizational commitment and retention. Intent to stay will be measured by 7 questions in a Likert-type scale that refer to different feelings individuals may have about remaining in the Navy.

Job Satisfaction

Conceptual definition: the degree to which a person reports satisfaction with intrinsic and extrinsic features of the job (Warr, Cook, & Wall, 1979). Job satisfaction can also be defined as positive attitude toward one's employment though it varies from person to person and within any one person from time to time (Ma, Samuels, & Alexander, 2003).

Operational definition: seventeen statements using intrinsic and extrinsic features in a Likert-type scale that could be used to describe different aspects of job satisfaction will measure this variable.

Job Stress

Conceptual definition: a negative emotional or psychological response to job-related factors called stressors (DePew, Gordon, Yoder & Goodwin, 1999). Stress is a dynamic and reciprocal relationship between the person and the environment (Lazarus & Faulkman, 1984). Stress can range from major catastrophes to daily hassles that encompass the often small but irritating problems that people deal with on a daily basis (Healy & McKay, 2000).

Operational definition: job stress is defined as situations that are appraised as exceeding one's resources. The OAQ measures job stress with 17 different aspects of professional work life. Each individual is asked to indicate how much stress they feel because of those aspects. Answers are in a Likert-type scale ranging from no stress at all to an extreme amount of stress.

Life Career Needs

Conceptual definition: Little is written in the literature about life career needs

of nurses. Adults move through sequential developmental stages, interspersed with transition periods (Gould, 1972). Energy and drive that employees exhibit probably reflect the major tasks of their developmental period (McNeese-Smith & vanServellen, 2000) and job stages. Job stages are levels of identification with the job environment, including work values, symbols (e.g. uniforms and tools), standards, skills, and rewards (Graham, 1970).

Operational definition: the relationship of the phases of an individual's growth and development and the levels of identification with the job environment. From a list of 28 issues suggested as career needs as an individual progresses through different stages of their career, each participant is asked to rate how "important" each of the career needs are. They are also asked to rate how "satisfied" they are in achieving those same career needs within the Navy.

Significance

Several statistical reports and studies nationwide provide a comprehensive picture of the current state of the national nursing workforce and strategies for improving nurse retention and recruitment in the face of impending shortage. However, issues specific to the NC workforce and strategies for improving nurse retention have remained unexplored. This study examined the relationship of job satisfaction, stress, and career needs upon Navy nurses and their impact on intent to stay on active duty. Knowledge obtained from this study may help senior Navy Nurse Corps executives with their strategic planning for the future. By identifying the impact of job satisfaction, job stress and life career needs as they relate to the intent to stay on active duty, they will have built a foundation to model the strategic plan for

acquisition and retention. Because this questionnaire is sent out annually to the same population, it will be easier to track and trend changes. By using 1998 as the calibration sample it will be more productive to identify these variables in the 2002 survey and years following to ascertain if world events have an effect on those same variables. Information obtained might also lead executive administrators of the Medical, Dental and Medical Service Corps to examine the data for similar issues in their respective corps.

CHAPTER 2

REVIEW OF THE LITERATURE

Supply and Demand

Buerhaus, Staiger, and Auerbach (2000) forecasted that the future sufficient availability of RNs is not ensured given the continued aging of the RN workforce and the decreased propensity for potential students to choose nursing as a career. Their findings are based on a report by the American Association of Colleges of Nursing (AACN) that found that enrollments in entry-level baccalaureate nursing programs decreased in 1999 for five consecutive years (Buerhaus et al., 2000). The most important factor contributing to the aging of the nursing workforce is the declining interest in nursing due to other career opportunities and the overall decrease in individuals born after 1955 (Bednash, 2000; Buerhaus et al., 2000). Providing three different levels of nursing programs with the same license and role expectations creates a major disincentive to attracting an adequate supply of BSN-educated RNs for the future (Bednash, 2000). The Navy only commissions nurses who hold a baccalaureate degree in nursing. There have been studies documenting lower mortality rates in hospitals where higher numbers of BSN-educated nurses were employed, suggesting that greater autonomy and control afforded those nurses have a positive impact on the nurses behavior on behalf of the patients (Aiken, Havens, & Sloan, 2000). Other factors that might influence the nursing shortage are salary,

career life stages, and credentialing. An alternative would be to follow the model used by physicians to develop a certification process that validates the different competencies acquired by specialty training (Bednash, 2000). Perhaps some reasons why the nursing shortage has not had such a negative effect on the military is that changes in patient characteristics that affect patient needs in civilian hospitals are not as significant as in military hospitals because of the selective nature of military inpatients (Cooper & Parsons, 2002). Patient load in military hospitals tends to be more stable, at least during peacetime, thus enabling managers to more accurately forecast future nursing needs (Cooper & Parsons, 2002). Brigadier General William T. Bester, Chief, U.S. Army Nurse Corps (2001), testified before the Committee on Appropriations Subcommittee on Defense, United States Senate, on February 28, 2001 that the Army Nurse Corps was experiencing a decline in scholarship requests and in ROTC accessions. Direct accessions of nurses aged 40 years and over became much more common thus creating an older, limited-term, non-career track force.

Brigadier General Barbara Brannon (2001) testified that for the third consecutive year the Air Force experienced shortfalls in accessions. The Air Force was 85 nurses, or 30 percent, short of recruitment goal in FY 99. In spite of revising the goal from 300 to a "remotely achievable" 225, only 205 new nurses joined the Air Force in FY00 by direct commissioning. Similar reports projected an even more serious shortfall of nurses in 2001 despite several initiatives implemented to enhance recruitment. Brannon (2001) reported that at the end of FY00, there were 4048 nurses on active duty, 165 nurses below authorized endstrength. This was the first time in over a decade that the Air Force had been below endstrength.

Rear Admiral Martin (2001) testified that the Navy continues to be successful in making effective use of military personnel but that there is a need to increase the number of civilian support staff in order to make optimization work. Contract staff command salaries that far exceed those of their military counterparts thus creating additional dissatisfaction for military members. Compensation is a powerful driver in the decision to remain on active duty or to leave the service (Martin, 2001). In partnership with the Navy Recruiting Command, the Navy Nurse Corps created a multi-step-recruiting plan that seeks the best-qualified candidates for the Nurse Corps. The current nurse accession bonus is a key component of the recruiting strategy. Recruiting success depends heavily on the continuation of the accession bonus and educational stipend programs (Martin, 2001).

Navy nurses voluntarily assume an additional role as Naval officers that mandate the successful integration of compassion with discipline, individuality with conformity, and health promotion with wartime readiness. They are lifelong learners who are operationally ready who will recruit, train and retain the right people to meet the mission of Navy medicine (Office of the Navy Nurse Corps Bureau of Medicine and Surgery, 2003). That is their treasure. Navy nursing is a calling and the nurses' responses are significant not only in terms of rewards but in their trials and obstacles endured, none of which can be encountered if the supply of nurses trained in the civilian community is less than adequate.

Intent to Stay

Organizational commitment is defined as the strength of an individual's identification with and involvement in a particular organization (Porter, Steers,

Mowday, and Boulian, 1974). O'Reilly and Chatman (1986) have a similar definition, adding that this attachment reflects a psychological state more than an overt behavior. Retention is affected by the interaction of multiple internal and external factors that are difficult to predict based on their complexity (Curran & Minnick, 1989).

Organizational commitment carries several characteristics: a strong belief in the goals and values of an organization; a willingness to work hard for the organization; and a desire to remain in the organization (McNeese-Smith, 1995). Leadership makes a difference to employees particularly in times of change (McNeese-Smith, 1995).

Military nursing experiences change on a continuing basis. Therefore it is important for managers to behave in their leadership roles in a manner that will increase job satisfaction and their subordinates' intent to stay. McNeese-Smith (1995) wrote about five behaviors that she considered essential for leaders to adopt: challenging the process; inspiring a shared vision; enabling others to act with that shared vision; modeling their own behavior; and encouraging heart. Encouraging heart means that leaders are supportive and caring of their employees (McNeese-Smith, 1995).

Organizational commitment is evidenced by members who exhibit high performance and productivity, as well as lower turnover, absenteeism and tardiness (Porter et al., 1974). Organizational commitment can be better understood as a multidimensional concept (Cohen, 1996). The results of a study examining the relationship between perceived job empowerment and organizational commitment suggested that nurse administrators could empower their staff and improve organizational commitment by manipulating the structure in the work environment (Wilson & Laschinger, 1994). Historically a nurse's commitment was driven by

altruism and the practicing nurse in the early and mid-twentieth century did not expect much in terms of worldly rewards for her efforts (O'Brien, 1999). Nursing was a calling. Meyer and Allen (1984) proposed a two-dimensional aspect of organizational commitment: affective commitment and continuance commitment. Depending upon the organization and the individual level of dedication a nurse could meld organizational commitment with commitment to the profession.

This is not an easy time to be a nurse when healthcare systems are operating with financially constrained budgets and when cost reductions affect nursing services (O'Brien, 2001). Upon interviewing former students who became nurses O'Brien (2001) learned that those nurses began to question if they entered the right, caregiving profession because the institution became more task-oriented than caring for patients. Those same nurses worried about moral and ethical issues associated with technological advances (O'Brien, 2001). In a replication study new employees in an organization whose value profile is close to that of their employing organization are more likely to stay with it during the early employment period (Vandenberghe, 1999).

Job Satisfaction

Literature on job satisfaction extends throughout the fields of business, management, sociology, organizational behavior, medicine and nursing. Until recently most of the knowledge about job satisfaction in nursing has come from descriptive research within hospitals (Cumbey & Alexander, 1998). In a study dating as far back as 1940, what differentiated satisfied from dissatisfied nurses were: interest and adjustment to work; relationship with supervisors, family and social; hours of work; income and opportunities for advancement (Nahm, 1940). A number

of studies have evaluated nurses' satisfaction. While numerous factors have been linked to nurse's high turnover rates, job satisfaction is the most often mentioned (Blegen, 1993). Job satisfaction is studied by other cultures. In a study in North Wales, job satisfaction is based on Herzberg's Motivational Theory (Grant, Nolan, Maguire, & Melhuish, 1994). These authors argued that job satisfaction is intrinsic and can counterbalance stress (Grant, et al., 1994). In a combined quantitative and qualitative study in a brain injury rehabilitation center, intrinsic satisfaction was significantly related to feelings of being valued by the organization, organizational support, and training provided in the workplace (Wittig, Tilton-Weaver, Patry, & Mateers, 2003). The Price-Mueller Model is best described as one that incorporates arguments from economics, organizational psychology, and sociology - the three disciplines that have been the most interested in explaining employee turnover (Price & Mueller, 1981). The key assumptions of the model are that employees value certain conditions of work, and if these valued conditions are found in the workplace, the employees will be more satisfied and attached and less likely to leave (Yoder, 1995). Individuals will give their time, energy, and effort to the employing organization if what they receive in exchange is what they desire or value (Yoder, 1995).

Several factors positively affect nursing satisfaction: organizational policies, career development and mentoring relationships (O'Rourke, Allgood, VanDerslice & Hardy, 2000). In another study, organizational and professional commitment, work environment, and adequate staffing were all correlated with job satisfaction (Cumbey & Alexander, 1998). In a qualitative study, Yonge and Molzahn (2002) used grounded theory to discover the nurses in their study crossed the boundaries of the

standard nurse-patient relationship and they reported being very satisfied with their job. Those nurses, through the process of giving, preserving dignity, being present for their patients, teaching, and caring for co-workers fit the descriptions of caring from the literature (Yonge & Molzahn, 2002).

Demographic factors such as job characteristics, longer professional experience, and educational background affect job satisfaction (O'Rourke et al., 2000). However, results are not consistent. For example, newer nurses were more satisfied than more experienced nurses (Baggs & Ryan, 1990). Barriers to nurse satisfaction in the military include the military's lack of bonuses and other compensation and nurses having to take more administrative tasks (O'Rourke et al., 2000). In their most recent survey of 399 active duty military and civil service nursing personnel, respondents rated professional status as the most important job factor. Organizational policies were rated as the least important factor. Professional status, autonomy, and staff interaction received the highest raw satisfaction scores. Pay was only rated as moderately important (O'Rourke et al., 2000). There were no differences in overall job satisfaction among the following subgroups: military vs. civil service, professional vs. nonprofessional nurses, and specialty care vs. general care (O'Rourke et al., 2000). Those results lead one to begin to think that it is not just being in the military that promotes job satisfaction but that military nursing promotes job satisfaction. Group cohesiveness was an important aspect of job satisfaction and retention within a hospital setting (Hinshaw, Smeltzer, & Atwood, 1987). Other satisfiers were professional growth, continuing education, research development and projects, tuition reimbursement, professional recognition for achievements, committee responsibility

and mobility within the institution (Hinshaw et al., 1987). Those characteristics just named reflect the organizational structure of Navy nursing. In order to remain in the Navy one has to achieve certain promotions within a specified number of reviews. Incentives such as continuing education and tuition reimbursement are prevalent though tuition reimbursement is not available to all nurses. Committee responsibility and recognition of achievement are part of Navy nursing, especially the recognition for achievements as reflected by the ribbons and medals Navy nurses wear.

It could be that in order to determine what satisfies nurses one can look at the causes of job dissatisfaction. In hospitals with high patient-to-nurse ratios, nurses are more likely to experience job dissatisfaction (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002). Irvine and Evans (1995) found a consistent relationship between job dissatisfaction and turnover in a meta-analysis. Job satisfaction is derived from a variety of factors over time for each individual that can be eliminated by the frustrations of another part of the job (Horne, 1988).

Decentralization has been linked to an increase job satisfaction (Przestrezelski, 1987; Shouksmith, 1994). Decentralization brings decision making to the unit and bedside level, thus increasing decision-making abilities and possibly the autonomy of nurses. The expected positive impact of decentralization on job satisfaction supports the literature (Przestrezelski, 1987). Organizational research shows that employees who are experiencing job satisfaction are not only more likely to be productive but they are more likely to stay on the job (Hinshaw et al., 1987; Tett & Meyer, 1993).

Job Stress

Stress is a dynamic and reciprocal relationship between the person and the environment (Lazarus & Faulkman, 1984). Stress has been attributed to the worsening nursing shortage (Muscroft & Hicks, 1998). Stressors can range from major catastrophes to daily, small, but irritating hassles that people deal with on a daily basis. Stress is only experienced when situations are appraised as exceeding one's resources (Healy & McKay, 2000). Job stress is individualistic and often attributed as a source of burnout, however not all research supports that burnout and stress correlate (DePew, et al., 1999). Their study examined hardiness as a personality disposition that tends to facilitate successful coping in response to stressful situations (DePew, et al., 1999). Hardiness functions as a negative predictor of burnout and hardiness decreases the influence of stressful life events (DePew, et al., 1999). In order to deal with job stress four aspects are worth exploring: its nature, prevalence, causes, and efforts. It should be noted that this study does not address burnout. As described by vanWijk (1997), burnout, a state of physical emotional and mental exhaustion, is associated with work that entails emotional involvement with people over long periods of time and from job related stress indicating that prolonged and persistent job stress may lead to burnout.

Job stress and job satisfaction are inversely proportional in that as stress levels rise, job satisfaction decreases (McGowan, 2001). McGowan's (2001) study also found that the only significant contribution to job satisfaction scores was stress perceived by a lack of organizational support. Similar studies show that the behavior of managers, staffing levels, working shifts versus a fixed schedule and

powerlessness were direct causes of stress (Taylor, White, & Muncer, 1999; Jamal & Baba, 1992). From the qualitative aspect of their research, workload, lack of control over own work and the nature of nursing work were all considered major sources of stress (Taylor et al., 1999).

Stressful situations are ones in which the person perceives that it is important to respond but an appropriate response is not available (Cohen & Wills, 1985). Cohen and Wills (1985) link stress with feelings of helplessness and the possible loss of self-esteem. The literature reveals that higher status confers higher stress but that more experienced nurses tend to make use of stress coping styles (Tyler & Cushway, 1995; Ehrenfield & Bar-Tal, 1995). The list of job stressors is long and varied, including professional status, enjoyment of one's position, ability to deliver quality nursing care, control over practice, and availability of resources, to name a few.

In a study on retention, anticipated turnover was only moderately predicted by organizational and professional job satisfaction, group cohesiveness, and initial expectations on tenure (Hinshaw et al., 1987). While job satisfaction buffered stress, job stress had no direct effect on anticipated turnover but only on job satisfaction. In other words, job stress was the strongest predictor of job satisfaction but not of retention (Hinshaw et al., 1987). It might be easier to identify job stresses and correct those deficiencies in order to affect job satisfaction. For example, a surprising result of a high incidence of job stress occurred among the 19-25 year group of military nurses from the South African National Defense Force. They attributed the perception of stress as being more related to the phase of life they were in vice the actual job itself (vanWijk, 1997). Being new to the military with the associated uncertainties as

well as adapting to the demands of adulthood, new living and work environments and new relationships were all named as contributing to the vulnerability of reporting increased job stress (vanWijk, 1997).

In literature that is more recent the focus of studying stress has been to relate stress at work and family stress simultaneously. This is based on the proposition that one must understand what affects attitudes, perceptions, behaviors and health in spheres other than work (Fox & Dwyer, 1999). One explanation of the relationship between stressors and conflict may be due to one domain or the other (Frone, Russell, & Cooper, 1992). Three work stressors: quantity of workload, work variability, and frequency of stressful events were significantly related to the presence of work-family conflict (Fox & Dwyer, 1999). However, supervisor support was not found to have a significant association with work-family conflict (Fox & Dwyer, 1999). Clearly associated was that as nurses were exposed to higher levels of work and family stressors, the nurses who were more involved both actually and emotionally with family and job, experienced more interdomain conflict (Fox & Dwyer, 1999). This is an important finding for military nursing especially if a deployment is in the forefront for the military member.

Although the literature assigns nursing as a caring profession, the only study that attributed one of the two causes of stress as being the caring element of nursing work was by Taylor, et al., (1999). Caring and organizational factors, the other cause of stress, would interfere with effective and efficient care and therefore the authors suggested that future studies on job stress should primarily address the effects of stress (Taylor, et al., 1999). Other researchers distinguished stress between external

and internal stressors. External stressors are located in the work environment while internal stressors involve inner experiences and personal characteristics (vanWijk, 1997).

Limitations in measuring job stress are that measurement is at one point in time and the perception of stress can change rapidly. One of the advantages in using the OAQ for this study is that it is mailed to the Nurse Corps population annually. Although stress might not significantly affect one's intent to stay on active duty, a pattern of stress and how it affects nurses' intent to stay on active duty should develop over time.

In summary, whether it is job satisfaction or job stress studied in and out of the nursing profession and among several different fields of nursing, it can be concluded from the literature that job stress and job satisfaction are inversely proportional. Many of the variables that contribute to job satisfaction are the same variables that affect job stress, inversely. It also appears that measuring job stress is more reflective of a snapshot in time as opposed to a feeling over a long period.

Life Career Needs

An examination of life career needs is absent from the literature. The relationship between work and other aspects of our lives is not well understood (Near, Rice, & Hunt, 1980). McNeese-Smith and vanServellen (2000) examined the extent to which life and job cycle influences are related to outcomes of job satisfaction, job productivity, and organizational commitment. Results showed that controlling for developmental stage indicated age-group differences for productivity and organizational commitment (McNeese-Smith & vanServellen, 2000).

Life cycle is an important influence in the relationship to career-related processes (Isabella, 1988). Nurses pass through life changes as they mature and how much they value their relationship to the organization might depend on the significance of the organization to the issues and concerns of their life changes (McNeese-Smith & vanServellen, 2000). Thus the OAQ tries to capture this by asking the same questions two times: once for the importance of each of the needs and the other how satisfied one is that those needs are being met by the Navy. In an attempt to redefine success in nursing Buscherhof and Seymour (1990) incorporate some of the same variables used in the life career needs construct of the OAQ e.g. clinical competence, recognition, altruism, autonomy, achievement of personal goals and level of position.

Job stages provide another way of conceptualizing life cycle influences that may impinge on employee performance and attitudes (McNeese-Smith & vanServellen, 2000). Changes that occur during life stages required incorporation of new knowledge and skills, re-definition of personal expectations, and planning for interaction between the person and the environment (Hutchison, All, Loving, & Nishikawa, 2001).

Personal values are integrated into plans for career or life goals and are altered to achieve a satisfactory outcome (Hutchison, et al., 2001).

In a study from Taiwan where the main objective was to examine the relationships between turnover intention and professional commitment, many of what could be considered life career needs were important factors for nurses in career commitment (Lu, Lin, Wu, Hsieh, & Chang, 2002). For example, marital status, family support and age of the youngest child were correlated with professional commitment and job satisfaction (Lu et al., 2002).

Career commitment is defined as one's attitude toward one's profession (Blau, 1985). Commitment to a career is distinguished from commitment to a job or commitment to an organization (Gardner, 1991) and that career commitment appears to be susceptible to organizational factors (Gardner, 1992). There appear to be different stages to a career and different individual styles or approaches used to reconcile the interactive needs of work, self, and family (Gardner, 1991, 1992). Gardner (1991) also notes that the profession of nursing primarily attracts women who also assume responsibility for shaping family roles simultaneously with a paid career, seeking work and family satisfaction.

Conclusion

Understanding Generation X employees, those born between 1961 and 1981 are essential if they are to be recruited and retained in nursing (Kupperschmidt, 1998). Generation X is a work force whose work values and ethics are vastly different from the values and ethics of previous generations (Kupperschmidt, 1998). The modern day workforce does not encourage lifelong employees but great managers will treat and groom them as if they will stay (Buckingham, & Coffman, 1999). They are more likely to change jobs and careers if their demands are not met and they view each job as a stepping-stone to something better (Kupperschmidt, 1998). Special care should be given to the social adjustment of young members to help them adjust in their new work environment (vanWijk, 1997). Whenever possible, younger nurses new to the military should be given the opportunity to first serve in a larger center where more support is available while they come to grips with the basic principles of the military system (vanWijk, 1997). Leaders and managers can have a significant

impact on employee's intent to stay (McNeese-Smith, 1995). Stress, job satisfaction and intent to stay are complicated variables that demand the attention of Nurse Corps executives for all age ranges in order to produce and retain the highest caliber of Navy nurses.

The American culture is becoming known for its people desiring instant curing and medicinal practices. With the dominant emphasis on curing, most discussions of health care or quality of care neglect the concept of caring. Kreuter (1957) reflected upon caring as an attitude or disposition, prompting nursing action to provide for needs. To obscure the caring behaviors is unfortunate as they play an important role in curing (Backer, 1993; Leninger, 1977).

Perhaps what brings us to nursing is our belief in people, our ability to hold them in esteem and see them as persons of dignity and worth (Swanson, 1991). As stated in their scope of practice, Navy Nurse Corps officers share a historical camaraderie of caring for others under ordinary, extraordinary, and often unusual circumstances who voluntarily assume an additional role as Naval officers which mandates the successful integration of compassion with discipline, individuality with conformity, and wellness promotion with wartime readiness. Navy nursing is a shared experience in which the nurse brings self as a caring person to the nursing situation and comes to know the other as a caring person, whether it is the patients or a co-worker. The uniqueness of the military nurse is that dual role of officer and nurse. When operational those officers not only work in their nursing roles together but they also defend the country, live and recreate as officers together. The role of the nurse in facilitating authentic community self-determination, as with individuals, involves

making professional knowledge, expertise, and judgment available to the community, thereby enabling it to express and achieve health goals, and facilitating its empowerment to assume as much responsibility for health as it deems appropriate. (Falk, 2000). The independent variables of this study, job satisfaction, job stress and life career needs may contribute to the effectiveness of maintaining these roles.

CHAPTER 3

METHODOLOGY

Research Design

Using secondary data analysis from the Organizational Assessment Questionnaire (OAQ) surveys that were mailed annually to a random sample of Navy medical department personnel, the purpose of this study was to examine the relationships between job satisfaction, stress, and career needs upon Navy nurses and their impact on intent to stay on active duty. The OAQ was initiated in 1998 and the data for this study were taken from the surveys in 1998, 1999, and 2000. An ex post facto non-experimental study using correlational and descriptive statistics was used to examine these variables. In non-experimental research, the researcher collects data without introducing any treatment or changes (Polit & Hungler, 1999). The purpose of descriptive studies is to document aspects of a situation as they appear naturally and perhaps serve as a starting point to generate a hypothesis or develop a theory (Polit & Hungler, 1999). Ex post facto research attempts to understand relationships as they naturally occur without any researcher intervention (Polit & Hungler, 1999). The basic purpose of ex post facto research is the same as that of experimental research: to understand relationships among variables. In ex post facto research the investigator does not have control of the independent variable because it has already occurred. Examination of the independent variable is done after the fact.

Sample

As part of a larger study of the United States Navy Medical Department, a random sample of 1,536 was selected from 3189 Nurse Corps (NC) officers in 1998. The OAQ was mailed to the 1,536 NC officers and 522 respondents returned the surveys for a 33.98% return rate. Precision is largely affected by sample size; therefore, it is important to have a sufficient sample size to give randomization a chance to work (Pedhazur & Schmelkin, 1991). Power analysis is a method for reducing Type II errors and for estimating their occurrence (Polit & Hungler, 1999). The probability of committing a Type I error is established by the investigator as the level of significance or alpha. In this study alpha was set a priori to = .05. The probability of a Type II error is designated as Beta, the probability of failing to reject the null hypothesis when it should be rejected. Power is defined as (1-Beta), the probability of correctly rejecting the null hypothesis when it is false. In using secondary data analysis the sample size was already predetermined. Therefore the investigator must work backward from the sample size. A general rule is that a study should have a power of 80% or greater to detect a reasonable effect size (Hulley, Cummings, Browner, Grady, Hearst & Newman, 2001). According to Cohen (1988), effect size (ES) refers to the degree to which the phenomenon is present in the population or the degree to which the null hypothesis is false (pp. 9-10). Given alpha = .05, $N = 504$, and a moderate effect size of .4, using Cohen's (1988) Sample Size Table the study has the power of greater than .95.

To validate the results obtained from the data set, additional samples were taken from 1999 and 2000 data using 1998 data as the calibration sample. In 1999,

1434 surveys were mailed, 379 responded for a return rate of 26.43%. In 2000, 1138 surveys were mailed and 392 returned for a return rate of 34.45%. Cross validation is the process of verifying the results of an analysis done with a sample from one population by replicating the analysis with a second (and in this case, third) sample from the same population.

Instruments

The OAQ contains 133 items. Questions were answered using either a 5-point or 7-point Likert rating scale (i.e. the higher the score, the more positive or favorable the response). For purposes of this study items 1-7, 10-26, 43-59, and 85-118 were used. Items 1-7 measure retention that is one-dimensional and assess whether or not an individual would remain in the Navy (regardless if the respondent was serving in the Navy under an obligated length of time) if given the opportunity to leave. Items 10-26 measure job satisfaction. Job satisfaction covers areas such as job security, pay, personal growth, supervisor and overall job satisfaction. Items 43-59 measure job stress. The types of stress addressed are supervisor stress, promotion, job pressure and job opportunities. Finally, items 85-112 measure career needs. Career needs address family, retirement planning, personal growth, advancement/promotion, education & training, and geographic community items.

All of the items for this study use a Likert-type scale. Items 1-7 (intent to stay) are measured on a 5-point scale ranging from 1, definitely leave, to 5, definitely stay. Items 10-26 (job satisfaction) range from 1, extremely dissatisfied, to 7, extremely satisfied. Items 43-59 (stress) scale from 1, no stress at all to 7, an extreme amount of stress. Items 85-112 have two components. Importance of career needs is rated from

1, not at all important, to 5, very important. Satisfied with career needs is rated from 1 very dissatisfied to 5, very satisfied.

Estimation of Reliability

Because reliability is important to any measurement method, investigation of reliability should be made when measuring instruments are used. Internal consistency reliability, namely alpha coefficient was used for the Organizational Assessment Questionnaire. The internal consistency approach to the estimation of reliability is based on the notion that the items of the instrument measure the same phenomenon (Pedazur & Schmelkin, 1991). The alpha coefficients for the OAQ are reported in Table 1. Results show that the alpha coefficient for intent to stay is lower compared with other instruments. The number of items (i.e. 7) may have contributed to the lower reliability of intent to stay. The alpha coefficient for the other scales is substantially higher.

Table 1.

Reliability - Alpha Coefficients for the OAQ

Scales	# Items	1998	1999	2000
Intent to Stay	7	.6102	.8126	.7607
Job Satisfaction	17	.8892	.9376	.9220
Job Stress	17	.8454	.8623	.8534
Career Needs, Importance	28	.8759	.8770	.8774
Career Needs, Satisfied	28	.9050	.9141	.8984

Validity

Content validity, which is relevant for both affective and cognitive measures, is concerned with the sampling adequacy, the actual content of the instrument being measured (Polit & Hungler, 1999; Gliner & Morgan, 2000). Content validity is based on judgment, knowing that there are no completely objective methods of ensuring adequate content of the instrument (Polit & Hungler, 1999). Wynd and Schaefer (2002) suggest using a two-step model to obtain content validity: identification of the domain of content and review of the instrument by experts. This researcher did the content validity study using the following procedure. A questionnaire was developed and sent to five nurses to establish content validity after an explanation of the purpose

and significance of the content validity questionnaire were explained (Appendix A). Those nurses were experts in either the field of research and/or the topic of study. After a review to see how each concept is represented in the literature, five questions addressed each of the variables in the study: intent to stay; job satisfaction; job stress; career needs, importance; and career needs, satisfied. The content validity questionnaire asked if the content that comprises the OAQ is representative of the concepts being measured. Questions were asked in terms of appropriateness, clarity, and relevancy. Each item was measured on a 5-point scale ranging from 1, strongly agree, to 5, strongly disagree. 100% of the respondents reported either 1 or 2, strongly agree or agree. Therefore content validity was established.

Procedure

Permission to conduct this study of secondary data was obtained from the Human Subject Review Board at George Mason University and the Internal Review Board from the National Naval Medical Center. The research packet consisted of a 6-page questionnaire (Appendix B), a pre-addressed stamped envelope for participants to return the questionnaire, a cover letter explaining the purpose of the study, and the Privacy Act Statement and Report Control Numbers issued from the Bureau of Naval Personnel. The cover letter, which was printed on organizational letterhead and signed by the Chief, Bureau of Medicine and Surgery, explained the purpose of the study, provided motivation to complete it, described random selection, and ensured participant anonymity.

One week after the initial mailing, a reminder card was sent to all participants to complete the questionnaire. If a participant had already returned the questionnaire,

the card thanked him/her for participation and no further action was required.

Participants also had the option of requesting a new copy of the questionnaire via an email address. To ensure participants had adequate time to receive, complete, and return their questionnaires from potentially remote military locations, data collection continued for a total of 8 weeks every year.

Data Analysis

Data for the original studies were analyzed using Statistical Package for Social Science (SPSS), version 10.0. SPSS, version 10.0 for Macintosh was used to analyze all data for this study.

Research question 1 used descriptive statistics, mean and standard deviation. Research question 2 used descriptive statistics: mean, standard deviation, and Pearson correlation coefficients. To answer research question number three multiple regression analysis was used to identify the most influential predictors in predicting intent to stay. Predictive research aims at developing systems that predict criteria of interest by utilizing information from one or more predictors (Pedhazur & Schmelkin, 1991). The hierarchical regression method was used to control the orders of predictors and predictor variables are added one at a time. Therefore, hierarchical method was performed. Job satisfaction was entered first, followed by job stress, career needs, importance, and finally career needs satisfied. The multiple regression equation is:

$$Y_i = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + e_i$$

$$Y'_i = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4$$

$$Y'_i = \text{Predicted score on Intent to Stay for Person}_i$$

Y_i = Criterion variable = Score on Intent to stay for Person i

Predictor Variables:

X_1 = Job satisfaction

X_2 = Job stress

X_3 = Career needs, importance

X_4 = Career needs, satisfied

e_i = Error for Person i = $Y_i - Y'_i$

This equation states that intent to stay (i.e. the criterion variable) is a function of those predictor variables. The regression coefficients of the predictor variables, B_s , are a numerical value that indicates the amount of change that occurs in the criterion variable for each unit change in the associated predictor variable. Regression coefficients indicate that they are optimal linear estimates for the criterion variables when used in combination with specified other predictor variables (Cohen & Cohen, 1983). If adding extra variables increases the amount of variance accounted for in the criterion variable, the accuracy of prediction will also increase (Munro, 1997). The outcome of a multiple regression is a R^2 value (Burns & Grove, 2001). R^2 represents the proportion of the variance of the criterion variable explained by the predictor variables. For each predictor variable, the R^2 changes and the significance of the regression coefficients will be reported in chapter 4.

The first time this survey was sent to the Navy medical department was in 1998. It has been used annually since then. Data from the 1998 survey will be referred to as the calibration sample. Cross validation will estimate how well an equation developed in one sample (1998) will predict in other random samples (1999

and 2000) from the same population. According to Tate (1998) there are four steps involved with cross validation:

1. Draw at least two random samples from the population (In the present study, 3 samples are drawn: 1998, 1999, and 2000),
2. Develop a prediction equation in one of the samples (1998, the calibration sample).

The prediction equation is: $Y' = B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4$ (Y_1 = Intent to stay; X_1 = job satisfaction; X_2 = job stress; X_3 = career needs, importance; X_4 = career needs, satisfied).

3. Apply the prediction equation from the calibration to the cross validation samples (1999 and 2000), computing predicted score for intent to stay using predictor variables, and
4. Compute the R^2 for the 1999 and 2000 samples. R^2 is the square of the bivariate correlate between the observed intent to stay and the predicted intent to stay for 1999. The process was repeated for 2000.

In predictive studies, variables should be designated as predictor variables and criterion variables, whereas in explanatory studies variables should be designated as independent variables and dependent variables (Pedhazur, 1997). Required input includes data for the criterion variable and each of the potential predictor variables. Because there are data from 1998, 1999, and 2000, a total of three samples from the same population, a double-cross validation study will determine how well the regression equation obtained from the original study in 1998 performs in another

sample from the same population in 1999 and 2000. The regression equation obtained from the 1998 sample was applied to the other samples. The purpose of cross validation is to determine how well a regression equation obtained in one sample performs in another sample from the same population (Tate, 1998; Pedhazur, 1997). If R^2 obtained from cross validation are close to the calibration sample, Pedhazur (1997) suggests that a regression equation calculated for the calibration sample can be used for prediction.

There are three assumptions in multiple regression analysis that need to be satisfied: normality, linearity, and homoscedasticity (multivariate normality). Normality is assumed when the sample is representative of the population to which the inferences will be made and the variables being correlated each have a normal distribution (Munro, 1997). Linearity is achieved when two scores are graphed and tend to form a straight line (Munro, 1997). The assumption of homoscedasticity is achieved when for every value of X, the distribution of Y scores must have approximately equal variability (Munro, 1997). The assumptions were assessed through examining graphs of standardized residuals (i.e. error term) and standardized predicted scores. A scatterplot will depict the standardized predicted values of the criterion variable and the standardized residuals. Examination of these residual scatterplots provides a test of all three crucial assumptions (Polit, 1996). If the assumptions of linearity, normality and homoscedasticity are met, expect to see points cluster along the horizontal line in a somewhat rectangular pattern.

Summary

The purpose of this study was to examine the relationships between job

satisfaction, stress, and career needs upon Navy nurses and their impact on intent to stay on active duty. Secondary data from the OAQ, which had been sent to a random number of Nurse Corps officers annually since its inception in 1998, and including 1999 and 2000 were used. More thorough analysis of the data specifically for the Nurse Corps will provide a solid base to ground strategic planning and provide a reliable benchmark for subsequent surveys annually.

CHAPTER 4

PRESENTATION and ANALYSIS OF DATA

The purpose of this study was to examine the relationships between job satisfaction, stress, and career needs upon Navy nurses and their impact on intent to stay on active duty. These variables were measured using the Organizational Assessment Questionnaire (OAQ) from 1998, 1999, and 2000. The OAQ is mailed to a random sample of Navy Medical Department personnel. This researcher examined the data specifically from Nurse Corps respondents for each of those three years. Statistical Package for the Social Sciences (SPSS 10.0 and 11.0) was used to analyze the data and an alpha level of .05 was selected as the level of significance for all analyses.

Description of Sample

Beginning in 1998 and continuing annually thereafter, the OAQ was mailed to a randomly selected number of Medical Department personnel (Medical, Dental, Medical Service and Nurse Corps officers) who were stationed within the United States and at overseas duty stations. Assignments range from large to small medical treatment facilities (MTF), branch clinics, administrative offices, training and non-traditional billets. Only Nurse Corps officer data were analyzed for this study with 1998 being used as the calibration sample.

Demographics

Demographic data from the OAQ: gender, rank, marital and promotion status, were gathered from questions 113, 117, 118 and 120 and are presented in Table 2.

Table 2

Description of Samples

Descriptor		1998		1999		2000	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Gender	Female	326	62.5	274	72.3	277	70.7
	Male	196	37.5	103	27.23	114	29.1
	Total	522	100.0	377	99.5	391	99.7
Missing							
Total				2	.5	1	.3
				379	100.0	392	100.0
Rank	O-1	51	9.8	7	1.8	26	6.6
	0-2	83	15.9	15	4.0	41	10.5
	0-3	175	33.5	48	12.7	133	33.9
	0-4	87	16.7	132	34.8	75	19.1
	0-5	76	14.6	74	19.5	76	19.4
	0-6	34	6.5	72	19.0	33	8.4
	0-7	0	0	26	6.9	0	0
	0-8	1	.2	1	.3	0	0
	Total	522	100.0	375	98.7	384	98.0
Missing							
Total				1.1	8	2.0	
				100.0	392	100.0	
Marital Status	Single	124	23.8	90	23.7	97	24.7
	Married	333	63.8	246	64.9	249	63.5
	Separated/ Divorced	55	10.5	37	9.8	44	11.2
	Widowed	4	.8	3	.8	1	.3
	Other	4	.8	2	.5	1	.3
	Total	520	99.6	378	99.7	392	100.0
Missing							
Total				2	.4	0	0
				522	100.0	379	100.0
Failed to Promote to Next Rank	Yes, One Time	25	4.8	20	5.3	18	4.6
	Yes, Two Times	6	1.1	6	1.6	6	1.5
	Yes, More Than Two Times	9	1.7	9	2.4	8	2.0
	No, I have not Failed to be Selected	314	60.2	245	64.6	247	63.0
	Not Eligible for Promotion	160	30.7	97	25.6	109	27.8
	Total	514	98.5	377	99.5	388	99.0
	Missing						
Total				8	4.5	4	1.0
				522	100.0	379	100.0

Both males and females participated in this study. From the years 1998-2000, the range of female respondents was 62.5-72.3% and the range of male respondents was: 27.2-37.5%. During the years of 1998-2000 the actual percentage of female active duty Nurse Corps officers ranged from 65.2-67.6%. Male active duty Nurse Corps officers ranged from 32.3-34.8% during 1998-2000. From 1998-2000, almost two-thirds of the respondents were married, 63.5-64.9%. Single nurses comprised 23.7-24.7%, followed by divorced, 9.8-11.2%, widowed, .3-.8% and other, .3-.8%. In the area of promotion, 60.2 - 64.6% nurses have not failed to be selected for promotion. Nurse Corps officers who were not eligible for promotion at the time they completed the OAQ ranged from 25.6 -30.7%. Officers who failed to select for promotion one time ranged from 4.6 - 5.3% while 1.1 - 1.6% failed to select two times. Only 1.7 - 2.4% failed to select for promotion greater than two times.

There was more variability among the ranks of respondents compared to the endstrength of the Corps for those years as presented in Table 3 (McDonald, 2003). The calibration sample of 1998 best represented the population. Lieutenants (0-3) who comprise the largest rank in the Nurse Corps also had the largest percentage of respondents to the OAQ calibration sample, 33.5%; followed by Lieutenant Commanders (0-4), 16.7%, Lieutenant, junior grade (0-2), 15.9%, Commanders (0-5), 14.6%, Ensigns (0-1), 9.8%, and finally Captains (0-6), 6.5%.

Table 3

Rank Comparison

	FY 98			FY 99			FY 00		
	ES#	ES%	R%	ES#	ES%	R%	ES#	ES%	R%
0-1	436	13.7	9.8	411	13.1	1.8	418	13.4	6.6
0-2	674	21.1	15.9	540	17.2	4.0	471	15.1	10.5
0-3	993	31.1	33.5	1147	36.5	12.7	1191	38.2	33.9
0-4	615	19.3	16.7	555	17.7	34.8	556	17.8	19.1
0-5	341	10.7	14.6	361	11.1	19.5	355	11.4	19.4
0-6	129	4.0	6.5	128	4.1	19.0	130	4.2	8.4

ES# - number on active duty

ES% - percentage of number on active duty

R% - percentage of respondents to OAQ

Major Findings

The following section presents the results of the study as they pertain to each of the research questions.

Research Question One:

What are the levels of job satisfaction, job stress, and career needs, including the importance and how satisfying career needs are, as perceived by Navy nurses?

The OAQ was used to measure job satisfaction, job stress, and life career needs as perceived by Navy nurses. The job satisfaction items were comprised of questions 10-26. Job stress comprised questions 43-59. Life career needs comprised questions 85-112. The respondent was asked to answer each life career needs question twice, first to rate how important each of the career needs was to the respondent. The second scale for life career needs was to rate how satisfied the respondent was in achieving those career needs while in the Navy.

Analysis of the data (Table 4) revealed the level of intent to stay in 1998 ranged from 1.71 - 5.14 on a scale of 1 to 5 for questions 1 through 7. Question 7 ranged from 1 to 6 with 1 being most unlikely to stay and 5/6, either very likely or definitely will stay in the Navy. The mean level for the 1998 participants was 3.7846 indicating that Navy nurses are likely to stay in the Navy. Similar statistics are reported for 1999. The range for intent to stay on the same scale was 1.67 - 5.17 with a mean of 3.9452. In 2000, the range was 1.50 to 5.17 with a range of 3.9650.

The range for job satisfaction was 1 through 7 with 1 being extremely dissatisfied to 7, extremely satisfied. The range for job satisfaction for the calibration sample 1998 was 1.88 - 7.0 with a mean of 5.1493, meaning that the nurses were slightly satisfied to satisfied with the overall aspects of job satisfaction. In 1999, the range was 1.29 - 7.0 with a mean 5.1843. In 2000, the range was 1.7 - 7.0 with a mean of 5.3192.

Job stress was rated on a scale of 1 through 7 with 1 being no stress at all and 7, an extreme amount of stress. In 1998, the level of job stress ranged from 1.12 - 6.82 with a mean of 3.622 meaning that the nurses rated amount of stress they felt in their jobs as being a fair but tolerable amount. In 1999, the range for job stress was 1.0 - 7.0 with a mean of 3.6094. In addition, in 2000 the range of job stress was 1.06 - 6.06 with a mean of 3.4427.

Career needs, important, was rated from 1 through 5 with 1 being not at all important and 5, very important. In 1998, the range of career needs, important was 1.39 - 5.0 with a mean of 4.3681 indicating that career needs as they progressed through different stages of their career was important to them. In 1999, the range was

2.45 - 5.0 with a mean of 4.3142. Moreover, in 2000 the range for career needs, important, was 1.0 - 5.0 with a mean of 4.3132.

Career needs, satisfied, was rated from 1 through 5 with 1 being very dissatisfied with achieving those career needs within the Navy to 5, very satisfied in achieving those career needs in the Navy. In 1998, the range for career needs, satisfied, was 2.040 - 5.0 with a mean of 3.4324 indicating that the nurses were not sure to satisfied with how they were in achieving their career needs in the Navy. In 1999, the range was 1.14 - 5.0 with a mean of 3.4099. In 2000, the range was 1.39 - 4.78 with a mean of 3.4477. (Refer to Appendix C for item level descriptive statistics.)

Table 4.

Levels of Intent to Stay, Job Satisfaction, Job Stress, and Career Needs

		Intent to Stay	Job Satisfaction	Stress	Career Needs-Important	Career Needs-Satisfied
1998	Minimum	1.71	1.88	1.12	1.39	2.04
	Maximum	5.14	7.00	6.82	5.00	5.00
	Mean	3.7846	5.1493	3.622	4.3681	3.4324
	Std. Deviation	.76543	.95344	.97105	.4486	.58114
	N	522	522	522	512	511
1999	Minimum	1.67	1.29	1.00	2.45	1.14
	Maximum	5.17	7.00	7.00	5.00	5.00
	Mean	3.9452	5.1843	3.6094	4.3142	3.4099
	Std. Deviation	.84923	1.14250	1.02701	.43893	.58552
	N	379	379	378	375	374
2000	Minimum	1.50	1.71	1.06	1.00	1.39
	Maximum	5.17	7.00	6.06	5.00	4.78
	Mean	3.9650	5.3192	3.4427	4.3132	3.4477
	Std. Deviation	.80812	1.01414	.97288	.46980	.55902
	N	388	388	391	386	380

Research Question Two:

What is the relationship among job satisfaction, job stress, importance of career needs and how satisfying career needs are with their impact on intent to stay on active duty?

Prior to conducting data testing, screening led to the elimination of 1 case from the 1998 database and 1 case from the 2000 database. The data from the 1998 database were also evaluated for the test of assumptions of linearity, normality and homoscedasticity.

Pearson r reflects the magnitude and direction of the linear association between two variables. Also, discrepant data points, or outliers, affect the magnitude of the Pearson r . Bivariate distribution of the variables were examined to see if the linearity assumption was met. (The assumption was met and no outliers were detected.)

The Pearson correlation coefficients (r) are more precise than scatterplots because of their numeric value ranging from -1.00 through $.00$ to $+1.00$. Table 5 summarizes the information about the relationships between variables including the correlation coefficients for all three years, 1998 – 2000.

Table 5

Correlations Table

Year		Intent to Stay	Job Satisfaction	Job Stress	Career Needs, Import	Career Needs, Satisfied
1998	Pearson Correlation					
		1.000	*.457	*-.261	*.132	*.379
		*.457	1.000	*-.520	*.080	*.658
		*-.261	*-.520	1.000	.017	*-.453
		*.132	*.080	.017	1.000	*.132
		*.379	*.658	*-.453	*.132	1.000
	N=504					
1999	Pearson Correlation					
		1.000	*.621	*-.343	*.165	*.550
		*.621	1.000	*-.565	*.089	*.662
		*-.343	*-.565	1.000	.0145	*-.495
		*.165	*.089	.045	1.000	.107
		*.550	*.662	*-.495	.107	1.000
	N=371					
2000	Pearson Correlation					
		1.000	*.563	*-.318	.031	*.541
		*.563	1.000	*-.550	*.105	*.649
		*-.318	*-.550	1.000	.051	*-.510
		.031	*.105	.051	1.000	.071
		.541	*.649	*-.510	.071	1.000
	N=372					

* significant at $p < .05$

There are four correlations for each year. For 1998, the calibration sample, and for 1999, all four correlations were statistically significant. For 1998, the strongest correlation existed between intent to stay and job satisfaction. The reported Pearson correlation coefficient was .457, indicating a moderately positive correlation. This coefficient can be squared to produce the coefficient of determination which is

the measurement of practical significance. In this case, $(.457)^2 = .209$, or 20.9%. Therefore, 20.9% of the variance of the criterion variable, intent to stay can be attributed to job satisfaction ($r^2 =$ coefficient of determination). This relationship makes sense because those nurses who are satisfied with their job are more likely to stay in the Navy.

The second highest correlation existed between intent to stay and career needs, satisfied ($r = .379$, $r^2 = .144$). This relationship is not quite as strong as the one between intent to stay and job satisfaction. The coefficient of determination is 14.4%. Approximately 14% of the variance in career needs, satisfied can be attributed to intent to stay and vice versa. A significant relationship exists between intent to stay and career needs, satisfied ($p < .05$). There is a tendency for nurses who are satisfied that the Navy is meeting their career needs will stay in the Navy.

The third correlation was for the variables intent to stay and job stress. This value is lower than the previous two and it is negatively correlated ($r = -.261$, $r^2 = .068$). The coefficient of determination is 6.8% indicating that job stress shares approximately 6.8% of common variance. A significant relationship exists between these two variables ($p < .05$) and there is a tendency as job stress increases Navy nurses will not intend to stay in the Navy.

The lowest correlation was found between intent to stay and career needs, important ($r = .132$, $r^2 = .017$). The relationship between the importance of career needs and intent to stay in the Navy is the weakest sharing only 1.7% of the common variance indicating that $< 2\%$ of the variance in career needs, important can be

attributed to intent to stay and vice versa. All correlations in this matrix for 1998 were statistically significant ($p < .05$).

Similarly, for 1999, all correlations in the matrix were statistically significant ($p < .05$). Once again, job satisfaction had the strongest correlation with intent to stay ($r = .621$, $r^2 = .386$). For the variance of the criterion variable, intent to stay, 38.6% can be attributed to job satisfaction. Second highest correlation for the 1999 data existed between intent to stay and career needs, satisfied, ($r = .550$, $r^2 = .302$). The relationship between intent to stay and career needs, satisfied was stronger this year than in 1998. Approximately 30.2% of the variance in career needs, satisfied can be attributed to intent to stay in the Navy and vice versa. The third correlation, job stress, again negatively correlated ($r = -.343$, $r^2 = .118$), accounted for approximately 11.8% indicating that job stress shares approximately 11.8% of the common variance. Not unlike the results from the calibration sample, career needs, important, had the lowest correlation ($r = .165$, $r^2 = .027$) with intent to stay.

The year 2000 yielded different results. Only job satisfaction ($r = .563$, $r^2 = .317$) and job stress were statistically significant ($p < .05$) and correlated with intent to stay. Of the variance of intent to stay and job satisfaction, 31.7% were in common. Job stress, still negatively correlated, ($r = -.318$, $r^2 = .101$) accounted for 10.1% of the common variance with intent to stay. Career needs, important, and career needs, satisfied, were not statistically significantly correlated with intent to stay in the year 2000 meaning that neither the importance of career needs or whether their career needs were satisfied while being in the Navy affected the nurses intent to stay in the Navy.

The results of this data summarized the linear relationships between intent to stay and job satisfaction, stress, career needs, important and career needs, satisfied. Sequential multiple regression approach was conducted to determine the degree of accuracy of the predictor variables: job satisfaction, job stress, career needs, important and career needs, satisfied in predicting the criterion variable, Navy nurses intent to stay.

Research Question Three:

Which of the following four predictor variables: job satisfaction, job stress, importance of career needs, and degree of satisfaction with career needs are most influential in predicting Navy nurses' intent to stay on active duty?

Prior to using multiple linear regression the data were examined to determine the extent to which they met the assumptions required for linear regression. Tests were run to address linearity of the relationship between the criterion and predictor variables.

Figure 1 depicts the scatter plot of the standardized residuals and standardized predicted variables obtained from the regression analysis of the calibration sample, 1998. Examination of this scatterplot provided a test of all three assumptions. When the assumptions of linearity, normality and homoscedasticity are met the points cluster along the horizontal line in a somewhat rectangular pattern. The assumptions of homoscedasticity, or equality of variance, linearity, and normality were met.

Multiple linear regression, using the Enter method in SPSS, was performed for each of the four predictor variables (job satisfaction, job stress, career needs,

importance and career needs, satisfied) to determine which variable, if any, were predictors of intent to stay in the Navy. The variables were entered into the equation sequentially and examined for the proportion of the variance of the criterion variable for the predictor entered into the equation.

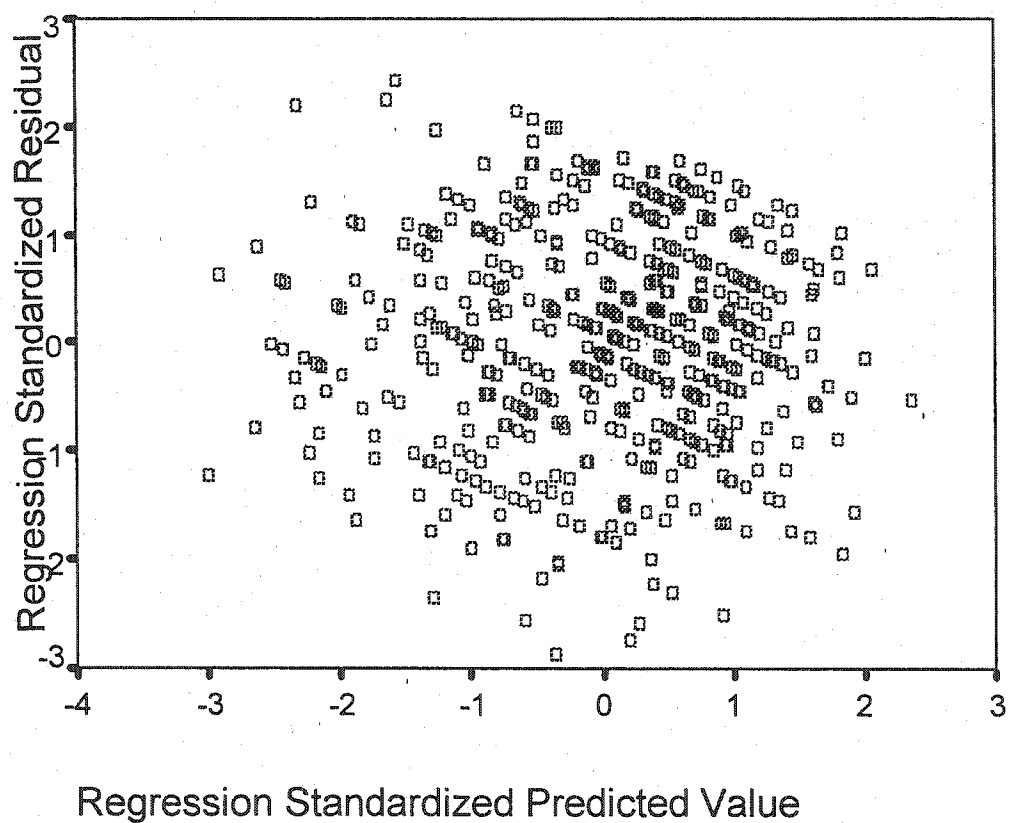


Figure 1. Scatterplot with assumptions of linearity, normality and homoscedasticity for the calibration sample, 1998.

A summary of the regression model is presented in Table 6. At each step, the R, R^2 increases in R^2 are reported. In the first step, the regression model contains one predictor, job satisfaction, $R^2 = .209$ (21% of the variability of intent to stay is explained by job satisfaction). An additional predictor, job stress, is added to the regression model in step two. R^2 does not change therefore there is no variability of intent to stay that is explained by job stress. The third predictor added to the regression model is career needs, importance, $R^2 = .219$ (1% of intent to stay is explained by the variability of career needs, importance). Finally, the fourth predictor, career needs, satisfied, $R^2 = .227$, explains less than 1% of the variability of intent to stay.

Table 6

Regression Model Summary

Step	R	R^2	Increase in R^2
Job Satisfaction	.457	.209	.209
Job Stress	.458	.209	.001
Career Needs, Important	.468	.219	.010
Career Needs, Satisfied	.476	.227	.008

R^2 for 1999 and 2000 samples are displayed in Table 7.

Table 7

Regression Coefficients for the Model

Predictor Variables	b	Beta	t	Bivariate Correlation
Job Satisfaction	.291	.359	**6.477	.457
Job Stress	-.010	-.020	-.434	-.261
Career Needs, Important	.150	.087	*2.184	.132
Career Needs, Satisfied	.162	.122	*2.284	.379

Note: ** Indicates significance at $p < .01$ Criterion Variable = Intent to Stay
 * Indicates significance at $p < .05$
 a = 1.133
 Cross validation sample of 1999, $R^2 = .322$
 Cross validation sample of 2000, $R^2 = .336$

The regression coefficients (b = unstandardized and Beta = standardized regression coefficients) and associated test of significance are reported in Table 6. Results indicate that only three predictor variables, job satisfaction, career needs, important, and career needs, satisfied are statistically significant to predict intent to stay in the Navy. Reporting both unstandardized (b) and standardized (B) regression coefficients are recommended by Pedhazur & Schmelkin (1991). The b, which is the unstandardized regression coefficient are not comparable. Whereas the B's are population specific; meaning that although the effects of the predictor variable on the criterion variable, as reflected by the b's, may be relatively stable across population and settings, the B's may vary greatly because they are sensitive to fluctuations in variances and covariances across populations. Consequently, comparisons across groups and settings should be based on b's, not B's.

Cross validation R^2 estimates how well the equation from the calibration sample (1998) will predict for other subjects of the same population. For 1998, the model accounted for 22.7% of variance in intent to stay (Table 6). For 1999, the model accounted for 32.2% of variance in intent to stay. For 2000, the model accounted for 33.6% of variance in intent to stay (Table 7). Therefore the prediction equations obtained from the calibration sample were validated using additional samples and it could be used to predict for other subjects in the Nurse Corps population.

Summary

This chapter analyzed and explained the findings concerning the relationship between the criterion variable, intent to stay in the Navy and the predictor variables: job satisfaction, job stress, career needs, importance and career needs, satisfied as expressed by Navy nurses. Secondary data analysis was completed on data that were collected in 1998, 1999, and 2000. In 1998 and 1999, all four independent variables were significantly correlated with intent to stay. Job satisfaction was most highly correlated with intent to stay for all three years. However, with the 2000 data only job satisfaction and job stress were correlated with intent to stay in the Navy. The 1998 survey results were used to develop a regression equation to predict Navy nurses intent to stay given the variables of job satisfaction, stress, career needs, important and career needs, satisfied. The 1999 and 2000 data were used as the cross validation samples. The regression equation obtained from the calibration sample could be used to predict the subjects' intent to stay in the Nurse Corps population.

CHAPTER 5
**DISCUSSION, CONCLUSIONS, LIMITATIONS, IMPLICATIONS AND
RECOMMENDATIONS**

Introduction

This study examined the relationship between job satisfaction, job stress, career needs, importance, and career needs, satisfied with intent to stay in the Navy for three consecutive years, 1998 - 2000. A descriptive correlational design was used to assess the relationship among intent to stay, job satisfaction, job stress, career needs, importance and career needs, satisfied. Multiple linear regression was used to determine which of the four variables, if any, were significant predictors of intent to stay in the Navy. The 1998 sample was used as the calibration sample and cross validation was calculated for the 1999 and 2000 samples.

This study was not guided by a theoretical framework or model because the data analyzed were secondary data and there was no evidence that the authors of the OAQ used a framework in guiding their research. However, the researcher recognizes that in designing studies that emphasize particular measures, it is important to draw on theory and the underlying analysis of constructs as much as possible. Of the many controversies that accompany the growth of the nursing profession few can be debated as much as the question of which paradigm to use to guide the nursing

science (Monti & Tingen, 1999). Paradigms are often described as a set of assumptions, concepts, values, and practices that constitute a way of viewing reality for the community that shares them. Paradigms direct the perspective from which research questions are asked, investigated and designed (Monti & Tingen, 1999).

Career success in the Navy Nurse Corps depends on a number of factors including ongoing professional growth and development, assignment flexibility, career counseling, and a commitment to the primary mission of delivering quality health care while ensuring self and subordinate growth and development. In the future it would be wise to consider an integration of qualitative and quantitative methods as each nursing paradigm presents itself. The Nurse Corps Strategic Plan is a pragmatic, dynamic document that guides the operation of the Nurse Corps and could be considered as the framework of reference for studies especially when issues of retention are being considered. Qualitative methods could describe phenomenon of interest and generate theories that propose relationships between concepts while quantitative methods could test those relationships (Monti & Tingen, 1999).

An extensive literature review was conducted and variables in this study were reviewed: intent to stay, job satisfaction, job stress, career needs, importance, and career needs, satisfied, in the military and civilian nursing communities. The review also covered the current issue of supply and demand regarding the nursing workforce and the universal shortage of professional nurses working in the field of nursing. The term intent to stay can be associated with organizational commitment that entails affective and continuance commitment. Intent to stay can also be associated with behavioral characteristics especially of the leadership within the organization. The

literature revealed that retention is sometimes synonymous with intent to stay. Intent to stay was studied on a single dimension for this study. Job satisfaction literature examined factors that contribute to job satisfaction such as job security, pay, social and professional growth, supervisor satisfaction, mentoring and being mentored, and overall feeling of being valued by the organization. Job stress literature focused on its reciprocal relationship with job satisfaction, supervisor stress, promotion, and general job pressure. Stressors were identified as ranging from major catastrophes to small hassles. The researcher noted that with life career needs, though scant in the literature, as nurses mature and pass through life changes, some of the same variables used in the OAQ that are categorized as life career needs might be better related to job satisfaction. In other words, the impact that the organization has in addressing the issues and concerns of life career needs may affect job satisfaction ratings.

Descriptives

Beginning in 1998, the OAQ was mailed annually to a random sample of Navy Medical Department personnel. This survey was chosen for this study because it is used annually and the data that have been analyzed in the past were used in a generic sense applicable to all four corps within the Navy Medical Department. Specific criterion and predictor variables had not been analyzed. The OAQ is a reliable and valid instrument and the Director, Nurse Corps wants to avoid survey fatigue yet receive reliable information on an annual basis regarding retention, job satisfaction, stress and career needs of the Navy nurses. The descriptive data from this study revealed that the samples consisted mostly of female participants. Almost one-third of the respondents of the calibration sample were lieutenants, a mid-grade

officer. Almost two-thirds were married and approximately 90% of the sample was either not eligible for promotion or they had not failed to select for promotion.

Discussion and Conclusions

Research Question #1

What are the levels of job satisfaction, job stress, and career needs, including the importance and how satisfying career needs are, as perceived by Navy nurses?

The criterion, or dependent variable, was intent to stay. In hopes to fully characterize the criterion variable the researcher selected four independent variables from the OAQ: job satisfaction, job stress, career needs, importance, and career needs, satisfied. The findings of this study indicated an overall intent to stay on active duty. This information is especially important to the Navy Nurse Corps because of the overall nursing shortage worldwide and how it can potentially affect the entire Navy. These findings are consistent with Bedeian, Kemery, and Pizzolatto (1991), that the relationship between expected career growth opportunities and turnover intent was negative for subjects with higher career commitments. Career growth is a positive entity of the Navy organization that is evident even by the ribbons and medals that are proudly displayed on the uniform worn by Navy Nurse Corps officers.

Intent to Stay

Intent to stay is also closely related to commitment. Commitment reflects a strong acceptance of organizational goals, a willingness to sacrifice effort and energy on behalf of the organization and a desire to maintain organizational membership

(Porter et al., 1974). Just as organizational commitment reflects an individual's identification with, and loyalty to, some work organization; individuals

may be highly committed to their career and community (Morrow, 1983; Reichers, 1985). Put another way, job involvement and organizational commitment are intermediate, and value of work is more long term (Blau, Paul, & St. John, 1993). In a study by Steffy and Jones (1988) career commitment was greater among married female nurses who were satisfied with their marriage, engaged in dual-career planning, earned more than their husbands, engaged in coping behaviors to manage multiple role demands, engaged in individual career planning and did not have relatives living in the near vicinity. The impact of family and household factors on commitment domains cannot be ignored with Navy personnel and their families. Questions 1-7 of the OAQ represent the criterion variable, intent to stay and address all three aspects of commitment: organizational, career and job, indicating that individuals do make consistent distinctions between their job, organization, and work in general. Survey results indicated a likely willingness to stay on active duty.

Job Satisfaction

The findings for this study indicated a moderate level of job satisfaction though the developers of the scale do not provide a determination of a "satisfied" score. Using a 1 - 7 scale, the mean was 5.15 for the calibration sample and 5.18 and 5.32 for 1999 and 2000, respectively. Job satisfaction is very subjective in nature and can be expressed as a feeling of events or opportunities at work. Cumbe and Alexander (1998) discussed how job satisfaction is more complex than reaching conclusions from hospital-based descriptive research. Individuals bring different values and needs to their work situation; personalities, abilities, value, and needs, noting that these all change over time (Cumbe & Alexander, 1998).

The questions in the OAQ section of job satisfaction do not take into consideration whether the nurses experienced a recent change in their nursing assignment or if they had been in that position for a long time. The questions did not ascertain if the person volunteered for that particular job or whether it was assigned. Nor does it query the level of intensity of the work environment i.e. ambulatory care or intensive care nursing. It simply asks the respondent to reply to how satisfied they are with each aspect of their particular job. Satisfiers on the other hand can be converted into organizational strategies for retaining nursing staff. Various subscales of job satisfaction such as job security, pay, social, personal growth, supervisor, and overall job satisfaction are adequately reflected in the literature to describe job satisfaction. Group cohesiveness, professional growth, job security and autonomy were viewed as satisfiers to staff nurses and influenced their intention to stay in an institution (Hinshaw et al., 1987). Nursing supervisors can empower their staff and provide them with opportunities to excel in order to improve job satisfaction (Wilson & Laschinger, 1994). Buckingham and Coffman (1999) contested that great managers (immediate supervisors) have the most influence on jobs satisfaction and subsequently intent to stay. Nurse managers must create an environment that is both responsive and supportive (Cumbrey & Alexander, 1998). Conventional wisdom tells us that the manager role is no longer important yet managers play a vital and distinct role that charismatic leaders and self-directed teams are incapable of playing (Buckingham & Coffman, 1999).

Job Stress

The findings in this study indicated that Navy nurses are not especially stressed on the job. Job stress was rated on a scale of 1-7 with 1 being no stress at all and 7, an extreme amount of stress. The mean for job stress for the calibration sample was 3.6 while the means for 1999 and 2000 were 3.61 and 3.44 respectively. The subscales for job stress were supervisor stress, promotion, and job pressure. As with job satisfaction, job stress measures only a snapshot in time. Job stress among 19-25 year-old military nurses in the South African National Defense Force came as a surprise (vanWijk, 1997). However interviews from that study revealed that job stress was probably more of a reflection of having to deal with the demands of being an adult, new careers, being new to the geographic area and adjusting to the rigors of military organization (vanWijk, 1997). It appears that the OAQ adequately covers stressors that might be related more to the military life than to military nursing. However its reality is just as important to note and act upon.

Jamal (1990) found that when individuals perceive their jobs to be psychologically and physically threatening or harmful they are unlikely to say that they are satisfied with their job. Additional findings from that study of Canadian nurses indicated that the relationship between job stress and job satisfaction was negative (Jamal, 1990). Similar studies have found that job satisfaction buffered job stress and while job stress had no direct effect on anticipatory turnover, stress did influence job satisfaction (Hinshaw et al., 1987). While Navy nurses were not especially stressed on the job, they were moderately satisfied with their job. Job stress

was studied specifically in reference to the job of nursing. Job stress was not selective for the job component of being an officer in the Navy that may harbor other stressors. Conflict with work and family can increase job stress. One explanation of the relationship between stressors and conflict may be due to underlying processes like the amount of time and energy devoted to either work or family (Frone, Russell, & Cooper, 1992).

Recently there is interest in examining the psychological and physical energy devoted to activities within each domain of family and work. Difference in time and energy may help explain the impact that work and family have upon perceived job stress (Fox & Dwyer, 1999; Steffy & Jones, 1988). While the OAQ alludes to outside domains it does not specifically address issues such as nurses having learned to separate their work and family lives. Many nurses learn to separate work and family lives but this "depersonalization" may manifest itself as nurses coming to expect a lack of available time and energy to deal with parental and marital problems (Fox & Dwyer, 1999). While there is an abundance of literature showing that nurses are exposed to high levels of stress, some nurses are not as affected by job stressors (flight hypothesis) as why some nurses are very affected (fight hypothesis) (Fox & Dwyer, 1999). Finally, increasing evidence from the medical community shows that the ability to cope with stress to alleviate feelings of conflict and helplessness has important health implications (Fox & Dwyer, 1999). Although the overall stress level for this study was less than moderate, the range for the calibration sample was from 1.12-6.82, indicating that some nurses report an extreme amount of stress. More work

is needed to discover the intricacies of assessing job stress to include the conflicts between work and family atmospheres.

Career Needs

This study indicated that nurses found career needs to be important. Nurses were mildly satisfied in achieving those needs in the Navy. Career needs were rated on a scale of 1-5 with 1 being not important and 5, very important. In the calibration sample the mean for career needs, importance, was 4.37. The mean was 4.31 for both 1999 and 2000. For career needs satisfied, the mean for the calibration sample was 3.43. For 1999 and 2000, the mean was 3.41 and 3.45 respectively. The expectation that career needs would play a more important role was not supported. The reason could be similar to what vanWijk (1997) reported about stress: that the younger population adjusting to the demands of adulthood and to the new life of the military in general might preclude them from looking further into career needs that were elicited from the OAQ: training opportunities, family, retirement planning, personal growth, promotion, and geographic community. Without support from existing literature and in view that life cycle changes, family, and community have recently gained in popularity the findings of this study indicate an overall need for more research in this area. A qualitative approach to this aspect might produce more fruitful results.

Research Question #2

What is the relationship among job satisfaction, job stress, importance of career needs and how satisfying career needs are with intent to stay on active duty?

As expected, for the calibration sample and for 1999, all correlations in the matrix were statistically significant ($p < .05$). The percent of variance upon intent to stay was disappointing yet not surprising. For the calibration sample, job satisfaction ($r = .457$, $r^2 = .209$) accounted for 20.9% of the variance of intent to stay. Following was career needs, satisfied ($r = .379$, $r^2 = .144$), then job stress, negatively correlated, ($r = -.261$, $r^2 = .068$). Least reflection of a linear relationship was career needs, important ($r = .132$, $r^2 = .017$). For 1998 and 1999, job satisfaction was most highly correlated with intent to stay followed by career needs, satisfied, stress, and finally, career needs, important. For the year 2000 only job satisfaction and job stress were statistically significant ($p < .05$) and correlated with intent to stay. This outcome was not expected. The researcher expected all four predictor variables to be significantly correlated with intent to stay. These findings indicated that there are other reasons that affect nurses' intent to stay in the Navy. Variables not studied but included in the OAQ include organizational alignment, and the amount of debt a member owes back to the Navy due to their professional education. Variables not included in the OAQ but worth consideration for future study include the type of patient population normally treated in medical treatment facilities. Staffing in military vs. civilian hospitals has not been explored. Other components that comprise a Navy nurse's career that are outside of nursing, such as perpetual operational readiness and continual education of the Hospital Corpsmen should be considered.

Research Question #3

Which of the following four predictor variables: job satisfaction, job stress, importance of career needs and degree of satisfaction with career needs are most influential in predicting Navy nurses' intent to stay on active duty?

The purpose of multiple regression is to model or group variables that best predict a criterion variable. The correlations between the predictor variables and intent to stay were all positive except for job stress, which was expected. Thus while an increase in job stress is associated with intent to stay (correlation), when the other predictor variables are held constant (multiple regression), an increase in job stress is related to a decrease in intent to stay in the Navy.

The regression coefficient is interpreted as the effect of the predictor variables on the criterion variable Table 6. Job satisfaction ($b = .291$) was the most important variable on intent to stay in the Navy. Career needs, satisfied ($b = .162$) was the second most. Finally, career needs, important ($b = .150$) was least important on intent to stay. Job stress has a very low b ($b = -.010$) and was not significant.

Although the literature supports that job satisfaction is inversely proportional to job stress, it is not all that surprising that job stress does not significantly influence intent to stay. By nature of the organization, military and nursing, members may learn early on how to recognize and deal with job stress. Job stress could never be ignored for all of its ramifications but it may be a part of Navy nursing that has been incorporated into its corps.

Limitations

The generalizability of the study is limited due to the measurement of the Nurse Corps as a whole as opposed to breaking it out by command or type of duty station. Further examination by command: large or small medical treatment facility (MTF), duty assigned in the United States (CONUS), duty overseas (OCONUS), isolated duty or assignments outside the normal realm of nursing can be accomplished using the same surveys. By pinpointing the specific command researchers may learn whether the intent to stay is affected by a command, location, and possibly the leadership assigned to the command at the time of the survey.

This study did not address the organizational assessment section of the OAQ. Another modification of the methodology is to add organizational assessment after the second research question to measure the relationship among job satisfaction, job stress, importance of career needs and how satisfying career needs are and organizational assessment with intent to stay on active duty.

The OAQ was written for and administered to military members yet civilians and contract nurses can make up to 50% of the MTF nursing employment. Surveying only military nurses does not allow for input to the research questions from civilians and contract nurses. Receiving input from civilians and contractors who have no military obligation whatsoever, yet choose to work in the MTF as opposed to civilian hospitals, may shed light on the relationship of the predictor variables with the intent to stay. Administering this survey to civilian nurses may ultimately help delineate or identify what aspects of job satisfaction and stress are peculiar to the nursing profession alone versus the nursing profession as a military nurse.

Results for the alpha coefficient for intent to stay from the OAQ were lower compared with other instruments. The number of items, seven, may have contributed to that lower reliability. Expanding the section for intent to stay could be considered.

Implications and Recommendations

Nursing Administration

There will always be a focus on retention because of the type of nurses the Navy accesses (newly graduated, young and inexperienced). The Navy relies heavily on experienced personnel to serve as mentors, leaders, and trainers. Retention is not the business of the recruiters but the leadership of the organization who empower their staff (Wilson & Spence Laschinger, 1994). Therefore the middle and upper managers need to be acutely aware of the needs of the staff.

The calibration sample best represented the Nurse Corps population. From the ranks of 0-3 to 0-5, 64.8% responded to the survey in 1998. In 1999, 67% of the total were from those same ranks and in 2000, 72.4%. The age range for officers from the ranks of 0-3 to 0-5 is approximately late 20s to early 40s. Their time on active duty is approximately from 4-16 years. Depending on the duty station and job specialty, responsibilities can range from middle management to early upper level management. Since approximately two-thirds of the respondents indicated an overall intent to stay on active duty, it is important to target these individuals and explore further what motivates their intent to stay. Especially for the 0-3 ranking personnel, they generally have not been on active duty for greater than 10 years and do not necessarily intend to stay because retirement is in the near future (20 years). They certainly are in a position to influence the junior officers, positively or negatively. Their careers should

continue to be shaped commensurate with their potential influence upon junior personnel. A comparison with the duties and responsibilities of civilian nurses working outside of the military environment might also help guide the direction of the growth and development of these middle level nurse managers.

In contrast, the range of respondents for the rank of O-2, Lieutenant junior grade, was from 4.0-15.9%. This rank is achieved usually when there is still 1 -3 years remaining of obligated service. Soon they will decide whether to release from active duty or to accept another set of orders. They don't need as much supervision as they did a couple of years ago but they are not as experienced as independent thinkers nor do they have enough experience to be completely independent. Because of the lower return rate from the lieutenant junior grade officers it is difficult to determine whether the majority of O-2 officers intend to stay on active duty. Their lack of response may suggest that the middle managers should be targeted for opportunities for further growth and development.

The slowdown in the economy will help retain some nurses. However the nursing shortage makes it a nurses' market for choosing employment in the civilian community. Administration needs to continue to examine incentives and other tools to retain nurses. Congressionally mandated bonus authorities are the best tools because they can be precisely targeted and they have had a great record of accomplishment.

Nursing Research

By using the calibration sample, future researchers could examine other variables from the OAQ that might have a significant relationship with intent to stay.

For example, controlling for command, geographical region, age or rank to ascertain intent to stay on a more localized level may shed insight.

Researchers need to continue to perform cross validation as per the current study. If results are significant they can consider using the survey every two years instead of annually. Findings of the results should be published annually or as often as the survey is conducted and disseminate to senior leadership at each command and at the Bureau of Medicine and Surgery.

In lieu of the overall nursing shortage and with the increasing numbers of civilian and contract nurses working in the MTFs, it is advisable to add civilians and contract nurses to future mailings of the OAQ. A different perspective on job satisfaction, job stress and career needs may be presented by civilians and contract nurses who often have a choice to work at that MTF, including their specific place of assignment.

Researchers could also consider studying the predictor variables by gender. The ratio of male nurses is higher in the military than in the civilian community. The range of male respondents from 1998 – 2000 was from 27.2 – 37.5%.

The range of respondents from single and married military nurses was from 23.7% - 24.7% and 63.5% - 64.9% respectively from 1998-2000. Since approximately 40% more of the married nurses consistently responded to the survey it would be interesting to target these groups individually to ascertain if there is a difference among the predictor variables and intent to stay in the Navy.

Nurses will continue to be accessed through the civilian community but it is time to consider the exclusiveness and preeminence of military nurses. The unique roles of Navy nurses as officers, their sense of service and duty to the nation and the congressionally guided promotion system may be what differentiates them from civilian nurses when it comes to job satisfaction and stress with its impact on intent to stay.

There were no major world events from 1998-2000. Keeping in mind that statistical significance refers only to inferences beyond the sample at hand, evaluation of the data from the 2002 and 2003 surveys may be indicated to ascertain if intent to stay in the Navy has any relation to events such as the tragedy of September 11, 2001 and Operation Iraqi Freedom.

The OAQ is a very rich data source at the disposal of the Navy Medical Department. Administrators should consider supplementing the OAQ with a narrative account. Adding that qualitative arm to the survey may provide clearer insight into intent to stay in the Navy as well as enlighten the researcher as to the significance of each of the predictor variables.

References

References

- Aiken, L., Clarke, S., Sloane, D., Sochalski, J., & Silber, J. (2002). Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *Journal of the American Medical Association*, 288(16), 1987-1993.
- Aiken, L., Havens, D., & Sloan, D. (2000). The magnet nursing services recognition program. *American Journal of Nursing*, 100: 26-35.
- Backer, B. B. (1993). Lillian Wald: Connecting caring with activism. *Nursing and Health Care*, 14(3), 129.
- Baggs, J. G., & Ryan, S. A. (1990). ICU nurse-physician collaboration and nursing satisfaction. *Nursing Economics*, 8: 386-392.
- Bedeian, A., Kemery, E., & Pazzolatto, A. (1991). Career commitment and expected utility of present job as predictors of turnover intentions and turnover behavior. *Journal of Vocational Behavior*, 39(3), 331-343.
- Bednash, G. (2000). The decreasing supply of registered nurses: inevitable future or call to action? *Journal of the American Medical Association*, 283(22): 2985-2987.
- Berliner, H., & Ginzberg, E. (2002). Why this hospital nursing shortage is different. *Journal of the American Medical Association*, 288(21): 2742-2744.
- Bester, W. (2001). Unclassified statement by Brigadier General William T. Bester. *Committee on Appropriations Subcommittee on Defense*, 2001.
- Blau, G. (1985). The measurement and prediction of career commitment. *Journal of Occupational Psychology*, 58(4): 277-288.
- Blau, G., Paul, A. & St. John, N. (1993). On developing a general index of work commitment. *Journal of Vocational Behavior*, 42(3), 298-314.
- Blegen, M. (1993). Nurses' job satisfaction: a meta analysis of related variables. *Nursing Research*, 42(1): 36-41.
- Brannon, B. (2001). Unclassified statement by Brigadier General Barbara Brannon. *Committee on Appropriations Subcommittee on Defense*, 2001.

- Buckingham, M., & Coffman, C. (1999). *First, break all the rules*. New York: Simon & Schuster.
- Buerhaus, P., Staiger, D., & Auerbach, D. (2000). Implications of an aging registered nurse workforce. *JAMA*, 283(22), 2948-2954.
- Burns, N., & Grove, S. (2001). *The practice of nursing research conduct, critique, & utilization* (4th ed.). Philadelphia: W. B. Saunders Company.
- Buscherhof, J., & Seymour, E. (1990). On my own terms: The redefinition of success in nursing. *Image: Journal of Nursing Scholarship*, 22(2), 84-88.
- Cohen, A. (1996). On the discriminant validity of the Meyer and Allen measure of organizational commitment: how does it fit with the work commitment construct? *Educational and Psychological Measurement*, 56(3), 494-503.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- Cohen, S., & Wills, T. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, 98(2), 310-357.
- Cooper, C., & Parsons, R. (2002). The nursing shortage: Implications for military nurses. *Journal of Nursing Administration*, 32(3), 162-166.
- Cumbey, D., & Alexander, J. (1998). The relationship of job satisfaction with organizational variables in public health nursing. *Journal of Nursing Administration*, 28(5), 39-46.
- Curran, C., & Minnick, A. (1989). A model for hospital nurse retention: New findings. *Nursing Economics*, 7(6), 324-331.
- DePew, C., Gordon, M., Yoder, L., & Goodwin, C. (1999). The relationship of burnout, stress, and hardiness in nurses in a military medical center: a replicated descriptive study. *Journal of Burn Care & Rehabilitation*, 20(6), 515-522.
- Ehrenfield, M., & Bar-Tal, D. (1995). Identifying the coping behaviours used by nurses in intensive care. *Nursing Standard*, 9(32), 27-30.

- Falk R, A. (2000). Watson's Philosophy, science, and theory of human caring as a conceptual framework for guiding community health nursing practice. *Advances in Nursing Science*, 23(2), 34-49.
- Fox, M., & Dwyer, D. (1999). An investigation of the effects of time and involvement in the relationship between stressors and work-family conflict. *Journal of Occupational Health Psychology*, 4(2), 164-174.
- Frone, M., Russell, M., & Cooper, M. (1992). Antecedents and outcomes of work-family conflict: Testing a model of the work-family interface. *Journal of Applied psychology*, 77(1), 65-78.
- Gardner, D. (1991). Assessing career commitment - The role of staff development. *Journal of Nursing Staff Development*, 7(6), 263-267.
- Gardner, D. (1992). Career commitment in nursing. *Journal of Professional Nursing*, 8(3), 155-160.
- Gliner, J., & Morgan, G. (2000). *Research methods in applied settings: an integrated approach to design and analysis*. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Gould, R. (1972). The phases of adult life: a study in the developmental psychology. *American Journal of Psychiatry*, 129, 33-43.
- Graham, B. (1970). *Career mastery: a study of growth and decline of occupational identity among air traffic controllers at Los Angeles International Airport*. Unpublished doctoral dissertation, University of California, Los Angeles, 1970.
- Grant, G., Nolan, M., Maguire, B., & Melhuish, E. (1994). Factors influencing job satisfaction among nurses. *British Journal of Nursing*, 3(12), 615-620.
- Healy, C., & McKay, M. (2000). Nursing stress: the effects of coping strategies and job satisfaction in a sample of Australian nurses. *Journal of Advanced Nursing*, 31(3), 681-688.
- Hinshaw, A., Smeltzer, C. & Atwood, J. (1987). Innovative retention strategies for nursing staff. *Journal of Nursing Administration*, 17(6), 8-16.
- Horne, E. M. (1988). Your right to job satisfaction! *Professional Nurse*, 4(2):57.

- Hulley, S., Cummings, S., Browner, W., Grady, D., Hearst, N., & Newman, T. (2001). *Designing clinical research* (2nd ed.). Philadelphia: Lippincott Williams & Wilkins.
- Hutchison, B., All, A., Loving, G., & Nishikawa, H. (2001). Values identified in different groups of Air Force nurses. *Military Medicine*, 166(2), 139-145.
- Irvine, D. M., & Evans, M. G. (1995). Job satisfaction and turnover among nurses: Integrating research findings across studies. *Nursing Research*, 44(4), 246-253.
- Isabella, L. (1988). The effect of career stage on the meaning of key organizational events. *Journal of Organizational Behavior*, 9, 345-358.
- Jamal, M. (1990). Relationship of job stress and type-A behavior to employees' job satisfaction, organizational commitment, psychosomatic health problems, and turnover motivation. *Human Relations*, 43(8), 727-738.
- Jamal, M., & Baba, V. (1992). Shiftwork and department-type related to job stress, work attitudes and behavioral intentions: A study of nurses. *Journal of Organizational Behavior*, 13(5), 449-464.
- Joint Commission on Accreditation of Healthcare Organizations (August 2003). *Health Care at the Crossroads: Strategies for Addressing the Evolving Nursing Crisis*. Retrieved August 31, 2003 from <http://www.jcaho.org/about+us/public+policy+initiatives/health+care+at+the+crossroads.pdf>
- Kreuter, F. (1957). What is good nursing care? *Nursing Outlook*, 5(5), 302-304.
- Kupperschmidt, B. (1998). Understanding Generation X employees. *Journal of Nursing Administration*, 28(12), 36-43.
- Lazarus, R., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer: New York.
- Lee, V., & Henderson, M. (1996). Occupational stress and organizational commitment in nurse administrators. *Journal of Nursing Administration*, 26(5), 21-28.
- Leninger, M. (1977). The phenomenon of caring. Part V: Caring: the essence and central focus of nursing. *Nursing Research Report*, 12(1), 2, 14.
- Ma, C., Samuels, M. E., & Alexander, J. W. (2003). Factors that influence nurses' job satisfaction. *Journal of Nursing Administration*, 33(5), 293-299.

- Martin K. L. (2001). *Testimony of Rear Admiral Kathleen L. Martin, Nurse Corps Director. Before the Committee on Appropriations Subcommittee on Defense*. Retrieved on April 14, 2001 from <http://www.senate.gov/~appropriations/defense/hrgy02.htm>
- McDonald, F. (2003, March 31). FW: NC #s FY98-FY00 EOY. Message posted to CMPagliariara electronic mailing list, archived at <https://131.158.160.37/exchange/root.asp>
- McGowan, B. (2001). Self-reported stress and its effect on nurses. *Nursing Standard*, 15(42), 33-38.
- McNeese-Smith, D. (1995). Job satisfaction, productivity, and organizational commitment. *Journal of Nursing Administration*, 25(9), 17-26.
- McNeese-Smith, D., & vanServellen, G. (2000). Age, developmental, and job influences on nurse outcomes. *Outcomes Management for Nursing Practice*, 4(2), 97-104.
- Meyer, P. J., & Allen, J. N. (1984). Testing the side bet theory of organizational commitment: some methodological considerations. *Journal of Applied Psychology*, 69(3), 372-378.
- Moccia, P. (1988). At the faultline: social activism and caring. *Nursing Outlook*, 36(1), 30-33.
- Monti, E. J., & Tinggen, M. S. (1999). Multiple paradigms of nursing science. *Advances in Nursing Science*, 21(44), 64-80.
- Morrow, P. (1983). Concept redundancy in organizational research: The case of work commitment. *Academy of Management Review*, 8(3), 486-5000.
- Munro, B. (1997). *Statistical methods for health care research* (3rd ed.). Philadelphia: Lippincott.
- Muscroft, J., & Hicks, C. (1998). A comparison of psychiatric nurses' and general nurses' reported stress and counseling needs: a case study approach. *Journal of Advanced Nursing*, 27(6), 1317-1325.
- Nahm, H. (1940). Job satisfaction in nursing. *American Journal of Nursing*, 40(12), 1389-1392.
- Near, J., Rice, R., & Hunt, R. (1980). The relationship between work and nonwork domains: A review of empirical research. *Academy of Management Review*, 5, 415-429.

- Nelson, R. (2002). US nursing shortage a "national security concern". *The Lancet*, 360, 855.
- O'Brien, M. E. (2001). *The nurse's calling: A Christian spirituality of caring for the sick*. New York: Paulist Press.
- O'Brien, M. E. (1999). *Spirituality in nursing: Standing on holy ground*. Boston: Jones and Bartlett Publishers.
- Office of the Navy Nurse Corps Bureau of Medicine and Surgery. (2003). *Navy Nurse Corps Strategic Plan* [On-line] Retrieved on August 31, 2003 from <https://bumed.med.navy.mil/med00nc/>.
- O'Reilly, C. A., & Chatman, J. (1986). Organizational commitment and psychological attachment: The effects of compliance, identification and internalization on prosocial behavior. *Journal of Applied Psychology*, 71(3), 492-499.
- O'Rourke, K., Allgood, C., VanDerslice, J. & Hardy, M. A. (2000). Job satisfaction among nursing staff in a military health care facility. *Military Medicine*, 165(10): 757-761.
- Pedhazur, E. (1997). *Multiple regression in behavioral research* (3rd ed.). Philadelphia: Lippincott.
- Pedhazur, E., & Schmelkin, L. (1991). *Measurement, design, and analysis*. Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- Polit, D. (1996). *Data analysis and statistics*. Stamford, CT: Appleton & Lange.
- Polit, D., & Hungler, B. (1999). *Nursing Research Principles and Methods* (6th ed.). Philadelphia: Lippincott.
- Porter, L., Steers, R., Mowday, R., & Boulian, P. (1974). Organizational commitment, job satisfaction, and turnover among psychiatric technicians. *Journal of Applied Psychology*, 59(5), 603-609.
- Price, J., & Mueller, C. (1981). A causal model of turnover for nurses. *Academy of Management Journal*, 24(3): 543-565.
- Reichers, A. (1985). A review and reconceptualization of organizational commitment. *Academy of Management Review*, 10(3), 465-476.
- Reverby, S. (1987). A caring dilemma: Womanhood and nursing in historical perspective. *Nursing Research*, 36(1), 5-11.

- Santayana, G. (1905). *The life of reason* (Vol. 1). New York: Scribner.
- Shouksmith, G. (1994). Variables related to organizational commitment in health professionals. *Psychological Reports, 74*, 707-711.
- Steffy, B., & Jones, J. (1988). The impact of family and career planning variables on the organizational, career, and community commitment of professional women. *Journal of Vocational Behavior, 32* (2), 196-212.
- Swanson, K. (1991). Empirical development of a middle range theory of caring. *Nursing Research, 40*(3), 161-166.
- Tate, R. (1998). *An introduction to modeling outcomes in the behavioral and social sciences* (2nd ed.). Edina, Minnesota: Burgess Publishing.
- Taylor, S., White, B., & Muncer, S. (1999). Nurses' cognitive structural models of work-based stress. *Journal of Advanced Nursing, 29*(4), 974-983.
- Tett, R., & Meyer, J. (1993). Job satisfaction, organizational commitment, turnover intention, and turnover: path analyses based on meta-analytic findings. *Personnel Psychology, 46*(2), 259-293.
- Tyler, P., & Cushway, D. (1995). Stress in nurses: the effects of coping and social support. *Stress Medicine, 11*(4), 243-251.
- U.S. Department of Health and Human Services, Division of Nursing (n.d.). *The registered nurse population, March 2000: Findings from the national sample survey of registered nurses*. Rockville, MD: Spratley, E., Johnson, A., Sochalski, J., Fritz, M. & Spencer, W.
- Vandenberghe, C. (1999). Organizational culture, person-culture fit, and turnover: A replication in the health care industry. *Journal of Organizational Behavior, 20*(2), 175-184.
- vanWijk, C. (1997). Factors influencing burnout and job stress among military nurses. *Military Medicine, 162*(10), 707-710.
- Warr, P., Cook, J., & Wall, T. (1979). Scales for the measurement of some work attitudes and aspects of psychological well-being. *Journal of Operational Psychology, 52*, 129-148.
- Wilson, B., & Laschinger, H. K. (1994). *Staff nurse perception of job empowerment and organizational commitment, 24*(Suppl. 4), 39-47.

- Wittig, P., Tilton-Weaver, L., Patry, B., & Mateers, C. (2003). Variables related to job satisfaction among professional care providers working in brain injury rehabilitation. *Disability and Rehabilitation*, 25(2), 97-106.
- Wolf, Z. R. (1989). Uncovering the hidden work of nursing. *Nursing Health Care*, 10(8), 463-467.
- Wynd, C., & Atkins Schaefer, M. (2002). The osteoporosis risk assessment tool: establishing content validity through a panel of experts. *Applied Nursing Research*, 16(2), 184-188.
- Yoder, L. (1995). Staff nurses' career development relationships and self-reports of professionalism, job satisfaction, and intent to stay. *Nursing Research*, 44(5), 290-297.
- Yonge, O., & Molzahn, A. (2002). Exceptional nontraditional caring practices of nurses. *Scandinavian Journal of Caring Sciences*, 16(4), 399-405

Appendix A

Content Validity Questionnaire

Content Validity Questionnaire

Content validity is concerned with the sampling adequacy of a construct that is being measured. Please review the questions in this survey instrument and circle the number that is closest to your agreement or disagreement with the statement. There are no correct answers to these statements. The questions are designed to permit you to indicate the extent to which you agree or disagree with the ideas expressed.

Directions: The following four items refer to different feelings individuals may have about remaining in (or working with) the Navy (questions 1-7). Please circle the number that best describes your feelings at the present time.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The items measure intent to stay or retention for Nurse Corps officers.	5	4	3	2	1
2. The items are appropriate for this population.	5	4	3	2	1
3. The items are clear.	5	4	3	2	1
4. Interpretation of scores is relevant to retention.	5	4	3	2	1

Comments:

Directions: The following four items are used to describe different aspects of job satisfaction (questions 10-26). Please circle the number that best describes your feelings at the present time.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5. The items measure job satisfaction for Nurse Corps officers.	5	4	3	2	1
6. The items are appropriate for this population.	5	4	3	2	1
7. The items are clear.	5	4	3	2	1
8. Interpretation of scores is relevant to job satisfaction.	5	4	3	2	1

Comments:

Directions: The following four items refer to a number of different aspects of professional work life that relates to stress (questions 43-59). Please circle the number that best describes your feelings at the present time.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
9. The items measure job stress for Nurse Corps officers.	5	4	3	2	1
10. The items are appropriate for this population.	5	4	3	2	1
11. The items are clear.	5	4	3	2	1
12. Interpretation of scores is relevant to job stress.	5	4	3	2	1

Comments:

Directions: The following four items have been suggested as life career needs to individuals as they progress through different stages of their career (questions 85-112). Please circle the number that best describes your feelings at the present time.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
13. The items measure life career needs for Nurse Corps officers.	5	4	3	2	1
14. The items are appropriate for this population.	5	4	3	2	1
15. The items are clear.	5	4	3	2	1
16. Interpretation of scores is relevant to retention.	5	4	3	2	1

Comments:

Directions: Content Validity is quantified (or judged) in two steps; by determining that the instrument's individual elements are content valid AND that all the sections of the instrument used for this study is content valid (questions 1-7, 10-26, 43-59, and 85-112). The following four items address whether the items in the entire instrument adequately measure all dimensions of the construct. Please circle the number that best describes your feelings at the present time.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
17. The items are relevant in terms of adequately measuring <u>all</u> dimensions of the construct for Nurse Corps officers.	5	4	3	2	1
18. The items are appropriate for this population.	5	4	3	2	1
19. The items are clear.	5	4	3	2	1
20. Interpretation of scores is relevant to the variables of retention, job satisfaction, stress, and life career needs.	5	4	3	2	1

Comments:

Appendix B

Organizational Assessment Questionnaire

PRIVACY ACT STATEMENT

Authority. 5 USC 301, 10 USC 1071. **2. Purpose.** Medical research information will be collected to enhance basic medical knowledge or to develop tests, procedures, and equipment to improve the diagnosis, treatment, or prevention of illness, injury, or performance impairment. **3. Use.** Medical research information will be used for statistical analyses and reports by the Departments of the Navy, Defense, and other U.S. government agencies, provided this is compatible with the purpose for which the information was collected. Use of the information may be granted to non-government agencies or individuals by the Chief, Bureau of Medicine and Surgery, in accordance with the provisions of the Freedom of Information Act. **4. Disclosure.** I understand that all information derived from this study will be retained at Bureau of Medicine and Surgery, Bethesda Det., and that my anonymity will be maintained. I voluntarily agree to its disclosure to agencies or individuals identified in the preceding paragraph, and I have been informed that failure to agree to such disclosure may negate the purpose of the study.

OPNAV REPORT CONTROL SYMBOL: 6401-2; EXPIRATION: 31 DEC 01

Directions: The following seven items refer to different feelings individuals may have about remaining in (or working with) the Navy. Please circle the number that best describes your feelings at the present time.

1. If you stay in (or work with) the Navy through the next year, how likely is it that your career / professional needs will be met?
 1. Very Unlikely
 2. Unlikely
 3. Neither likely nor unlikely
 4. Likely
 5. Very likely
2. If you left (or stopped working with) the Navy, would you stay in your same type of work (patient care, administration)?
 1. Definitely no
 2. Probably no
 3. Uncertain
 4. Probably yes
 5. Definitely yes
3. How does your spouse, parent, or whoever is most important to you, feel about you being in (or working with) the Navy?
 1. Wants me to get out as soon as possible
 2. Thinks I should get out but says it's up to me
 3. Doesn't care one way or the other
 4. Thinks I should stay in but says it's up to me
 5. Thinks the Navy is a good career choice
4. If given the opportunity, during the next year, you would: (Circle only one)
 1. Definitely leave (or stop working with) the Navy
 2. Probably leave (or stop working with) the Navy
 3. Not sure about leaving or staying with the Navy
 4. Probably stay with the Navy
 5. Definitely stay with the Navy
5. What are your plans to stay working for the Navy?
 1. I intend to leave as soon as possible
 2. I will leave unless something better turns up here.
 3. I will leave if something better turns up elsewhere
 4. I will leave only if an excellent opportunity turns up
 5. I intend to stay until I retire / contract ends
6. How likely is it that you can leave your job with the Navy and get one like it somewhere else?
 1. Not at all likely
 2. Somewhat unlikely
 3. As likely as not
 4. Likely
 5. Very likely
7. Do you plan to augment (or renew your contract)?
 1. Not applicable / Not eligible
 2. Definitely no
 3. Probably no
 4. Uncertain
 5. Probably yes
 6. Definitely yes

Directions: Listed below are items that describe about how a person might feel about their current assignment. Circle the appropriate number beside each statement which describes how you feel.

8. To what extent does the position you occupy match your level of training, experience and ability?
 1. Not at all
 2. To a small extent
 3. To some extent
 4. To a great extent
 5. To a very great extent
9. Your current primary duty is: (Circle only one)
 1. Clinical
 2. Administrative
 3. Supervisory
 4. Research
 5. Other: _____

Directions: Listed below are a number of statements which could be used to describe different aspects of job satisfaction. Circle the appropriate number beside each statement which describes how satisfied you are with this aspect of your job.

	Extremely Dissatisfied	Dissatisfied	Slightly Dissatisfied	Neutral	Slightly Satisfied	Satisfied	Extremely Satisfied
10. The amount of job security I have.	1	2	3	4	5	6	7
11. The amount of pay and fringe benefits I receive.	1	2	3	4	5	6	7
12. The amount of personal growth and development I get in doing my job.	1	2	3	4	5	6	7
13. The people I talk to and work with on my job.	1	2	3	4	5	6	7
14. The degree of respect and fair treatment I receive from my boss.	1	2	3	4	5	6	7
15. The feelings of worthwhile accomplishment I get doing my job.	1	2	3	4	5	6	7
16. The chance to get to know other people within the job.	1	2	3	4	5	6	7
17. The amount of support and guidance I receive from my supervisor.	1	2	3	4	5	6	7
18. The degree to which I am fairly paid for what I contribute to the Navy.	1	2	3	4	5	6	7
19. The amount of independent thought and action I can exercise in my job.	1	2	3	4	5	6	7
20. How secure things look for me in the future with the Navy.	1	2	3	4	5	6	7
21. The chance to help other people while at work.	1	2	3	4	5	6	7
22. The amount of challenge in my job.	1	2	3	4	5	6	7
23. The overall quality of the supervision I receive in my work.	1	2	3	4	5	6	7

Directions: Each of the statements below is something that a person might say about his or her own job. CIRCLE the appropriate number beside each statement which describes how satisfied you are with this aspect of your job.

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
24. Generally speaking, I am very satisfied with this job.	1	2	3	4	5	6	7
25. I frequently think of quitting this job.	1	2	3	4	5	6	7
26. I am generally satisfied with the kind of work I do in this job.	1	2	3	4	5	6	7

Directions: Below are a number of items that describe different aspects about your command. Rate your level of agreement with each statement by circling either a "1" (Strongly Disagree) through "7" (Strongly Agree). Please circle only one number per question.

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
27. Command strategies are clearly communicated to me.	1	2	3	4	5	6	7
28. Command strategies guide the identification of skills and knowledge I need to have.	1	2	3	4	5	6	7
29. People here are willing to change when new command strategies require it.	1	2	3	4	5	6	7
30. My department agrees on the command strategies.	1	2	3	4	5	6	7
31. For each service that my command provides, there is an agreed-upon prioritized list of what our customers want.	1	2	3	4	5	6	7
32. People in this command are provided with useful information about customer complaints.	1	2	3	4	5	6	7
33. Strategies are regularly reviewed to ensure the satisfaction of critical customer needs.	1	2	3	4	5	6	7
34. Procedures are reviewed regularly to ensure that they contribute to achieving customer satisfaction.	1	2	3	4	5	6	7
35. Our command collects information from staff about how well things work.	1	2	3	4	5	6	7
36. My work unit or team is rewarded for our performance as a team.	1	2	3	4	5	6	7

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
37. Groups within the command cooperate to achieve customer satisfaction.	1	2	3	4	5	6	7
38. When processes are changed, the impact on staff satisfaction is measured.	1	2	3	4	5	6	7
39. Our department heads care about how work gets done as well as the results.	1	2	3	4	5	6	7
40. My work group or team reviews our processes regularly to see how well they are functioning.	1	2	3	4	5	6	7
41. When something goes wrong, my work group or team corrects the underlying reasons so that the problem will not happen again.	1	2	3	4	5	6	7
42. Processes are reviewed to ensure they contribute to the achievement of the strategic goals.	1	2	3	4	5	6	7

Directions: Below are a number of different aspects of professional work life. Please indicate how much stress you feel because of these aspects. Place the appropriate number in the blank next to each question.

	NO STRESS AT ALL	A FAIR BUT TOLERABLE AMOUNT			AN EXTREME AMOUNT OF STRESS		
	1	2	3	4	5	6	7
43. _____ Politics, rather than performance, affecting organizational decisions.							
44. _____ Not clearly understanding what is expected of you on your job.							
45. _____ The lack of training and development opportunities.							
46. _____ Receiving conflicting demands from your supervisor.							
47. _____ Management not being receptive to input from the employee.							
48. _____ Having too much work to do and not enough time to do it.							
49. _____ The quality of supervision you receive.							
50. _____ The pay that you receive.							
51. _____ Not using your skills, knowledge, or abilities to their fullest extent.							
52. _____ Having responsibilities for others.							
53. _____ Not having adequate training to complete your job.							
54. _____ High performance standards.							
55. _____ The lack of job security.							
56. _____ Your promotion progress.							
57. _____ The way the authority system is structured (including red tape and paperwork).							
58. _____ Deadlines and/or time schedules.							
59. _____ The nature of the work you do.							

Directions: Based on the information provided above, for each of the two questions below, to what extent does the stress you experience on the job: (Circle one number for section "A" and one number for section "B.")

60A: Both or upset you?	60B: Interfere with your job performance?
1. Not at all	1. Not at all
2. To a small extent	2. To a small extent
3. To some extent	3. To some extent
4. To a great extent	4. To a great extent
5. To a very great extent	5. To a very great extent

Directions: Listed below are statements that describe about how a person might feel about the organization for which they work. Circle the appropriate number beside each statement which describes how you feel about the Navy.

	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
	1	2	3	4	5
61. I would be very happy to spend the rest of my career with the Navy.					
62. I am not afraid of what might happen if I quit my job without having another one lined up.					
63. I think that people these days move from company to company too often.					
64. I enjoy discussing the Navy with people outside of the Navy.					
65. It would be very hard for me to leave (or stop working with) the Navy right now, even if I wanted to.					
66. I do not believe that a person must always be loyal to his or her organization.					
67. I really feel as if the Navy's problems are my own.					
68. Too much in my life would be disrupted if I decided I wanted to leave (or stop working with) the Navy now.					

	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
69. Jumping from organization to organization does not seem at all unethical to me.	1	2	3	4	5
70. I think that I could easily become as attached to another organization as I am to the Navy.	1	2	3	4	5
71. It would not be too costly for me to leave (or stop working with) the Navy now.	1	2	3	4	5
72. One of the major reasons I continue to stay in (or work with) the Navy is that I believe loyalty is important and feel a sense of moral obligation to remain.	1	2	3	4	5
73. I do not feel like "part of the family" in (or working with) the Navy.	1	2	3	4	5
74. Right now, staying in (or working with) the Navy is a matter of necessity as much as desire.	1	2	3	4	5
75. If I got another offer for a better job elsewhere I would not feel it was right to leave (or stop working with) the Navy.	1	2	3	4	5
76. The Navy has a great deal of personal meaning for me.	1	2	3	4	5
77. One of the few serious consequences of leaving (or stop working with) the Navy would be the scarcity of available alternatives.	1	2	3	4	5
78. Things were better in the days when people stayed with one organization for most of their careers.	1	2	3	4	5
79. I do not feel a strong sense of belonging to the Navy.	1	2	3	4	5
80. One of the major reasons I continue to stay in (or work with) the Navy is that leaving would require considerable personal sacrifice--another organization may not match the overall benefits I have in the Navy.	1	2	3	4	5
81. I do not think that wanting to be a "company person" is sensible anymore.	1	2	3	4	5
82. I do not feel "emotionally attached" to the Navy.	1	2	3	4	5
83. I feel I have too few options to consider leaving (or working with) the Navy.	1	2	3	4	5
84. I was taught to believe in the value of remaining loyal to one's organization.	1	2	3	4	5

Directions: The following issues have been suggested as career needs to individuals as they progress through different stages of their career. Please use the scale on the left to rate how "Important" each one of these career needs is to you. Please use the scale on the right to rate how "Satisfied" you are in achieving these career needs with the Navy. Be sure to circle one number per item per scale.

	IMPORTANT					SATISFIED				
	Not At All Important	Not Sure	Very Important	Very Dissatisfied	Not Sure	Very Satisfied				
85. Achieving financial security after retirement.	1	2	3	4	5	1	2	3	4	5
86. Obtaining education/training opportunities.	1	2	3	4	5	1	2	3	4	5
87. Having good sponsors or mentors who can guide and assist with my career.	1	2	3	4	5	1	2	3	4	5
88. Preparing for my second career after retirement.	1	2	3	4	5	1	2	3	4	5
89. Getting the jobs that help get promoted.	1	2	3	4	5	1	2	3	4	5
90. Getting good ratings on my eval/fitness or performance report.	1	2	3	4	5	1	2	3	4	5
91. Feelings of integrity.	1	2	3	4	5	1	2	3	4	5
92. Achieving my career goals.	1	2	3	4	5	1	2	3	4	5
93. Gaining freedom from economic burdens.	1	2	3	4	5	1	2	3	4	5
94. Gaining greater closeness with family and/or friends.	1	2	3	4	5	1	2	3	4	5
95. Fulfillment of personal emotional needs.	1	2	3	4	5	1	2	3	4	5
96. Job security.	1	2	3	4	5	1	2	3	4	5
97. Adapting to growth and change in my spouse.	1	2	3	4	5	1	2	3	4	5
98. Opportunities for advancement.	1	2	3	4	5	1	2	3	4	5
99. Meeting my other family needs.	1	2	3	4	5	1	2	3	4	5
100. Adapting to growth and changes in my children.	1	2	3	4	5	1	2	3	4	5
101. Adapting to changes in society.	1	2	3	4	5	1	2	3	4	5
102. Cost of living in different areas.	1	2	3	4	5	1	2	3	4	5
103. Housing	1	2	3	4	5	1	2	3	4	5
104. Medical care.	1	2	3	4	5	1	2	3	4	5
105. Schools	1	2	3	4	5	1	2	3	4	5
106. Churches	1	2	3	4	5	1	2	3	4	5
107. Social/recreational opportunities	1	2	3	4	5	1	2	3	4	5
108. Where I live	1	2	3	4	5	1	2	3	4	5
109. Awards and recognition	1	2	3	4	5	1	2	3	4	5
110. Family support services	1	2	3	4	5	1	2	3	4	5
111. Maintaining professional skills	1	2	3	4	5	1	2	3	4	5
112. Finding child care	1	2	3	4	5	1	2	3	4	5

Directions: The following questions concern your general background. Unless a written response is required, please circle the number of the most appropriate answer.

113. Rank (numerical):

- 1. Enlisted
- 2. Officer
- 3. GS
- 4. Contractor

115. Organizational Position:

- 1. ESC-level
- 2. Senior Management (e.g., Director / Department Head)
- 3. Junior Management (e.g., Division Officer / CPO)
- 4. Staff

114. Gender:

- 1. Male
- 2. Female

Directions: What are the three most positive aspects of working at this command? Your responses are completely anonymous. Please be candid, legible and concise.

1. _____

2. _____

3. _____

Directions: What are the three aspects most in need of improvement in working at this command? Your responses are completely anonymous. Please be candid, legible and concise.

1. _____

2. _____

3. _____

Appendix C

Reliability

Reliability for Analysis for the Retention Scale
from 1998 OAO

Question Number	Mean	Standard Deviation
1.	3.4588	1.2208
2.	3.9704	1.0947
3.	3.6216	1.3029
4.	3.7526	1.3748
5.	3.9746	1.3527
6.	4.4588	.9736
7.	3.2262	2.1632

N of Cases = 473.0

Reliability Coefficients, 7 items

Alpha = .6102

Standardized item alpha = .6145

Reliability for Analysis for the Job Satisfaction Scale from 1998 OAO

Question Number	Mean	Standard Deviation
10	5.7480	1.3529
11	5.5142	1.2962
12	5.0488	1.5961
13	5.5752	1.3450
14	5.2642	1.7811
15	5.2663	1.5790
16	5.5915	1.2611
17	4.7256	1.9104
18	5.1972	1.5580
19	5.0772	1.7438
20	4.7724	1.6535
21	5.9593	1.0614
22	5.3862	1.4822
23	4.8130	1.7806
24	5.0447	1.7048
25	3.4634	1.9413
26	5.3476	1.4773

N of Cases = 492

Reliability Coefficients, 17 items

Alpha = .8892

Standardized item alpha = .8975

Reliability for Analysis for the Job Stress Scale

from 1998 OAQ

Question Number	Mean	Standard Deviation
43	5.2394	1.4929
44	3.4903	1.8279
45	3.3224	1.8530
46	3.4633	1.9584
47	4.0232	1.9549
48	4.3687	1.8589
49	3.4884	1.8944
50	2.8243	1.7454
51	3.6216	1.9756
52	3.1293	1.6714
53	2.9112	1.7426
54	2.9305	1.6790
55	2.6429	1.8497
56	3.5907	2.0765
57	4.9672	1.6517
58	3.8340	1.6769
59	3.6409	1.7108

N of Cases = 518.0

Reliability Coefficients, 17 items

Alpha = .8454

Standardized item alpha = .8460

Reliability for Analysis for the Career Needs Scale, Importance, from 1998OAQ

Question Number	Mean	Standard Deviation
85	4.8992	0.3692
86	4.7683	0.5381
87	4.5743	0.7301
88	3.9295	1.1349
89	4.1058	1.0439
90	4.6096	0.6714
91	4.7481	0.4944
92	4.3904	0.8356
93	4.6650	0.6123
94	4.6902	0.6132
95	4.4937	0.6420
96	4.6373	0.5724
97	4.2997	1.1071
98	4.5743	0.6762
99	4.6096	0.7629
100	4.2670	1.2141
101	3.9471	0.9072
102	4.2368	0.9125
103	4.3602	0.8280
104	4.6725	0.6184
105	4.1637	1.2085
106	3.8942	1.2629
107	4.1940	0.7818
108	4.4257	0.7335
109	4.1058	0.9150
110	3.8136	1.1149
111	4.7380	0.4892
112	3.3451	1.6725

N of Cases = 397.0

Reliability Coefficients, 28 items

Alpha = .8842

Standardized item alpha = .9005

Reliability for Analysis for the Career Needs Scale, Satisfaction, from 1998 OAQ

Question Number	Mean	Standard Deviation
SAT85	3.3029	1.0968
SAT86	3.6941	1.1265
SAT87	2.9118	1.2209
SAT88	3.2824	.9135
SAT89	3.1941	1.1434
SAT90	3.5412	1.1629
SAT91	3.7794	.9962
SAT92	3.6088	1.0290
SAT93	3.5588	.9310
SAT94	3.0765	1.1598
SAT95	3.2206	1.0787
SAT96	3.8059	.9914
SAT97	3.4353	1.0299
SAT98	3.4176	1.0084
SAT99	3.1882	1.0333
SAT100	3.2294	.9898
SAT101	3.3500	.7821
SAT102	3.2941	1.0023
SAT103	3.4265	1.1013
SAT104	3.7059	1.1374
SAT105	3.3324	.9798
SAT106	3.6794	.9089
SAT107	3.6471	.9275
SAT108	3.7735	1.0469
SAT109	2.9088	1.1976
SAT110	3.4471	.7872
SAT111	3.4794	1.1009
SAT112	3.1941	1.0062

N of Cases = 340.0

Reliability Coefficients, 28 items

Alpha = .9050

Standardized item alpha = .905

CURRICULUM VITAE

Claire Marie Pagliara was born on March 21, 1948 in Morristown, New Jersey. She is a citizen of the United States. She graduated from Bayley Ellard High School, Madison, New Jersey, in 1973. She received a Bachelor of Science in Nursing from Seton Hall University in 1977. Claire joined the Navy Nurse Corps later that year and while stationed at the National Naval Medical Center she earned her Masters of Science Degree in Nursing from Catholic University of America (1981). Her various naval assignments included clinical work in pediatrics and as a neurosurgical clinical specialist. She was the Maternal/Child Department Head while stationed in Okinawa. Claire served as a Hospital Corps School instructor, Nurse Corps assignment officer, Specialty Leader to the Navy Surgeon General for dental infection control, and member of the faculty of the Naval Postgraduate Dental School. Currently she is assigned as a nurse researcher and the nursing supervisor during mass casualty and emergency situations at the National Naval Medical Center, Bethesda, MD. Claire Pagliara is a member of Sigma Theta Tau International, the Navy Nurse Corps Association, and Office for Safety and Asepsis Procedures.