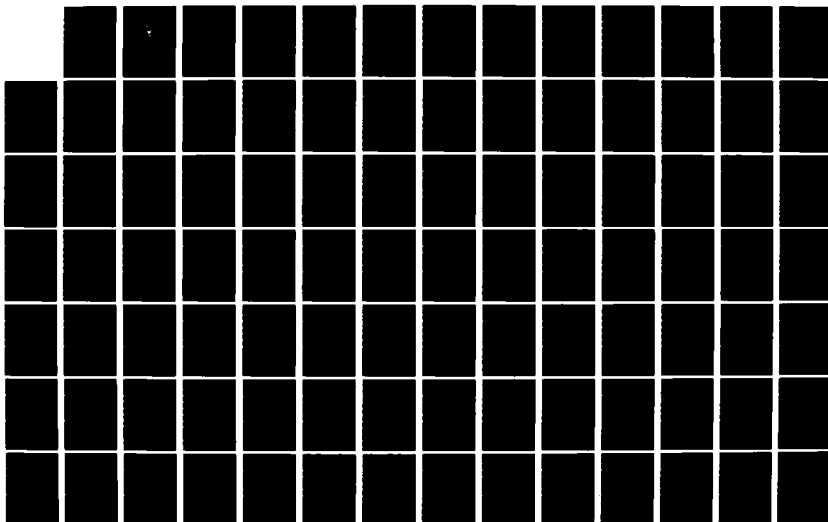AD-A127 806    A MULTIVARIATE ANALYSIS OF NAVY FIRST TERM ENLISTED     1/2
              TURNOVER INTENTIONS(U) NAVAL POSTGRADUATE SCHOOL
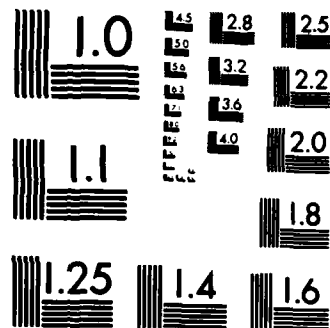              MONTEREY CA   S L CHRISTENSEN MAR 83

UNCLASSIFIED                                 F/G 5/9      NL

MICROCOPY RESOLUTION TEST CHART

NATIONAL BUREAU OF STANDARDS-1963-A

# NAVAL POSTGRADUATE SCHOOL
## Monterey, California

# THESIS

A MULTIVARIATE ANALYSIS OF NAVY FIRST TERM
ENLISTED TURNOVER INTENTIONS

by

Sandra L. Christensen

March 1983

Thesis Advisor:                    G. W. Thomas

Approved for public release; distribution unlimited.

83

| REPORT DOCUMENTATION PAGE | | READ INSTRUCTIONS BEFORE COMPLETING FORM |
|---|---|---|
| 1. REPORT NUMBER | 2. GOVT ACCESSION NO. | 3. RECIPIENT'S CATALOG NUMBER |
| 4. TITLE (and Subtitle)<br><br>A Multivariate Analysis of Navy First Term Enlisted Turnover Intentions | | 5. TYPE OF REPORT & PERIOD COVERED<br>Master's Thesis;<br>March 1983 |
| | | 6. PERFORMING ORG. REPORT NUMBER |
| 7. AUTHOR(s)<br><br>Sandra L. Christensen | | 8. CONTRACT OR GRANT NUMBER(s) |
| 9. PERFORMING ORGANIZATION NAME AND ADDRESS<br><br>Naval Postgraduate School<br>Monterey, California 93940 | | 10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS |
| 11. CONTROLLING OFFICE NAME AND ADDRESS<br><br>Naval Postgraduate School<br>Monterey, California 93940 | | 12. REPORT DATE<br>March 1983 |
| | | 13. NUMBER OF PAGES<br>96 |
| 14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office) | | 15. SECURITY CLASS. (of this report)<br>Unclassified |
| | | 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE |

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

| | | |
|---|---|---|
| turnover | determinants of turnover | |
| turnover intentions | retention | first term enlisted |
| voluntary separation | labor mobility | turnover |
| reenlistment intentions | leavers | |
| separation | labor turnover | |

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The purpose of this thesis was to develop and test a voluntary turnover model to examine reenlistment intentions among first term Navy enlistees within one year of expiration of active obligated service (EAOS). A multivariate regression analysis was used to examine the influences of various non-pecuniary and pecuniary explanatory variables on the linear and logistic form of intentions to reenlist. Demographic —

DD FORM 1473 EDITION OF 1 NOV 65 IS OBSOLETE
JAN 73
S/N 0102-014-6601 |

1

#20 - ABSTRACT - (CONTINUED)

and tenure variables were not significant in the analysis results. A revised model was developed and the results indicated that specific job aspects relative to the perceived existence of alternatives and satisfaction with military life need to be identified with further empirical analysis in order to pursue appropriate effective policies.

| Accession For | | |
|---|---|---|
| NTIS CRA&I | ✓ | |
| DTIC TAB | ☐ | |
| Unannounced | ☐ | |
| Justification | | |
| By | | |
| Distribution/ | | |
| Availability Codes | | |
| | Avail and/or | |
| Dist | Special | |
| A | | |

A Multivariate Analysis of Navy First Term
Enlisted Turnover Intentions

. by

Sandra L. Christensen
Lieutenant Commander, United States Navy
B.A., Kansas Wesleyan University, 1969

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL

March 1983

Author: _____

Approved by: _____
_____ Thesis Advisor

_____ Second Reader

_____
Chairman, Department of Administrative Sciences

_____
Dean of Information and Policy Sciences

3

# ABSTRACT

The purpose of this thesis was to develop and test a
voluntary turnover model to examine reenlistment intentions
among first term Navy enlistees within one year of expiration
of active obligated service (EAOS). A multivariate regression
analysis was used to examine the influences of various non-
pecuniary and pecuniary explanatory variables on the linear
and logistic form of intentions to reenlist. Demographic
and tenure variables were not significant in the analysis
results. A revised model was developed and the results
indicated that specific job aspects relative to the perceived
existence of alternatives and satisfaction with military
life need to be identified with further empirical analysis
in order to pursue appropriate effective policies.

4

## TABLE OF CONTENTS

# LIST OF TABLES

# LIST OF FIGURES

8

# I. INTRODUCTION

Sustaining the All Volunteer Force for both peacetime manning and wartime mobilization depends upon the services' ability to retain the requisite number of qualified and experienced men and women. The available supply of experienced service personnel is affected by both first term attrition rates and retention rates. Retention is consistently suggested as the principal, singular manpower problem faced by the Department of Defense and the Navy in recent years [Korb, 1982; Pierce, 1981; Coleman, 1982]. The product of first term attrition losses and low retention rates is increased recruit accessions. Therefore a key to reducing recruiting costs and entry level quotas is to increase first term retention.

The retention of enlisted personnel at the end of their first active duty obligated service (EAOS) is affected by many factors including perceived alternate opportunities in the private sector and military career incentives. Some important reenlistment incentives applied by the services have been expanded promotion opportunities, favorable assignment locations, monetary compensation, and certain quality of life improvements.

Declining reenlistment trends and significant shortages of non-commissioned officers (NCOs) particularly in enlisted paygrades E-5 through E-9, have been evident for several

9

years in all services, but have particularly plagued the United States Navy [Department of Defense, 1980]. The impact of this shortage in the Navy has resulted in the deficit manning of technical ratings (occupations), the impairment of fleet readiness and the shift to a younger enlisted force [U.S. Congress, 1981]. The largest shortfall of petty officers, about 23,000 (E-5 through E-9), occurred in 1980, after which declining reenlistment and retention rates were arrested by a deteriorating national economy and by significant compensation incentives enacted by Congress with the restoration of pay scales compatible with the civilian sector [U.S. Congress, 1981; U.S. Congress, 1982; Maze, 1982a].

Congressional support of increased military compensation positively affected the DOD aggregate figures of NCOs. As indicated in Table I, reenlistment rates for first-term across DOD increased from 37% in FY79 to 39% in fiscal year 1980 and 43% in 1981. As shown in Table I, career reenlistments achieved a 76% level at the end of fiscal year 1981. The progress of retention continues to receive preferential attention by Navy personnel managers [Department of Defense, 1980].

The petty officer shortfall is expected to decline from 1980 through the next five years, but it will take a long time to recover fully from the cumulative and detrimental impact of the personnel deficit. The direction of this prior NCO shortage continues to be monitored by DOD (see

TABLE I

DOD Reenlistment Rates, FY 1975-82*

| Category | FY 1975 | FY 1978 | FY 1979 | FY 1980 | FY 1981 | FY 1982 (9 Months) |
|----------|---------|---------|---------|---------|---------|--------------------|
| First-Term | 37 | 37 | 37 | 39 | 43 | 58 |
| Career | 81 | 71 | 68 | 70 | 76 | 85 |

*Reenlistments shown as a percentage of those eligible to reenlist.

Source: Weinberger, Casper (Chairman), Military Manpower Task Force, October 1982, p. III-4.

Table II). By the end of fiscal year 1983, it is anticipated that the projected shortage will drop to 17,800 as indicated in Figure 1 [Maze, 1982a, Weinberger, 1982]. Actual strength estimated at a time of fleet expansion is based upon assumptions of sustaining favorable recruiting and retention in the future.

Money appears to be the most professed prescription for solving personnel shortages [Pierce, 1981]. Military compensation will have to keep step with compensation incentives offered by the civilian sector in order for the service to remain as an attractive economic alternative. Otherwise low retention will result along with high turnover rates.

One method by which the Navy promotes retention and attempts to offset the petty officer manning gaps is by the Selective Reenlistment Bonus (SRB) program [Maze, 1982b].

TABLE II

NCO Shortages as a Percent of Authorized NCO's, FY 1981

| Service | Shortage (%) | |
|---|---|---|
| Army | 1 | Note 1 |
| Navy | 10 | |
| Marine Corps | 8 | Note 2 |
| Air Force | 0 | Note 3 |
| DOD | 4 | |

Source: Weinberger, Casper (Chairman), Military Man-
power Task Force, October 1982, p. III-16.

Notes: 1. Army's aggregate NCO shortage declines in FY74 to
3,000 in FY80. It is anticipated that this
shortage will be eliminated after FY83.

2. The Marine Corp's aggregate shorfall of 4,000
NCOs is primarily due to an increase in FY80
and FY81 end strengths. This shortage is
expected to be eliminated after 1984.

3. The Air Force has no aggregate shortage; it
does have 5% skill shortage of NCOs (10,000)
and a 5% average in other skills.

The disadvantages of the bonus program are its inconsistency

and unpredictability. The bonuses vary by rating and are

subject to annual readjustments predicated upon the manning

level and demand for the rating. The advantage of the SRB

program is its tremendous cost savings from retaining experi-

enced personnel, thereby reducing required investments in

recruiting and training new personnel [Enns, 1977; Maze, 1982b].

Every dollar spent on SRB is estimated to save $2.50 in

## Petty Officer Shortage*
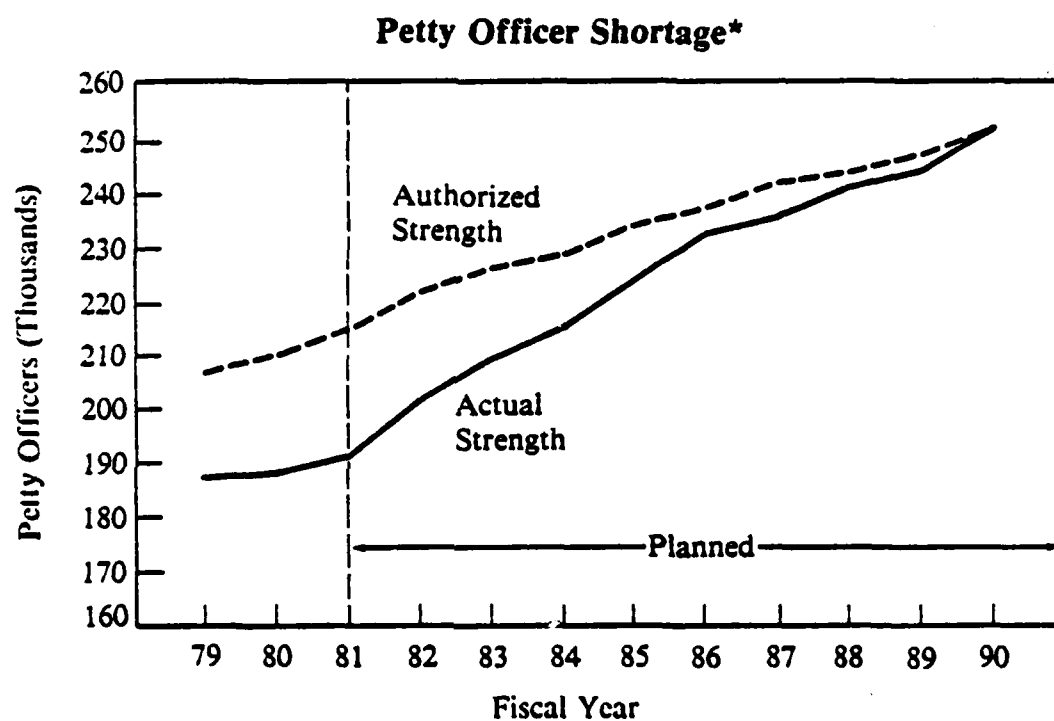


*Grades E-5 to E-9.

Figure 1.  Petty Officer Shortage

Source:  Weinberger, Casper (Chairman), Military Task
         Force, October 1982, P. III-18.

13

recruiting and training costs [Maze, 1982b]. However the
SRB program in general appears to be policy-driven and only
a short-term fix for a long-range personnel shortage problem
[Iosue, 1982].

Relatively few research studies on enlisted personnel
have focused on the factors which influence the service
member's decision to reenlist at the end of the EAOS. More
empirical research needs to be done concerning the relation-
ship among both pecuniary and non-pecuniary factors which
influence voluntary separation. Personnel policy makers
could use the results of such research to both direct monies
with more efficiency and to undertake effective policy
changes concerning non-pecuniary factors such as work
conditions.

This thesis examines a set of explanatory variables which
are both pertinent to turnover among enlisted personnel and
which are empirically available through the 1978 Department
of Defense Survey of Officer and Enlisted Personnel [Doering
et al, 1981]. A multivariate turnover model is constructed
to illustrate the relationships among and between important
pecuniary and non-pecuniary determinants of turnover. Statis-
tical evaluation of the turnover model should provide insight
into the relative significance of the examined determinants
of retention.

Chapter II introduces the concept of turnover and dis-
cusses its principal aspects. Different civilian and military
terminology for turnover will be discussed. The chapter

also reviews literature relevant to the turnover process
for both the civilian population and for reenlistment of
military personnel.

Chapter III presents the methodology selected to study
turnover. A description of the data base is provided and
an initial conceptual model of turnover relative to reenlist-
ment is presented. Categories of the determinants of turn-
over are discussed. Major independent candidate variables
and their measures are presented. Finally the chapter
discusses the methods and procedures employed to perform
statistical analyses.

Chapter IV presents the results of the application of
the turnover model to the data findings. The interrelation-
ships among key determinants and the interrelationship
between the explanatory variables with reenlistment inten-
tions will be explored through multiple regression. A
multivariate analysis of the primary determinants of turnover
(retention) is presented along with a discussion of the
statistical relationships. Policy implications of the
analyses in Chapter III are outlined and directions for
future research are discussed.

## II. THE CONCEPT OF TURNOVER

### A. TURNOVER AS VOLUNTARY SEPARATION

Turnover is one type of labor mobility [Price, 1977].
For the purposes of this thesis, turnover represents the
process of movement of an employee out of an organization.
In this process an individual first evaluates his job, weigh-
ing external and internal factors unique to the situation,
and examines perceived alternate opportunities. When turn-
over occurs, this cognitive process leads to a voluntary
decision to leave the job [Price, 1977, p. 5-8]. The deci-
sion to quit or stay is of significance to the individual.
The employee who leaves represents both an individual and
aggregate behavioral phenomenon to the organization [Baysinger
and Mobley, 1982]. Neither an individual leaver nor aggre-
gate separations can be isolated from the impact or influence
of the other. Productivity, absenteeism and turnover have
been identified as three criteria which are recognized by
employers as distinguishing characteristics of each employee
[March and Simon, 1958].

In studies pertaining to the civilian population, terms
synonymous with turnover often used are: mobility, labor
turnover, withdrawal from work, absence, leavers, dropouts,
migration, rotation, layoffs, quits or discharges [Baysinger
and Mobley, 1982]. By contrast, research focusing on the
military often uses such terms as quit rate, attrition,

16

reenlistment, and separations [Price, 1977]. In this thesis, turnover pertaining to enlisted military will be defined as "an individual's voluntary separation at the end of active obligated service (EAOS)."

Employee turnover has been of continual interest to personnel and management specialists since the early 1900's [Price, 1977]. Research psychologists have examined turnover in a large number of organizational settings, and the study of turnover has implications for other social sciences as well as for management, industrial relations, and economics.

Research on turnover has important consequences for both the individual and the organization [Porter and Steers, 1973]. If an organization employs a force of inexperienced employees, it may experience high turnover rates. Reliance on such personnel increases corporate costs for recruiting and initial training. In addition, inexperienced employees may demonstrate less of a commitment to the employer because of a shorter organizational affiliation. At the personnel policy-making level of the organization, turnover rates become a statistic to be monitored and managed for their impact on fixed costs and employee work relationships.

Turnover is important as a subject of study and is likely to remain a key focus in future personnel research. The practical advantages of analyses at the individual level will undoubtedly be beneficial for aggregate level empirical studies.

Turnover research offers insight for human resource management. Economists derive testable hypotheses about turnover which focus on the aggregate behavior of individuals [Price, 1977]. Psychologists concentrate on the individual cognitive differences leading to leave/stay decisions. Personnel policy formulators must interpret research results to make useful and accurate predictions about possible quit behavior [Price, 1977].

According to Price (1977), voluntary turnover is studied more often than involuntary turnover for three reasons. First, as illustrated by the manufacturing industry in Table III, voluntary turnover represents the largest category of the separation in the civilian labor force. Price indicates that this would not be so if unemployment were high. In that situation, a high rate of compulsory separations would result from such events as excessive layoffs, factory closures, or employee strikes. Secondly, voluntary job leavers represent a fairly homogeneous sample which makes the testing of re-search theories somewhat easier. Thirdly, the cohort repre-sented by voluntary turnover is more subject to control by management compared to other forms of voluntary separations, such as retirements or deaths [Price, 1977].

Through the use of surveys, analysts are able to isolate and measure factors which influence the process of turnover. The linkages between the predictors and the ultimate event of separation permit researchers to design models which may predict the variables which lead to job leavers.

## TABLE III

Labor Turnover Rates in Manufacturing: 1960 to 1980
(Rate per 100 wage and salary workers per month)

| Item | 1960 | 1965 | 1970 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Accessions[1] | 3.8 | 4.3 | 4.0 | 4.5 | 4.8 | 4.2 | 3.7 | 3.9 | 4.0 | 4.1 | 4.0 | 3.5 |
| New hires | 2.2 | 3.1 | 2.8 | 3.3 | 3.9 | 3.2 | 2.0 | 2.6 | 2.8 | 3.1 | 2.9 | 2.1 |
| Separations[2] | 4.3 | 4.1 | 4.8 | 4.3 | 4.7 | 4.9 | 4.2 | 3.8 | 3.8 | 3.9 | 4.0 | 4.0 |
| Quits | 1.3 | 1.9 | 2.1 | 2.3 | 2.8 | 2.4 | 1.4 | 1.7 | 1.8 | 2.1 | 2.0 | 1.5 |
| Layoffs | 2.4 | 1.4 | 1.8 | 1.1 | .9 | 1.5 | 2.1 | 1.3 | 1.1 | .9 | 1.1 | 1.6 |

[1] Includes rehires.

[2] Includes discharges and military and miscellaneous separations

Source: U.S. Department of Commerce, Bureau of Census, Statistical Abstract of the United States, 1981 (102 ed.). U.S. Dept. of Commerce. GPO: Washington, D.C. Dec. 1981, p. 389.

## B. REVIEW OF CIVILIAN RESEARCH

Early literature about turnover centered on the manufacturing labor force both nationally and internationally [Price, 1977]. Muchinsky and Tuttle (1979) briefly discuss five frequently cited reviews of turnover literature authored between 1955 and 1973. Muchinsky and Tuttle state that the focus of the first three review studies [Brayfield & Crockett, 1955; Hertzberg, Mausner, Peterson and Capwell, 1957; Varoom, 1964] was on the relationship of turnover to job-related attitudes and satisfaction. The consensus of these three reviews indicated individual turnover was related to job-dissatisfaction. Muchinsky and Tuttle commented that the views were restricted to the examination of a single set of predictors. Porter and Steers' (1973) review of the literature, like that cited for Varoom (1964), showed consistent negative relationships between job satisfaction and the propensity to leave jobs. The review of Varoom's research found that workers who are highly committed to their jobs are more likely to stay in the job longer.

The remaining reviews to be cited by Muchinsky and Tuttle were those of Schun (1967) and of Porter and Steers (1973). Schun focused on a collection of studies of prediction of turnover by means of a variety of variables including personality and vocational and biographical information [Muchinsky and Tuttle, 1979; Porter and Steers, 1973]. The review by Porter and Steers (1973) will be discussed at length because

20

of the scope of its analysis and the foundation it estab-
lishes for this thesis.

Porter and Steers (1973) provided a comprehensive, quali-
tative and critical review of research about the factors
affecting civilian turnover and absenteeism for twelve
years preceding 1973.  Job satisfaction appeared to play a
vital role in an employee's decision.  Specific factors re-
lated to leaving behavior (withdrawal) were divided into
four groups:  (1) organization, (2) immediate work environ-
ment, (3) job content, and (4) personal factors.

Organizational factors included pay, promotion, and
organizational size.  Pay and promotion had more bearing on
separation decisions when perceived as inequities by indi-
vidual employees.  An employee will continue to contribute
his time and energies so long as he believes his rewards are
equitable.  The impact of organizations size on turnover is
small since separation rates seem steady across organiza-
tions of all sizes.

Immediate work environment include supervisory style,
work unit sizes, and co-worker interaction variables.  Turn-
over is reported as negatively related (no level of r indi-
cated) to supervisory style, as is favorable peer group
interaction.  Several studies examined specific facets of
supervisory behavior in relation to turnover, and signifi-
cant differences existed.  Research on supervisory style
revealed two interesting findings.  Unfavorable attitudes

21

were experienced by leavers about performance feedback from the supervisor and there were obvious discrepancies about job goals between leavers and supervisors.

Relatively few studies examined the relationship of work-unit size to turnover. Studies that Porter and Steers were able to find preceded 1965, with no further research being published through 1973. However, in three out of four studies of blue-collar workers by Porter and Lawler (1965) turnover was found to be greater in larger units. Neverthe-less, insufficient evidence is available to make any useful conclusions about work unit size and managerial personnel. A possible explanation for the results from the blue-collar studies might be that larger groups do not provide sufficient cohesiveness, identification, and communication for the average needs of individual members.

Overall worker reaction to task repetitiveness, job autonomy and role clarity were used to measure job content. Dissatisfaction with task repetivieness, perceived job autonomy and role clarity were positively linked to turncver. Studies about job content which explored both worker and managerial populations yielded similar results. If role clarification positively contributed to job satisfaction and to a congruence between job expectations and actual job experiences, it was found to have a decreasing effect on turnover. The need for periodic role clarification and a redefinition of expectations between the organization and the employee was found to be necessary.

Age, tenure, vocational interest, personality character-
istics and family considerations were used to measure personal
factors. It was noted that turnover is generally inversely
related to age and tenure. These relationships are not sur-
prising since a person more senior in age or experience would
be expected to show a stronger preference for job security
and would be less likely to leave a job. As age or tenure
increase, predicting job retention more accurately becomes
easier. Turnover also appeared to be positively related to
similarities between job requirements and vocational interests.
The effect of family size on turnover had been insufficiently
studied to this date (1973).

In addition to the studies highlighted above, several other
studies have been specifically included here for their examina-
tion of turnover and their treatment of explanatory variables.

Porter et al (1974) investigated organizational commit-
ment and job satisfaction as they change over time in rela-
tion to turnover. Their work complements earlier research
compared with Lefkowitz and Katz (1969) who had reported
earlier that constructs associated with turnover, and measured
by attitudes, change over time. Using a questionnaire and a
job description index, 60 psychiatric technicians were sur-
veyed over a 10.5 month period to examine the relationships
between six attitudes and turnover. The respondents were
divided into two groups, stayers and leavers. Porter et al
found age, gender and education were similar for both groups.
The results of discriminant analysis suggested that an

individual's attitudes become strong and accurate predictors of turnover the closer the individual approached the actual point of termination. Commitment to the organization, and satisfaction with promotion, and work itself were the most important variables related to turnover. Satisfaction and work were measured by Job Descriptive Index. Evidence indicated that a general decline in attitude about the organization occurs as the individual gets closer to the point of leaving.

Porter and Crampton (1976) investigated the relationship between organizational commitment and turnover among a sample of 156 managerial trainees. The sample was organized into stayers and leavers. Data were collected by use of questionnaires from the first day of employment until termination or 15 months had elapsed, whichever was earlier. The results examined by analysis of variance, indicated that trainees who voluntarily separated during the 15 month employment period, showed a noticeable decline in commitment prior to the actual departure. The study found that attitudes about organizational commitment were different between stayers and leavers at day one. As a conspicuous decline in commitment occurred, voluntary separation was likely to occur in the near future.

Mobley (1977) presented a heuristic model of the employee turnover process. To gain a better understanding of the relationship of job satisfaction to turnover, he examined the middle part of the decision process to quit.

Porter and Steers (1973) had shown that intention to leave
may precede dissatisfaction. Mobley (1977) however believed
that the intention to leave was instead the decision which
preceded job dissatisfaction. Mobley (1977) measured the pattern
of correlations among several potential explanatory varia-
bles using regression analysis. He suggested that over time
unfavorable attitudes generally become stronger as the
separation point draws nearer, and that a person's attitudes
towards the organization were more significant than job
attitudes when it comes to the decision about quitting.
Mobley's model was of value in supplying the framework for
empirical research from which a model of turnover could be
derived. There appears to be a lack of research relative
to identifying the steps in the turnover decision process
and accounting for individual differences.

Mobley et al (1978) evaluated the 1977 Mobley model by
surveying a sample of hospital employees. Measures of
general and specific job satisfaction, attitudes and inten-
tions about quitting, perceived alternate opportunities
and biographical information were collected. Mobley et al
reported that zero-order correlations between job satisfac-
tion and turnover, age-tenure and turnover, satisfaction
and thoughts of quitting, and intentions to quit and turnover
mirrored research results described in previous literature
[Arnold and Feldman, 1982]. Intention to quit showed the
only significant relationship with actual separation.

25

Arnold and Feldman (1982) attempted to address some deficiencies noted by Mobley. They developed a model of the turnover process focusing on the following list of variables: demographic, tenure, cognitive/affective orientation, believed job security, intention to search for alternative positions, the believed existence of alternative positions and, finally, the intention to change positions. This study focused on intention as opposed to actual turnover. First, the relationship between intention to change positions and turnover was examined. Secondly, the interactions among demographic, tenure, cognitive/affective orientation, believed job security, intention to search for alternative positions, the believed existence of alternative positions and the intention to change positions, and their interaction with turnover were investigated. Lastly, the association between intentions to search and intentions to quit were considered. The results demonstrated a negative correlation between tenure and job satisfaction, organizational commitment, believed job security and intention to search for alternative jobs. Age, job satisfaction and organizational commitment variables influenced turnover through their effect on intention to change jobs. The turnover model was revised to be a function of three determinant variables: tenure, perceived job security and intention to search for alternatives.

In summary, the empirical literature on the prediction of civilian employee turnover has addressed several

methodological and interpretive issues associated with turn-
over research. Evidence of a strong relationship between
employee dissatisfaction and withdrawal behavior (absen-
teeism and turnover) was acknowledged from research reviews
as early as 1955. Failure to obtain independent measures
and the use of amibguous measuring techniques were apparent
weaknesses noted in the early studies which strongly sug-
gested a need for future rigid research techniques toward
accepting or rejecting a relationship of withdrawal behavior.
Subsequent research conclusions lead to the positive and
consistent relationship between a greater job satisfaction
and the propensity to remain with the organization. These
findings, although not particularly strong (correlations
seldom exceeded .40), were substantiated by collecting atti-
tudinal measurement data at one point in time and making a
comparison with either present or future turnover rates.
Research knowledge about turnover was further expanded when
factors associated with turnover were found to be inconsis-
tent with time.

In summarizing variables as turnover predictors for
sample populations in research studies, personality differ-
ences have had a marginal effect. Results relative to an
individual's interests are mixed with some apparent negative
relationship shown between vocational interest and turnover.
Likewise findings relative to intelligence and attitude vary
from positive to zero. The type of work or job may temper

the intelligence-turnover relationship. When considering aptitude or ability-specific types may yield dissimilar results. Personal factors have been included as reliably consistent predictors of turnover by most researchers.

In reviewing biodemographics, there is an intercorrelation of age and tenure with turnover. Independently considered age and turnover are inversely related to turnover. Degrees of family responsibility are positively related to turnover. Family size resulted in mixed findings and results are diversified by whether the employee is the primary or secondary wage earner [Muchinsky and Tuttle, 1979]. The former appears to illustrate a positive relationship to turnover whereas the latter seems to be negative. Attitudinal predictors for turnover yield consistent results that job dissatisfaction is predictively associated with turnover. Work unit size and job repetitiveness are positively related to turnover while recognition and job autonomy appear negatively associated. Leadership factors that are people-oriented are negatively related to turnover whereas productivity factors indicate a positive relationship.

Muchinsky and Tuttle (1979) suggested five conclusions relative to previous turnover studies: (1) turnover is a predictable trait; (2) organizations can ease the reduction of turnover by supplying prospective employees with prior knowledge of expected tasks and responsibilities; (3) one theory to explain turnover is based upon an employee's prior expectations not being met on the job; (4) time is

required to thoroughly examine the realm of variables which impact on or predict turnover; and (5) measurement of behavioral intention appears to be of more predictive value than job satisfaction. Continued future research using broader-based samples is needed to examine past theoretical implications based upon selected employee populations. A summary of findings and relationships is shown in Table IV.

## C. REVIEW OF MILITARY RESEARCH

A preponderance of research concerning voluntary separation of military personnel has focused upon reenlistment intentions and behavior, demographic and biographic predictors, or economic variables. These focuses have accounted for a small percentage of variance in the behaviors of interest [Hand et al, 1977]. Some of the studies reflect methodological shortcomings as noted earlier with civilian research.

Gray (1972) summarized three econometric studies, the Variable Reenlistment Bonus (VRB) Study, the Rotation Study, and the Time Series Study, conducted to analyze factors which influence Navy first term reenlistment behavior. In 1972, he classified enlistees as being draft-motivated or true volunteers. The basic economic theory stated reenlistment behavior to be a function of military compensation, civilian compensation and other non-pecuniary factors [Gray, 1972]. Changes over time with respect to the aforementioned factors were assumed independent of differences among ratings. All other things being equal, the VRB Study's results suggested

## TABLE IV

### Review of Civilian Research

| Author | Criterion | Predictor | Findings on Relationship |
|---|---|---|---|
| Porter & Steers (1973) | Turnover | Pay Promotion | Negative influence when perceived as inequities |
| | | Organizational Size | Not significant |
| | | Supervisory Style | Negative |
| | | Work Unit Sizes | Positive; insufficient |
| | | Co-workers | Negative |
| | | Task Repetitiveness | Positive |
| | | Job Autonomy | Positive |
| | | Role Clarity | Positive |
| | | Age | Negative |
| | | Tenure | Negative |
| | | Job Requirements | Positive |
| | | Vocational Interests | Positive |
| | | Family Size | Insufficient |
| Porter et al (1974) | Turnover | Pay | Negative |
| | | Promotion | Positive |
| | | Co-workers | Negative |
| | | Supervision | Negative |
| | | Organizational Commitment | Positive |

TABLE IV (CONTINUED)

| Author | Criterion | Predictor | Findings on Relationship |
|---|---|---|---|
| Mobley et al (1978) | Intention To Quit | Intention to Search | .56 See Note 1 |
| | | Thinking of Quitting | .10 |
| | | Probability of Finding Acceptable Alternatives | .05 |
| | | Overall Satisfaction | -.10 |
| | | Age--Tenure | -.12 See Notes 2,3 |
| Arnold and Feldman (1982) | Intention To Change | Demographic | .26 See Notes 4,5 |
| | | Demographics, Tenure | .27 See Notes 4,5 |
| | | Demographic, Tenure, Cognitive/ Affective | .44 See Notes, 4,5 |
| | | Demographic, Tenure, Cognitive/ Affective, Job Security | .45 See Notes 4,5 |
| | | Demographic, Tenure, Cognitive/ Affective, Job Security, Perceived Alternatives | .46 See Notes 4,5 |
| | Turnover | Demographics | .26 See Note 4 |
| | | Demographics, Tenure | .36 See Note 4 |
| | | Demographics, Tenure, Cognitive/ Affective | .42 See Note 4 |
| | | Demographics, Tenure, Cognitive/ Affective, Job Security | .43 See Note 4 |

TABLE IV (CONTINUED)

| Author | Criterion | Predictor | Findings on Relationship |
|--------|-----------|-----------|--------------------------|
| | | Demographics, Tenure, Cognitive/ Affective, Job Security, Perceived Alternatives | .43 See Note 4 |
| | | Demographics, Tenure, Cognitive/ Affective, Job Security, Perceived Alternatives, Intention to Search | .44 See Note 4 |
| | | Demographics, Tenure, Cognitive/ Affective, Job Security, Perceived Alternatives, Intention to Search, Intention to Change | .43 See Note 4 |

Notes:  1.  $p < .05$

2.  $p < .001$, $R = .75$

3.  $N = 203$

4.  $p < .001$

5.  $N = 143$

that a 1% raise in pay would yield a 2% increase in reenlist-
ment rates over the period individuals received the VRB pay.
Two possible policy conclusions suggested from the Rotation
Study were: (1) rotation does affect reenlistment; and
(2) overseas homeporting would have an adverse effect on
retention. The Time Series Study was an attempt to learn how
to predict future reenlistments by examining monthly reen-
listments for a just previously completed 10-year period.
Three particular categories were isolated: (1) within 90
days of EAOS; (2) reenlistments more than three months early
including the Selective Training and Retention Program (STAR);
and (3) all bonus extensions. The STAR program was estab-
lished to serve as a long-term reenlistment inducement for
early career designations in critical ratings which guaranteed
technical schools for the selected rating. The data relia-
bility was affected in this third study because the reenlist-
ment data counted positive decisions rather than amount of
commitment, double short-term counting occurred with long
term reenlistments, and policy exception programs had to be
accounted for producing any universal changes. Unemployment
and draftees were strongly related variables. Some measures
of reenlistment rates were not controllable in time series
analysis. The work was admitted as incomplete and still
unknowing about the causes of shifts in manpower supply across
time. A prediction attempt was made but considered not

reliable as regular pay increases and six-year obligors were
not included.

Lockman, et al (1972) identified motivational factors
in enlistment behavior from three past surveys concentrating
on three specific decision points of naval service for the
enlisted member (draft motivated and true volunteer):
(1) accessions; (2) first termers; and (3) first through
third termers. The second two categories were further sub-
divided into three occupational groups. The researchers
were attempting to evaluate impacts of economic, psycho-
logical and personal factors as predictors of the reenlistment
intent and decision [Lockman et al, 1972]. Prior economic studies
were cited as centering on pay as a principle motivator
of reenlistment. The data was explored using standard corre-
lation, regression and factor analysis techniques for a
multivariate examination. Intent to reenlist was shown to
be about 32% with primary influences being the receipt of
special pays and favorable co-workers' support for reenlist-
ing. Secondary influences were disclosed as education level
(lower education associated with higher reenlistment), per-
sonal contacts, and Navy advertising. First termers reen-
listment interest was most associated with pro pay, favorable
duty station, favorable living conditions, marital status
and positive attitudes about wife/girlfriend. For the third
group (first through third termers), reenlistment intent
was high for men who considered the Navy as providing better

34

career opportunities comparable to civilian alternatives. The results varied by term. At the time of this study the economic VRB incentive had not gone into effect.

The major point emphasized by the researchers was that attitudinal, economic and biographical variables must be evaluated together in order to maximize the prediction of reenlistment intent [Lockman et al, 1972]. The dominant variables for prediction of reenlistment decision for men intending to reenlist were length of first term enlistment, broken home and liking the duty station [Lockman et al, 1972]. Results for non-intendees was negligible. Some variation in reenlistment decision remained unexplained by the independent variables employed in the survey and by small sample proportions.

In summary it was noted that positive intent and decision related to favorable attitude of wife, girlfriend, and/or family for all occupational groups considered, and special pay for two groups. The opposite held true for the majority of men who did not intend and did not reenlist. A broken home, dependent children and receiving sea pay were dominant predictors with negative intent but were shown as favorable decision predictors for at least one or two occupational groups.

Significant differences were apparent between the volunteer and draft motivated groups (7% of sample responded--the enlisted as they were about to be drafted) on their intent

35

to reenlist. The father's educational level (higher) showed a negative influence for reenlistment intent of the draft-motivated men. For volunteers, attitude of wife (girlfriend, etc.), broken home and number of dependent children were of secondary but equal importance. Volunteer accessions enlisted sooner after leaving school, were less highly educated, had fewer civilian job experiences, enlisted for a longer term, and more often tended to be sons of first generation military.

Goodstadt et al (1974), examined the relationship between organizational beliefs, affective dispositions and Navy reenlistment intention by sampling 537 men in three shortage ratings with lengths of service (LOS) in three ranges of 8-12 months, 22-26 months and 39-45 months. The results indicated that few organizational beliefs are significantly related to reenlistment intention. Three plausible areas for policy implications were suggested from the study's results. First, the perceived inability of enlisted personnel to do the kind of work that they are interested in, appeared to be a critical factor in the decision to reenlist. Suggested corrective policies included providing more complete information about occupational options and expanding counseling programs to accommodate occupational decision making needs for all paygrades. Secondly, perceived unfairness of proficiency pay and VRB were indicators of ineffectiveness to stimulating retention prospects. Suggested alternatives offered were to make the incentives contingent upon

established criteria of good work. Thirdly, the perceived inequity in extrinsic elements that are linked to satisfaction with the organization were considered as affecting retention. The extrinsic factors included such elements as maintaining a marriage, close living quarters, inequitable application of discipline, problems encountered to change rates, pay non-comparability, unnecessary changes to plans and schedules, variations in commanding officers' execution of policies, amount of sea duty, and lack of personal assignment consideration. Suggestions included providing greater psycho-social supports for spouses and families.

Hand et al (1977) proposed in a review of military research that while the variance for personal and demographic factors rarely rose above 10%, education continued to be applied as a service-wide attrition predictor. Occupational groupings, organizational commitment, organizational size, peer group relations, and supervisory style were not reviewed in any studies. Literature showed very minor support for either pay, job satisfaction, organizational practices or expectations as having any significant variance levels relative to withdrawal behavior. Age was shown as moderately significant to reenlistment. Noteworthy variables linked to increasing the probabilities of staying in the service were a longer length of service during the first term, occupation, geographic origin (i.e., the west reflected higher probabilities) and economic background.

Hand et al (1977) postulated that those sailors who remain in the service reflect a unique set of personal characteristics compared to those associated with the attritors. They indicated that demographic and biographical data alone are inadequate to make an analysis without considering situational and organizational constraints. Performance before entry compared to performance in service offered some contribution to the predicting equation but only by a small variance. In general, variable analyses were reported as weak, inconsistent or inconclusive. The desire for and availability of alternative civilian positions was the single consistently positive relationship to reenlistment while relevance to turnover remained small.

O'Neill and Mirra (1979) identified variables related to reenlistment of intention for Navy cryptologic technicians (maintenance). Twenty seven variables were correlated to the intention to reenlist with the variance (r) of .506 for attitude toward Navy career while the remaining values hovered in the range between .249 and .481. At best, inconclusive speculations may be drawn relative to important variables which should be investigated for their impact on any decision about intention not to reenlist.

Hom et al (1979) compared three approaches to the prediction of turnover using Fisbein's (1973) behavioral intention model, job satisfaction and Porter's (1973) organizational commitment model. The Fishbein model assumes a person's behavior is a function of the intention to perform that

behavior determined by an attitude component and a social component (subjective norm). The three models were applied to a survey of 484 National Guard members within 6 months of EAOS. These and other results of military research are shown in Table V. The intention to reenlist was highly related to the reenlistment act. Consistent with the Fishbein and Azen (1977) theory, attitude toward reenlistment more strongly predicted reenlistment criteria than did measures of job and organizational satisfaction. Organizational attitude was not substantiated as a superior turnover predictor over attitudes about various job aspects.

In summary, research results about military enlistees can be concluded to reflect that reenlistment and/or the withdrawal process is multivariate, in nature. There is a need to broaden the possible spectrum of predictors to increase the amount of variance accounted for. Important classes of predictors which Hand et al considered as previous research omissions were: first, data beyond the military's control such as unemployment rates and civilian pay comparability; and secondly, service wide separation policies. These omissions most likely represent major sources for future exploration.

TABLE V

Review of Military Research

| Author | Criteria | Predictor | Findings or Relationship |
|--------|----------|-----------|--------------------------|
| Lockman et al (1979) | Reenlistment Intent | Pay | Positive--principal motivator |
| | | Location | Positive |
| | | Marital Status | Positive |
| | | Attitudes about wife/ girlfriend | Positive |
| | | Dependency | Negative |
| | | Father's Educ. Level | Negative |
| Goodstadt et al (1974) | Reenlistment Intent | Organizational Beliefs | Insignificant--See Note 1 |
| | | Occupational Interest | Negative |
| | | Pro Pay | Negative--if perceived as an inequity |
| | | Extrinsic Elements | Negative--if Note 2 perceived as an inequity |
| Hand et al (1977) | Reenlistment | LOS | Positive as LOS increased |
| | | Occupation | Positive for non-technical mos. |
| | | Pay | Not reviewed |
| | | Job Satisfaction | Not Reviewed |
| | | Organizational Practice | Not Reviewed |
| | | Age | Positive--moderately significant |

40

TABLE V (CONTINUED)

| Author | Criteria | Predictor | Findings or Relationship |
|---|---|---|---|
| O'Neill and Mirra (1979) | Reenlistment | 27 Variables | Inconclusive |
| Hom et al (1979) | Intention to Reenlist (See Note 3) | Fishbein Model | $R = .65$, $p < .05$ |
| | | Job Satisfaction | $R = .57$, $p < .05$ |
| | | Organizational Commitment | $r = .68$, $p < .05$ |
| | Reenlistment (See Note 4) | Fishbein Model | $R = .81$, $p < .05$ |
| | | Job Satisfaction | $R = .49$, $p < .05$ |
| | | Organizational Commitment | $r = .58$, $p < .05$ |

Notes:  1.  N = 537

2.  Extrinsic elements included living quarters, inequitable discipline, changing rates, schedules--hours, sea duty, lack of assignment considerations.

3.  N = 373

4.  N = 228

# III.   METHODOLOGY

## A.   DATA BASE

The data source used in this study was the 1978 Depart-
ment of Defense Survey of Officers and Enlisted Personnel
[Doering et al, 1981].  This survey was jointly designed and
administered by DOD and the Rand Corporation with an adminis-
tering date of 1 February 1979.  The economic elements in
the questionnaires applied to 1978 and the data was collected
during the first six months of calendar year 1979.  One
particular aim of this research project was to provide
information about the military life cycle encompassing
career decisions and responses to military policies of the
affected service individuals and their families.  A world-
wide active duty population of more than 54,000 men and women
of the Army, Navy, Marine Corps, and Air Force was surveyed.
Survey results were expected to provide researchers with a
data base to empirically test hypotheses about personnel
attitudes and to provide management with a foundation for
personnel-related policy decisions.

Four questionnaires were used in the active duty 1978
DOD Survey with two each being given to officer and enlisted
participants.  Prospective respondents were selected by name
from service records.  Enlisted or officers participating
in the survey answered only one questionnaire.  Nine sample
cells were constructed for each service branch for both

enlisted forms. Participants were stratified by years of service (YOS). Personnel with fewer than 8 YOS were further stratified by years to end of active obligated service (EAOS) as seen in Table VI. A supplemental sampling of women and blacks provided for two additional respective cell samples, 8 and 9.

Survey Forms 1 and 2 were administered to enlisted personnel. Form 1 concentrated primarily upon economic issues as labor force factors, family income resources, housing, military compensation and career options. Form 2 predominantly focused upon unique personnel actions as rotation and promotion, quality of life issues, family background, assignment history, and attitudes about current personnel policy issues. Both surveys dealt with common individual factors as personal background, marital and dependency status, military background and indices of satisfaction. Form 1 for U.S. Navy enlisted sailors was the data base used for this thesis research. Hereafter all references to the Form 1 of the survey will be referred to as the 1978 DOD Enlisted Survey. The response rate for Form 1 can be seen in Table VII.

B. MODEL OF TURNOVER INTENTIONS

In creating a model for predicting actual turnover behavior, Quinn et al (1973) highlighted three simple key determinants: (1) the employer's disposition to retain the employee; (2) the employee's environmental or situational variables, and (3) the disposition to turnover. An accurate

43

TABLE VI

Enlisted Stratification Summary

| Sample Cell (Cell #) | Years of Service (YOS) | Time to End of Active Obligated Service (EAOS) |
|---|---|---|
| 1 | 0-4 | $\leq$ 1 year |
| 2 | 0-4 | > 1 year |
| 3 | 5-8 | $\leq$ 1 year |
| 4 | 5-8 | > 1 year |
| 5 | 9-12 | |
| 6 | 13-16 | |
| 7 | 17+ | |
| 8 | Additional females | |
| 9 | Additional blacks | |

Source: 1978 DOD Survey of Officers and Enlisted Personnel: User's Manual, Rand, 1981, p. 6.

TABLE VII

Navy Response Rate for Form 1

| | | | |
|---|---|---|---|
| Fielded | 10,584 | Required | 5,190 |
| Returned | 6,508 | Return rate as % of | |
| Response Rate | 61.5% | required | 125.4% |

Source: 1978 DOD Survey of Officers and Enlisted Personnel: User's Manual, Rand, 1981, p. 9-10.

44

prediction of real turnover behavior could be made only

according to Quinn, et al if these three key predictors as

depicted in Figure 2 were taken into account. The first and

second determinants were also classified as influential

moderators. In particular, they considered it possible for

situational or environmental variables to be able to over-

ride, cancel or reverse an individual's turnover intentions.

The environmental and situational variable candidates included

such items as labor market conditions, knowledge of job

vacancies, skill salability, personal and job responsibili-

ties, and other perceived alternative activities (career and

non-career).

Mobley (1977) characterized an employee turnover model

akin to a decision process involving eight (both job and non-

job related) factors which served as antecedents to the inten-

tion to quit/stay. The final decision resulted in the actual

event--to quit or stay. The eight factors listed were job

evaluation, job satisfaction/dissatisfaction, thinking about

quitting, expected utility of search--cost of quitting, and

intention to search, search for and evaluation of alternatives

and finally, the comparison of alternatives with present job.

The relationship among the factors is shown in Figure 3.

Using the Mobley (1977) model, Mobley et al (1978) developed

a simplified representation, consolidated some previous linkages

and prefaced the model with age/tenure. These two variables

were thought to affect turnover through satisfaction and

favorable alternative probabilities.

```
                    ┌─────────────┐
                    │ Disposition │
                    │ to turn over│
                    └──────┬──────┘
                           │
┌─────────────┐           │              ┌──────────────────┐
│ Employer's  │           │              │ Environmental-   │
│ disposition ├───────────┼──────────────┤ situational      │
│ to retain   │           │              │ variables        │
│ employee    │           │              │                  │
└─────────────┘           │              │ Labor market     │
                          │              │   conditions     │
                          │              │ Knowledge of     │
                          │              │   openings       │
                          │              │ Saleability      │
                          │              │ Responsibili-    │
                          │              │   ties           │
                          │              │ Number of        │
                          │              │   alternative    │
                          │              │   roles open     │
                          │              │   to person      │
                          │              │ Desires of family│
                          │              └──────────────────┘
                          ▼
                    ┌─────────────┐
                    │Actual turnover│
                    │   behavior   │
                    └─────────────┘
```
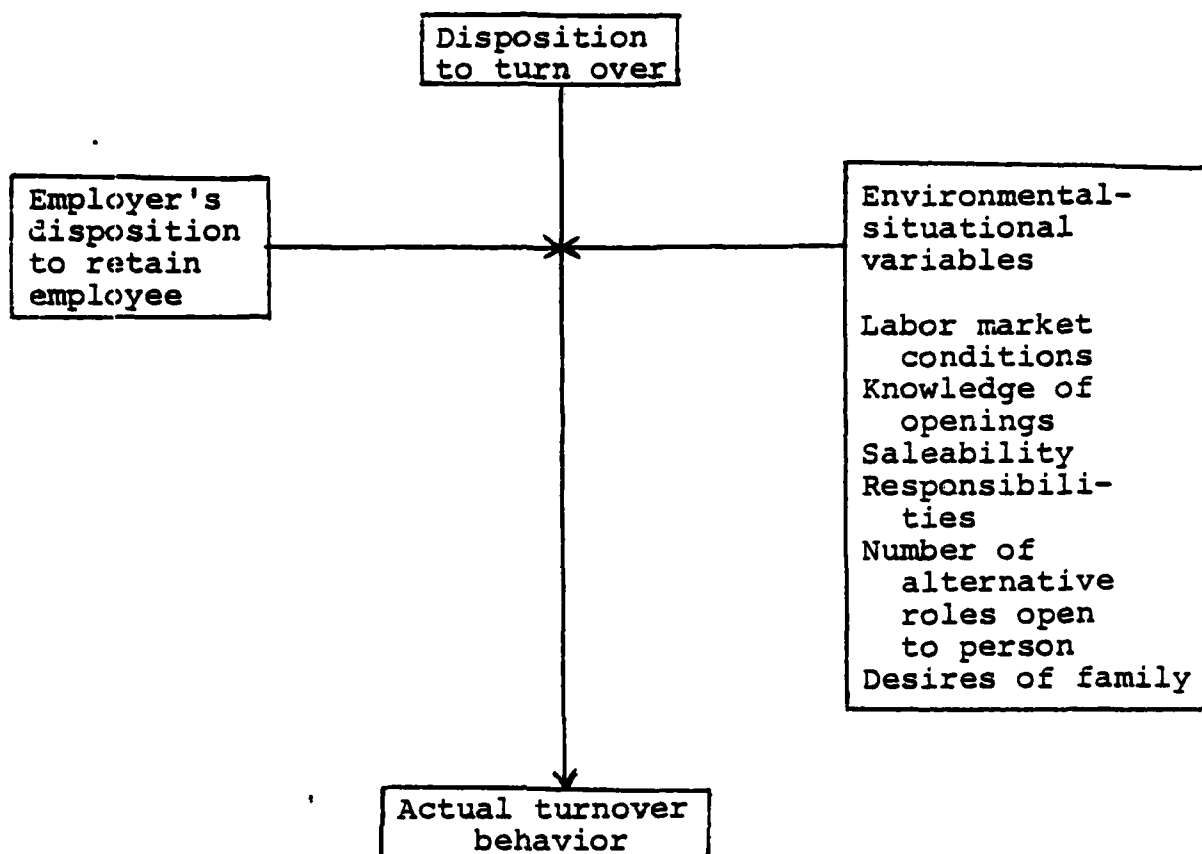
Source:   Quinn et al (1973), Figure II-1:   The Major
          Determinants of Actual Turnover Behavior,
          P. 356.


Figure 2.   Quinn et al Model (1973)

46

```
A.  ┌─ ─ ─ ─ ┐   Evaluation of Existing Job

B.  │        Experienced Job Satisfaction-        (a) Alternative forms of withdrawal, e.g.
    │        Dissatisfaction          ──────────▶  absenteeism, passive job behavior

C.  │        Thinking of Quitting

D.  │        Evaluation of Expected Utility of Search
    │        and Cost of Quitting

E.  │        Intention to Search for Alternatives  ◀── (b) Non-job related factors e.g.,
    │                                                   transfer of spouse, may stimulate
    │                                                   intention to search

F.  │        Search for Alternatives
                                                    (c) Unsolicited or highly visible
                                                        alternatives may
G.  │        Evaluation of Alternatives  ◀──────────── stimulate evaluation

                                                    (d) One alternative may
H.  │        Comparison of Alternatives vs. Present Job  be withdrawal from
                                                        labor market

I.           Intention to Quit/Stay

J.           Quit/Stay  ◀──────────────────────────── (e) Impulsive Behavior
```

Source:  Mobley (1977), p.238, Figure 1.  The Employee
         Turnover Decision Process.


Figure 3.  Mobley Model (1977)

Steers and Mowday (1981) developed a cognitive model of voluntary employee turnover which was built upon past research works. The model contained the following thirteen influences as shown in Figure 4. The dynamic model summarized the process leading up to the decision to stay or quit. Three intervening influences are illustrated in the model's first link of job expectations and values. In the model, intent to leave and desire have been combined in order to focus on the previous processes up to behavioral intentions. Unique aspects illustrated in this particular figure are: the role of available information; the location and influence of job performance; varying attitudes as related to turnover; emphasis of non-work factors; and individual's search for alternatives prior to deciding to leave; and the inclusion of an accommodation process by persons who stay or who are left behind.

The model hypothesized in Figure 5 reflects a combination of interrelationships of dominant categories of variables related to turnover as proposed by Arnold and Feldman (1982) and as adapted for data availability from the 1978 DOD Enlisted Survey. Key categories of determinants focused on were:

> demographic,
>
> tenure,
>
> cognitive/affective orientation relative to
>   the position,
>
> income and economic incentives,
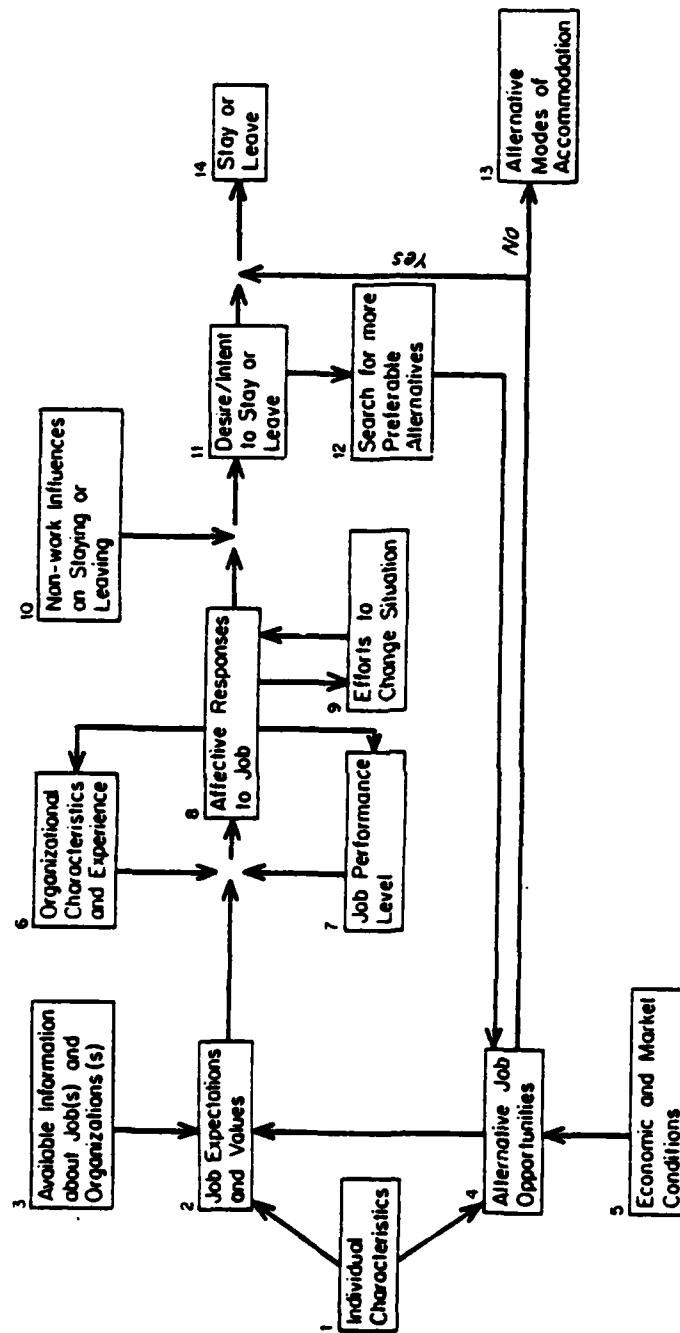
Source: Steers and Mowday (1981), Exhibit 2, p. 242:
A Model of Voluntary Employee Turnover

Figure 4. Steers and Mowday Model (1981)

49

```
                                         ┌─────────────┐
┌─────────────┐                          │ Perceived   │
│ Demographic │─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─>│ Existence   │
└─────────────┘                          │   of        │
                         │               │ Alternatives│
                         │               └─────────────┘
                         │                      │
                         │                      │
┌─────────┐              │               ┌──────▼──────┐      ┌ ─ ─ ─ ─ ─ ┐
│ Tenure  │──────────────┤               │ Intention   │
└─────────┘              ├──────────────>│    to       │─ ─ ─>  Turnover
                         ├──────────────>│ Turnover    │
┌──────────────────┐     │               └─────────────┘      └ ─ ─ ─ ─ ─ ┘
│Cognitive/Affective│    │
│Orientation to the │────┘
│   Position        │
└──────────────────┘

┌──────────────┐
│ Income and   │
│ Economic     │
│  Incentives  │
└──────────────┘

  ▲                                              ▲
  └──────────── Scope of Analysis ───────────────┘
```
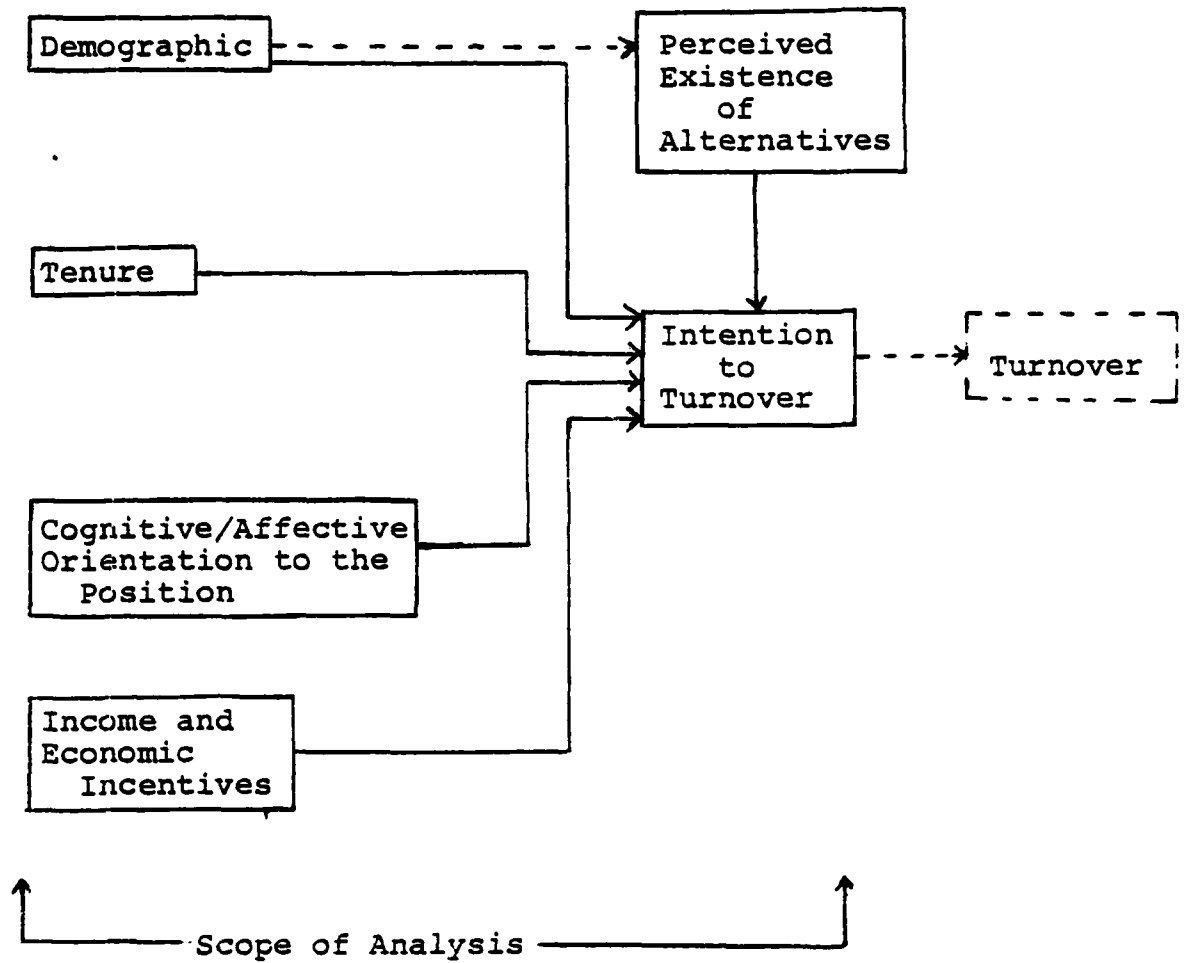
Source:   Adapted from Arnold and Feldman (1982) model,
          Figure 1, p. 351:  Working Model of the
          Turnover Process.

Figure 5.   A Model of Turnover Intentions

50

perceived existence and comparison of alternatives (civilian jobs), and

intention to turnover.

The schematic diagram represents the variables which are hypothesized as determinants of turnover. Intention to reenlist (turnover) is the dependent variable. Mobley (1977) suggested that the next logical step of intention to leave was the actual step of quitting. The 1978 DOD Enlisted Survey did not follow up respondents with regard to actual separation or retention. Therefore, the relationship between the explanatory variables and intention to leave was the principle focus of this thesis.

C. IDENTIFICATION OF DEPENDENT VARIABLE

The dependent variable, intention to reenlist, was selected from among three candidate criterion variables as depicted in Figure 6. The first candidate, CARINT (career intention) was constructed by the following computation:

    CARINT  =  [Intended months of service - current months
               of service]

CARINT, reflected the remaining number of months the respondent intended to voluntarily serve regardless of current enlistment contract or obligated service.

Likelihood to reenlist with no reenlistment bonus, was a second candidate. The responses available to the individuals who were surveyed were coded on a Likert scale from (0) to

51

$$\left[\left[\boxed{Q15} \times 12 \text{ mos}\right] - \boxed{Q8}\right] = \boxed{\text{CARINT}}$$

$$\left[\boxed{Q20} \div 10\right] = \boxed{Y} \xrightarrow{\text{Linear Eq.}} \boxed{\begin{array}{c}\text{Intention} \\ \text{to} \\ \text{Reenlist}\end{array}}$$

$$\left[\text{LN} \left[\frac{Y}{1-Y}\right]\right] = \boxed{Y'} \xrightarrow{\text{Logistic Eq.}}$$
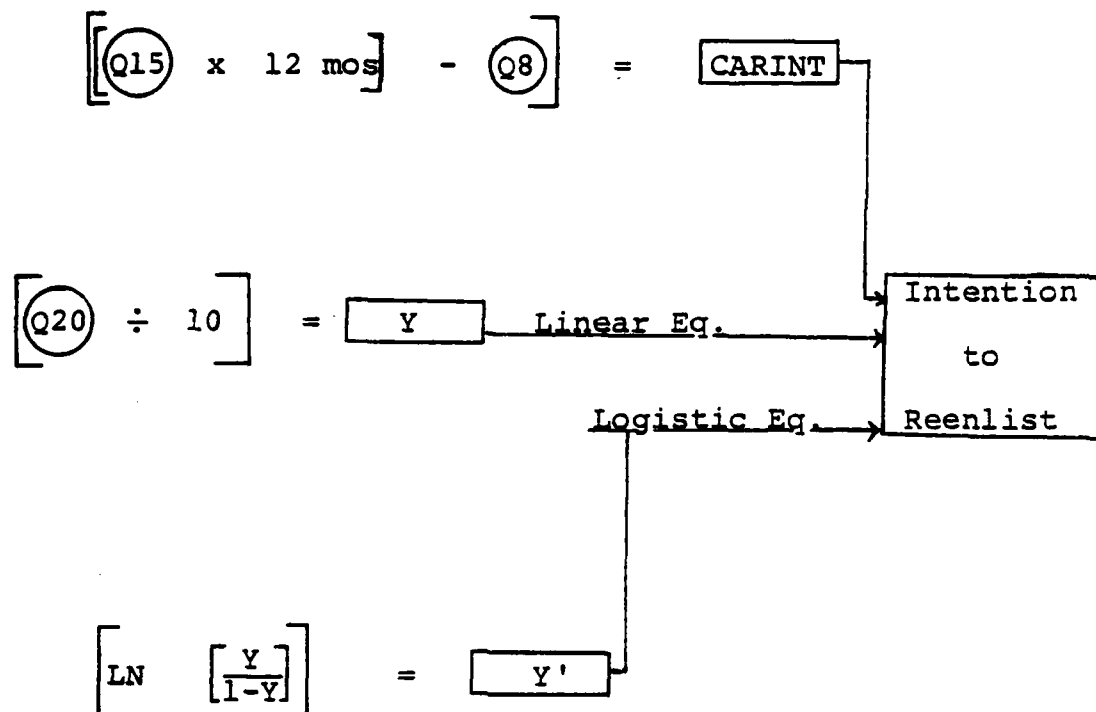
Q15 - Years Expect to Have Served    (continuous
     When Leave the Service     measure)

Q8  - Current LOS (in months)    (continuous from
                                   25 to 72)

Q20 - Likelihood to Reenlist    (measured on 9
      Without Bonus         point scale)

Y   - Predictor for Linear
      Equation

Y' - Predictor for Logistic
      Equation

Figure 6.  Criterion Candidates and Measures

(10). Uncertainty and near-term retirement were assigned

separate values but disregarded in the analysis. In order

to determine probability weight, the 0 to 10 values were

consolidated and converted to a nine point decimal scale

(.1 to .9). Q20 was recoded to Y for the regression analysis.

The third candidate, Y' transformed the likelihood of

reenlisting into a logistic equation. The computation was

constructed in linear form as follows:

$$Y' = Ln[Y/(1-Y)]$$

Behavioral intentions are related to turnover as reported

by Steers and Mowday (1981). Intention to leave influences

actual turnover by two methods. First, intent may lead

directly to actual separation (turnover). An enlistee may

decide to leave the service even though alternate terms of

employment have not been sought or may not be readily avail-

able. Intent to leave may indirectly influence turnover by

prompting an individual to search for alternative jobs. As

the individual's search behavior becomes more sensitive to

the job market, a greater number of opportunities are exposed,

thus increasing the possibilities of voluntary separation.

It is suggested that the intention to reenlist or not reen-

list is also affected by other explanatory variables and

characteristics which will be discussed in the next section.

D.  CANDIDATE EXPLANATORY VARIABLES

Each of the key determinants and associated component variables are discussed below.  A listing of these independent variables, measures and corresponding survey questions is provided in Table VIII.

### 1.  Demographic

The individual biographical and demographic variables used were branch of service, gender, marital status at service entry and current marital status, dependency status, race, education level.  A dummy variable, ENTAGE--Entry Age, was constructed to select given ages at service entry (Q42) in combination with current age (Q41).  Branch of service was controlled for Navy respondents only.  Quinn et al (1973) and Muchinsky and Tutle (1979) reported demographic variables as the best panel of predictors.

Mobley et al (1978) found that age is negatively related to turnover.  Hand et al (1977) cited one study where age accounted for 35% of the predictor variance to actual reenlistment.  Three additional studies reviewed by Hand et al (1973) found age to produce conflicting results (positive, negative, negligible) on turnover.  Two questions were used to focus on age--age at service entry and current age.  The normal entry age centered about 17-19.  Seventeen to twenty was considered an average-aged entrant, and twenty one to twenty four--the older entrant.

No military specific research and few civilian research studies were found which addressed gender as an

independent variable, due primarily to small sample populations.  Quinn et al (1973) using sex as a demographic measure for a survey of civilian workers, found that the percentage of turnover among 217 men was 31.3% and 32.9% for 76 women.  Arnold and Feldman (1982) reported two studies with conflicting results relative to gender and turnover.  One study revealed females with a higher turnover rate, yet the second study revealed no difference in turnover rates by gender.

Marital status at entry and current marital status were included along with dependency to address family status.  Past and present marital status was explored also to further identify the change in status as occurring over time for the sample population.  The two questions about marital status were recoded to provide dicotomous values.  Married, divorced and separated represented one group while single and widowed represented a second group.  Quin et al (1973) reported a 50% turnover rate for 68 single persons versus 26% for 227 married persons.  Hand et al (1977) reported one study's findings on reenlistment intentions among a sample of 3,115 Navy shipboard enlistees, that the typical enlistee was married, had a larger family, and had lower social economic family background.  Arnold and Feldman (1982) noted that marital status and number of dependents were indicators of family responsibilities.  Fewer family responsibilities were usually associated with decreased turnover.  Two additional military studies cited by Hand et al (1977), clearly reported that

increased dependency status was positively related to actual reenlistment. The question for dependency was recoded to merely reflect dependency status (excluding respondent and spouse)--some or none. The specific quantity was not considered pertinent to the analysis.

Race was used as a predictor for actual reenlistment in six research reviews discussed by Hand et al (1977). Two of the six studies [Nelson, 1970; Enns, 1975], found that nonwhites were more likely to reenlist. One possible explanation offered, attributes higher reenlistment rates for blacks due to the potential civilian earning ability. Four studies found conflicting results on race and turnover, ranging from race being a significant contributor to turnover to race having little impact on turnover.

Education level was selected as the final demographic variable and recoded as a dummy variable for completion of high school. Hand et al (1977) cited eleven studies using education as one predicting variable for both recruits and more senior enlistees. Except for two of the eleven studies, which showed education as having little impact, the remaining nine studies were in general agreement that education was negatively related to the criterion, actual reenlistment. Education was found as a significant contributor in model equations. Sample populations ranged from 797 Navy enlistees to 700,000 enlisted Marines. High school graduates were characterized as "more effective" marines. Individuals who

were not recommended for reenlistment had less education than those who were recommended but did not reenlist ($R^2$ = .35).

2. Tenure

Tenure has consistently been found to be negatively related to turnover by Steers (1977) and Arnold and Feldman (1982). Three candidate variables were selected from the questionnaire pertaining to tenure: length of service, term of enlistment, and time remaining to EAOS. Length of service was semi-controlled to segregate first term Navy enlistees who were 4 and 6 year obligors. In order to account for obligors as a variable candidate, the dummy variable ACDULOS was constructed as follows:

4 yr   --   (25 mos $\leq$ LOS $\leq$ 48 mos)        ACDULOS = 0
6 yr   --   (48 mos < LOS $\leq$ 72 mos)        ACDULOS = 1

Individuals who indicated a response to leave the service due to not being recommended for reenlistment or who planned to retire at EAOS were omitted from the sample population.

Two studies reviewed by Hand et al (1977) found that interest in reenlistment declined with increased months of service and that the longer term of first enlistment (up to 4 years) resulted in greater reenlistment probabilities. Increased tenure appeared directly related to the desire to remain with an organization. Twelve months remaining to EAOS was particularly chosen as representing the time period

57

when attitudes about separation are expected to be strong
because of the proximity to completing an obligated contract
[Porter and Steers, 1973].

### 3. Cognitive/Affective Orientation

This category was further subdivided into three seg-
ments by nature of questions selected--expectations, orienta-
tion to the military and job characteristics.  The question
pertinent to expectations asked for the respondent to rate
military life according to expectations.  The question repre-
senting orientation to the military was depicted by satisfac-
tion with military life.  Job characteristics were addressed
by two survey questions:  (1) assignment-ship (as a general
location), and (2) attitude about current location.

To a service member, the military life and the mili-
tary organization often overlap and are considered one
entity.  Therefore attitudes about military expectations
and satisfactions similarly represent attitudes about the
service employer.  Variables from which organizational atti-
tudes are derived were segregated in studies reviewed by
Hand et al (1977) to extrinsic and intrinsic climatic varia-
bles.  Intrinsic variables such as achievement, growth,
responsibilities, and recognition were positive perceptions
for prospective enlistees.  Extrinsic factors such as
organizational policies, administration, travel, training,
co-workers and supervisors served as negative reinforcement
for members not intending to reenlist.  Added climatic

variables which might serve as negative influences on satisfaction and expectations were loss of freedom, leaders, disorganization, inequitable treatment, over-working conditions, interference with family and social life, family separation time and discrimination. Job satisfaction and organization commitment have consistently been found to be negatively related to turnover [Arnold and Feldman, 1982]. These two concepts are also considered as attitudinal elements of satisfaction and/or expectations about the organization, and therefore are also relevant to this category.

### 4. Income and Economic Incentives

This category encompassed those survey questions associated with pecuniary variables of pay, special pay and allowances, gross spouse earnings, total family income, total outstanding debts, total liquid assets, and a comparison of financial situation with three years past. Dummy variables were constructed to compute gross annual military pay (MILPAY) and gross relative military pay (RELMPAY). Base pay and allowances (basic quarters, and basic subsistence, were added and multiplied by twelve months to arrive at a gross annual military pay figure. Annual relative pay was computed by dividing the members total annual military pays (MILPAY) by total expected civilian earnings.

Of the studies reviewed by Hand et al (1977) pay did not seem to be a cause for reenlistment but it did have an impact on the decision not to reenlist. The enlistee who

remains in the military foregoes pecuniary benefits asso-
ciated with the highest ranking available civilian job
opportunity. Economic parameters are included in an indi-
vidual's decision-making process about behavioral intention.
Pecuniary inducements in current and alternative employments
change with respect to each other and the individual's
preferences change through time [Baysinger and Mobley, 1982].

An enlistee who views his financial situation as
restricted by lack of seniority, lack of special pays, and
by being in a junior paygrade must evaluate the cost of
quitting and job security along with personal skill sala-
bility. Pecuniary variables become significant contributors
when considered with spousal earnings, dependency status
and a technical skill.

### 5. Perceived Existence of Alternatives

This category comprised three subset categories:
(1) civilian job opportunities, (2) perceptions of alterna-
tives, and (3) perceptions of civilian job factors in compari-
son to the military job. Within the first subcategory,
variables included civilian job offers within the past twelve
months. The second subcategory included four variables:
likelihood of finidng a good civilian job if left service
now, whether one would use military skills in a civilian
job (Q100) and if the family would be better off if the
respondent was in a civilian job (Q104D).

The third subcategory contained thirteen comparisons
whereby the enlistee rated civilian versus military job

related elements. These compariable elements encompassed:
immediate supervisors, having a say, retirement benefits,
medical benefits, interesting work, wages and salaries,
promotion chances, training opportunities, co-workers, work
schedule-hours, job security, equipment and job location.

Research suggests that less satisfied people are more
likely to evaluate job alternatives and are more sensitive
to job market and economic conditions. Individual character-
istics may also influence alternative job opportunities such
as age, sex and skill. Market and economic conditions influ-
ence the availability of job opportunities. If an enlistee
believes he has few viable job alternatives, the service
member would be less likely to leave the military and might
instead engage in alternative forms of withdrawal behavior.
If an enlistee wishes to leave and is able to do so because
of having completed contractual service, the probability of
turnover is increased providing the individual did not intend
to reenlist. As mentioned previously, job attitudes, atti-
tudes about perceived opportunities and the opportunities
themselves vary with time. Positive job attitudes decrease
the likelihood of exploring job opportunities and tend to
reduce the individual's sensitivity to the possibilities
available [Hand et al, 1977].

## TABLE VIII

### Candidate Explanatory Variables

| Category | Questions--Descriptions | Measures |
|---|---|---|
| I. Demographic | (Q3)  Service Branch | 2 = Navy  (See Note 1) |
| | (Q40) Gender | 0 = Female; 1 = Male |
| | ENTAGE (Entry Age) | 0 = (See Note 2) <br> 1 = (See Note 2) |
| | (Q45) Entry Marital Status | 0 = widow-single; <br> 1 = married-divorced-separated |
| | (Q46) Current Marital Status | 0 = widow-single; <br> 1 = married-divorced-separated |
| | (Q54) Dependency Status | 0 = None; 1 = Some |
| | (Q53) Education Level | 0 = No High School Diploma <br> 1 = High School Diploma |
| | (Q44) Race | 0 = Black; 1 = White |
| II. Tenure | (Q8)  Length of Service (LOS) | (continuous) (See Notes 1,3) |
| | (Q9)  Term of Enlistment | 1 = First (See Note 1) |
| | ACDULOS--Active Duty LOS | 0 = 25 $\leq$ LOS $\leq$ 48 (See Notes 1,3,4) <br> 1 = 48 < LOS $\leq$ 72 (See Notes 1,3,4) |

Notes:  1 - Variable was controlled for measure indicated.

2 - ENTAGE = 0 if ((Q42 = 17   Q41 = 19-23) or <br>
                (Q42 = 18   Q41 = 20-24) or <br>
                (Q42 = 19   Q41 = 21-25) or <br>
                (Q42 = 20   Q41 = 22-26)) or <br>
   ENTAGE = 1 if ((Q42 = 21   Q41 = 23-27) or <br>
                (Q42 = 22   Q41 = 24-28) or <br>
                (Q42 = 23   Q41 = 25-29) or <br>
                (Q42 = 24   Q41 = 26-30)) <br>
                Q41 = Current Age,   Q42 = Entry Age

3 - LOS Controller (25 $\leq$ LOS $\leq$ 72 mos.)

4 - ACDULOS = 0 (implies 4 yr obligor) <br>
    ACDULOS = 1 (implies 6 yr obligor)

5 - Respondents were selected out if they answered 1 = Yes

TABLE VIII (Continued)

| Category | Questions—Descriptions | Measures |
|---|---|---|
| II. Tenure (Cont'd) | (Q31B) Plan To Retire End Of Current Term | 0 = Unmarked (See Note 5) |
| | (Q31C) Would Leave Service Not Elig Reenlist | 0 = Unmarked (See Note 5) |
| III. Cognitive-Affective Orientation | | |
| a. Expectations-Orientation | (Q104A) Military Life as Expected | 1 = Strongly Agree<br>2 = Agree<br>3 = Neither Agree Nor Disagree<br>4 = Disagree<br>5 = Strongly Disagree |
| b. Orientation To The Military | (Q105) Satisfaction With Military Life | 1 = Very Dissatisfied<br>2<br>3<br>4<br>5<br>6<br>7 = Very Satisfied |
| c. Job Characteristics | (Q5) Assignment Location-Ship | 0 = No; 1 = Yes |
| | (Q7) Attitude About Location | 1 = Very Dissatisfied<br>2<br>3<br>4<br>5<br>6<br>7 = Very Satisfied |
| IV. Income and Economic Incentives | | |
| | MILPAY Military Pay | (Continuous $) (See Note 6) |
| | (Q73) Receive Special Pays-Allowances | 0 = None; 1 = Some |

Notes: 6 - MILPAY = [[Q69 + Q70 + Q71] x 12]

   Q69 = Base Pay (continuous $)
   Q70 = Basic Allowance—Quarters (continuous $)
   Q71 = Basic Allowance—Subsistence (continuous $)

TABLE VIII (Continued)

| Category | Questions--Descriptions | Measures |
|---|---|---|
| IV. Income and Economic Incentives (Cont'd) | (Q90) Spouse's Total Earnings 1978 | (Continuous $) |
| | (Q93) Total Family Income | (Continuous $) |
| | (Q94) Total Outstanding Debts | (Continuous $) |
| | (Q95) Total Liquid Assets | (Continuous $) |
| | (Q96) Financial Situation Now Compared With 3 Yr Ago | 1 = Lot Better Now <br> 2 = Somewhat Better Now <br> 3 = About Same <br> 4 = Somewhat Worse Now <br> 5 = Lot Worse Now |
| | RELMPAY - Relative Military Pay | (Continuous $) (See Note 7) |
| V. Perceived Existence of Alternatives and Comparisons | | |
| a. Civilian Job Opportunities | (Q97) CIV Job Offers Past 12 Months | 0 = No <br> 1 = Yes |
| b. Perceptions of Alternatives | (Q98) If Leave Service Now Would Find Good Civilian Job | 0 = No Chance <br> 1 = Very Slight Possibility <br> 2 = Slight Possibility <br> 3 = Some Possibility <br> 4 = Fair Possibility <br> 5 = Fairly Good Possibility <br> 6 = Good Possibility <br> 7 = Probable <br> 8 = Very Probable <br> 9 = Almost Sure <br> 10 = Certain |
| | (Q100) Would Use MIL Skills in Civilian Job | Categories 0-10 same as for (Q98) above. |

Notes: 7 - RELMPAY = [MILPAY ÷ Q99]

Q99 = Expected Civilian Earnings--Yr. (Continuous $)

TABLE VIII (Continued)

| Category | Questions—Descriptions | Measures |
|---|---|---|
| V. (Continued) | | |
| b. Cont'd | (Q104D) Family Better Off With Me in Civ Job | 1 = Strongly Agree<br>2 = Agree<br>3 = Neither Agree Nor Disagree<br>4 = Disagree<br>5 = Strongly Disagree |
| c. Comparison of Civilian vs. Military Job | (Q102A) Immediate Supervisors | 1 = Civilian Lot Better<br>2 = Civilian Slightly Better<br>3 = About Same<br>4 = Civilian Slightly Worse<br>5 = Civilian Lot Worse |
| | (Q102B) Having a Say | 1-5 pt. Scale (see Q102A) |
| | (Q102C) Retirement Benefits | 1-5 pt. Scale (see Q102A) |
| | (Q102D) Medical Benefits | 1-5 pt. Scale (see Q102A) |
| | (Q102E) Interesting Work | 1-5 pt. Scale (see Q102A) |
| | (Q102F) Wages and Salaries | 1-5 pt. Scale (see Q102A) |
| | (Q102G) Promotion Chances | 1-5 pt. Scale (see Q102A) |
| | (Q102H) Training Opportunities | 1-5 pt. Scale (see Q102A) |
| | (Q102I) Co-workers | 1-5 pt. Scale (see Q102A) |
| | (Q102J) Work Schedule—Hours | 1-5 pt. Scale (see Q102A) |
| | (Q102K) Job Security | 1-5 pt. Scale (see Q102A) |
| | (Q102L) Job Equipment | 1-5 pt. Scale (see Q102A) |
| | (Q102M) Job Location | 1-5 pt. Scale (see Q102A) |

# IV.  SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## A.  OVERVIEW

This chapter presents the results of a regression analysis of reenlistment intentions using the set of candidate variables discussed in the previous chapter.  The Statistical Package for the Social Sciences (SPSS) was used to conduct the multiple classification analyses (MCA) using both linear regression and new regression analyses [Nie et al, 1975; Nie and Hull, 1981]. The data set of total respondents was reduced to Navy first termers within one year of EAOS, between 25 and 73 months of service (LOS) and between 17 and 24 years of age at entry.

The minimum condition of 24 LOS months was to eliminate reservists who serve their first two years on active duty.  Gender and race were not used to partition cases due to small sample sizes. When all parameters were applied and missing cases were selected out, the final data base sample contained 479 cases for analysis.

The logistic function of reenlistment intentions was used as the criterion variable.  This variable provided better explanatory value than career intention (CARINT) and has a long history of use in regression analysis of reenlistment intentions [Enns, 1977; Hiller, 1982].  The model form was

$$Y' = 1/[1 + e^{-(b_0 + b_1 x_1 + \ldots + b_N x_N)}].$$

The independent explanatory variables are represented by $x_1, x_2, \ldots, x_N$.  These predictors are expected to capture the effect of

major influences on reenlistment intentions. The quantitative
relationship of each variable, $x_1, x_2, \ldots, x_N$, with the likeli-
hood of reenlistment is assessed in the equation by its
respective coefficient $b_1, b_2, \ldots, b_N$. The equivalent linear
form of the logistic equation can be expressed as follows:

$$Y' \ = \ \text{Ln}\,[Y/(1-Y)] \ = \ b_0 + b_1 x_1 + b_2 x_2 + \ldots + b_N x_N$$

The means and standard deviations for the candidate explana-
tory variables are shown in Table IX. The mean reenlistment proba-
bility was 0.17. 84.6% of the respondents expressed no change--
very slight possibility of reenlisting while 4% reported certainty--
almost certain possibility of reenlisting. Frequency distribu-
tions and condescriptive statistics for candidate variables and
other biodemographic variables can be found in Appendix A.

The correlation results between all the explanatory variables
and reenlistment intention (Y) are summarized in Table X. The
variables having the highest zero order correlation with reen-
listment intention were family better off with respondent in a
civilian job (.44) and satisfaction with military life (.39).
All remaining variables had absolute values of correlation
coefficients of less than .21. The highest correlation reported
for a demographic variable was gender (-.15). Pecuniary varia-
bles, in general, had low correlations overall with the highest
being .09 for MILPAY and RELPAY.

B. CATEGORICAL ANALYSIS OF DETERMINANTS

Each of the five major categories were separately block
entered into single regression equations with the logistic

## TABLE IX

## Mean and Standard Deviations of Candidate Variables

| Variable List | Mean | Standard Deviation |
|---|---|---|
| I. Demographic | | |
| 1. ENTAGE | 0.12 | 0.32 |
| 2. Gender | 0.91 | 0.29 |
| 3. Entry Marital Status | 0.08 | 0.26 |
| 4. Current Marital Status | 0.42 | 0.49 |
| 5. Dependency | 0.23 | 0.42 |
| 6. Race | 0.91 | 0.29 |
| 7. High School Diploma | 0.88 | 0.32 |
| II. Tenure | | |
| 8. ACDULOS | 0.36 | 0.48 |
| III. Cognitive/Affective Orientation | | |
| 9. Military Life as Expected | 3.16 | 1.10 |
| 10. Satisfaction with Military Life | 2.47 | 1.43 |
| 11. Assignment--Ship | 0.62 | 0.49 |
| 12. Feelings About Current Location | 4.04 | 1.80 |
| IV. Income and Economic Incentives | | |
| 13. MILPAY | 8470.75 | 1630.62 |
| 14. Receive Special Pays--Allowances | 0.59 | 0.58 |
| 15. Tot Spouse's Civilian Earnings | 842.59 | 2457.41 |
| 16. Tot Family Income | 8470.51 | 5649.80 |
| 17. Tot Outstanding Debts | 2.65 | 1.3 |
| 18. Value of Current Assets | 2.82 | 1.28 |
| 19. Comparison of Current with Past Fin Sit. | 2.63 | 1.21 |
| 20. RELPAY | 0.75 | 0.75 |
| V. Perceived Existence of Alternatives and Comparisons | | |
| 21. Recd Civilian Job Offers Past Year | 0.62 | 0.49 |
| 22. If Left Wd Find Gd Civ Job | 8.47 | 2.00 |
| 23. Wd Use Mil Skills--Civ Job | 6.27 | 3.58 |
| 24. Family Btr with Me In Civ Job | 1.53 | 0.82 |
| 25. Civ vs Mil Job--Immed Supe | 1.91 | 0.94 |
| 26. Civ vs Mil Job--Having a Say | 1.52 | 0.74 |
| 27. Civ vs Mil Job--Retmt Benef | 2.48 | 1.78 |
| 28. Civ vs Mil Job--Med Benef | 2.93 | 1.25 |
| 29. Civ vs Mil Job--Chnce Interst Wk | 1.61 | 0.82 |
| 30. Civ vs Mil Job--Wages--Sal | 1.22 | 0.54 |
| 31. Civ vs Mil Job--Chnce Promot | 1.81 | 0.84 |
| 32. Civ vs Mil Job--Trng Opp | 2.05 | 0.99 |
| 33. Civ vs Mil Job--People Work With | 2.06 | 0.91 |
| 34. Civ vs Mil Job--Work Sched--Hr | 1.55 | 0.87 |
| 35. Civ vs Mil Job--Job Security | 3.15 | 1.15 |

TABLE IX (Continued)

| Variable List | Mean | Standard Deviation |
|---|---|---|
| 36. Civ vs Mil Job--Equipment | 1.79 | 0.87 |
| 37. Civ vs Mil Job--Job Location | 1.42 | 0.76 |
| Dependent Variable | | |
| 38. Probability of Reenlistment | .17 | 0.18 |

## TABLE X

## Correlation Matrix of All Variables

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. ENTAGE | | | | | | | | | | | |
| 2. Gender | -.26 | | | | | | | | | | |
| 3. Entry Marital Status | .26 | -.07 | | | | | | | | | |
| 4. Current Marital Status | .06 | -.02 | .32 | | | | | | | | |
| 5. Dependency | .05 | .07 | .32 | .59 | | | | | | | |
| 6. Race | -.06 | -.03 | -.02 | .01 | -.07 | | | | | | |
| 7. High School Diploma | .04 | -.05 | -.07 | .01 | -.02 | -.01 | | | | | |
| 8. ACDULOS | -.05 | .07 | .00 | .13 | .11 | .09 | .14 | | | | |
| 9. Military Life As Expected | -.08 | .11 | -.02 | -.04 | -.01 | -.08 | .03 | -.03 | | | |
| 10. Satisfaction With Mil Life | .10 | -.19 | -.04 | .07 | .03 | -.10 | -.00 | -.02 | -.39 | | |
| 11. Assignment--Ship | -.18 | .39 | -.04 | -.02 | .03 | -.02 | -.05 | .07 | .17 | -.32 | |
| 12. Feelings About Location | -.00 | -.02 | -.06 | .06 | .01 | .02 | .04 | .15 | -.13 | .23 | -.14 |
| 13. MILPAY | .03 | -.15 | .13 | .56 | .39 | .01 | .14 | .40 | -.12 | .20 | -.30 |
| 14. Recvd Special Pays-- Allows | -.10 | .18 | -.15 | .05 | .03 | .06 | .12 | .16 | .10 | -.11 | .43 |
| 15. Spouse's Civ Earnings | .14 | -.08 | .27 | .41 | .13 | .01 | -.02 | .01 | -.05 | -.00 | -.01 |
| 16. Tot Family Income | .04 | -.07 | .22 | .28 | .17 | .00 | .11 | .18 | .01 | -.05 | -.07 |
| 17. Tot Outstanding Debts | .06 | -.13 | .13 | .37 | .26 | .00 | .06 | .11 | -.17 | .15 | -.12 |
| 18. Value Current Assets | -.00 | .01 | -.04 | -.10 | -.09 | .10 | .14 | .16 | .04 | -.06 | .05 |
| 19. Comparison of Fin. Sit. | .03 | -.02 | .02 | .04 | .06 | -.04 | -.09 | -.15 | .08 | -.12 | .05 |
| 20. RELMPAY | .04 | -.20 | -.02 | .03 | -.02 | -.08 | -.04 | -.07 | .03 | .04 | -.11 |

TABLE X (Continued)

| Variable | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|
| 1. ENTAGE | | | | | | | | | |
| 2. Gender | | | | | | | | | |
| 3. Entry Marital Status | | | | | | | | | |
| 4. Current Marital Status | | | | | | | | | |
| 5. Dependency | | | | | | | | | |
| 6. Race | | | | | | | | | |
| 7. High School Diploma | | | | | | | | | |
| 8. ACDULOS | | | | | | | | | |
| 9. Military Life As Expected | | | | | | | | | |
| 10. Satisfaction with Mil Life | | | | | | | | | |
| 11. Assignment—Ship | | | | | | | | | |
| 12. Feelings About Location | | | | | | | | | |
| 13. MILPAY | .19 | | | | | | | | |
| 14. Recvd Special Pays—Allows | -.03 | -.03 | | | | | | | |
| 15. Spouse's Civ Earnings | .02 | .23 | -.01 | | | | | | |
| 16. Tot Family Income | -.00 | .19 | -.01 | .45 | | | | | |
| 17. Tot Outstanding Debts | .03 | .32 | -.07 | .20 | .14 | | | | |
| 18. Value Current Assets | .06 | .01 | .12 | -.02 | .15 | -.19 | | | |
| 19. Comparison of Fin. Sit. | -.07 | -.06 | -.06 | -.05 | -.17 | .15 | -.21 | | |
| 20. RELMPAY | .05 | .11 | -.01 | -.01 | -.06 | .05 | -.07 | .00 | |

71

TABLE X (Continued)

| Variable* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 21. Recv Civ Jb Offers | -.07 | .03 | .09 | .09 | .02 | .03 | -.03 | .04 | .02 | -.09 |
| 22. Find Gd Civ Jb | -.16 | .14 | .05 | .09 | .05 | .01 | .06 | .10 | -.15 | -.19 |
| 23. Wd Use Mil Skil-Civ Jb | -.13 | .04 | -.06 | .00 | .04 | -.00 | .10 | .36 | -.15 | .10 |
| 24. Fam Btr--Civ Jb | .13 | .20 | -.04 | -.09 | -.06 | -.12 | -.02 | -.15 | -.21 | .52 |
| 25. Civ vs Mil Jb--Supe | .04 | -.11 | .02 | -.02 | -.03 | .00 | .08 | .07 | -.29 | .30 |
| 26. Civ vs Mil Jb--Have Say | -.01 | -.01 | -.05 | -.04 | -.08 | -.11 | -.01 | .01 | -.17 | .29 |
| 27. Civ vs Mil Jb--Retmt Bene | .03 | -.01 | .01 | -.04 | -.05 | -.01 | -.00 | -.06 | -.05 | .13 |
| 28. Civ vs Mil Jb--Med Bene | .04 | -.06 | .03 | -.12 | -.10 | -.06 | -.05 | -.17 | -.07 | .19 |
| 29. Civ vs Mil Jb--Insr Wk | .02 | -.07 | .00 | -.00 | -.03 | -.02 | -.05 | -.13 | -.21 | .34 |
| 30. Civ vs Mil Jb--Wage-Sal | .18 | -.21 | .06 | -.01 | .01 | -.03 | -.00 | -.03 | -.07 | .29 |
| 31. Civ vs Mil Jb--Prom Opp | .07 | -.02 | .04 | -.04 | -.03 | -.09 | -.02 | -.01 | -.16 | .24 |
| 32. Civ vs Mil Jb--Trng | -.01 | -.00 | .02 | -.02 | .00 | -.02 | -.03 | -.05 | -.20 | .25 |
| 33. Civ vs Mil Jb--Co-Work | .03 | -.09 | .01 | -.00 | -.01 | -.04 | .01 | .02 | -.23 | .29 |
| 34. Civ vs Mil Jb--Sched Hr | .07 | -.17 | .01 | -.04 | -.05 | -.02 | .01 | -.10 | -.13 | .26 |
| 35. Civ vs Mil Jb--Jb Sec | .05 | -.08 | .08 | +.01 | .02 | -.07 | .01 | .00 | -.11 | .16 |
| 36. Civ vs Mil Jb--Jb Eq | .07 | -.11 | .00 | -.02 | -.05 | -.03 | -.03 | -.11 | -.14 | .28 |
| 37. Civ vs Mil Jb--Jb Loc | .09 | -.19 | .00 | .01 | .01 | -.01 | -.01 | .05 | -.13 | .33 |
| 38. Y' | .06 | -.14 | .01 | .04 | -.02 | -.00 | .03 | -.01 | -.12 | .40 |

Note: Unlabeled Variables:

1. ENTAGE
2. Gender
3. Entry Marital Status
5. Dependency
6. Race
7. High School Diploma
8. ACDULOS
9. Military Life as Expected
10. Satisfaction with Mil Life

72

TABLE X (Continued)

| Variable * | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|
| 21. Recv Civ Jb Offers | .05 | -.02 | .05 | .03 | .08 | .08 | .02 | .04 | .05 | -.05 |
| 22. Find Gd Civ Jb | .10 | .04 | .08 | .08 | .06 | .10 | .01 | .09 | -.05 | -.11 |
| 23. Wd Use Mil Skil-Civ | .07 | .18 | .15 | .08 | -.00 | .08 | .08 | .07 | -.11 | -.09 |
| 24. Fam Btr--Civ Jb | -.24 | .16 | -.00 | -.08 | -.02 | -.07 | .02 | -.04 | -.11 | .04 |
| 25. Civ vs Mil Jb--Supe | -.15 | .20 | .10 | -.04 | -.00 | -.03 | .02 | .00 | -.02 | -.01 |
| 26. Civ vs Mil Jb--Have Say | -.10 | .14 | .01 | -.09 | -.03 | -.00 | .03 | .01 | -.17 | -.01 |
| 27. Civ vs Mil Jb--Retmt Bene | -.06 | .00 | -.05 | -.06 | .01 | .01 | -.05 | -.08 | -.06 | -.04 |
| 28. Civ vs Mil Jb--Med Bene | -.04 | -.04 | -.15 | -.15 | -.02 | -.03 | -.01 | -.06 | .04 | .05 |
| 29. Civ vs Mil Jb--Insr Wk | -.15 | .11 | .03 | -.15 | -.00 | -.02 | -.00 | -.03 | -.04 | -.02 |
| 30. Civ vs Mil Jb--Wage-Sal | -.17 | .10 | .02 | -.09 | .04 | .03 | -.00 | .00 | -.09 | .12 |
| 31. Civ vs Mil Jb--Prom Opp | -.01 | .09 | -.06 | .03 | .08 | .04 | -.05 | .01 | -.05 | -.05 |
| 32. Civ vs Mil Jb--Trng | -.12 | .14 | -.05 | -.15 | .01 | -.01 | .00 | -.02 | -.01 | -.00 |
| 33. Civ vs Mil Jb--Co-Work | -.20 | .12 | .10 | -.06 | -.01 | .02 | -.00 | -.01 | -.06 | -.04 |
| 34. Civ vs Mil Jb--Sched Hr | -.34 | .12 | .03 | -.19 | -.03 | .01 | .00 | -.03 | -.09 | .06 |
| 35. Civ vs Mil Jb--Jb Sec | -.13 | -.04 | .02 | -.09 | .00 | -.03 | -.02 | -.03 | -.05 | .00 |
| 36. Civ vs Mil Jb--Jb Eq | -.17 | .13 | -.02 | -.06 | .02 | .02 | -.05 | -.08 | -.03 | -.01 |
| 37. Civ vs Mil Jb--Jb Loc | -.25 | .32 | .12 | -.16 | .04 | .01 | .03 | .03 | -.08 | .03 |
| 38. Y' | -.15 | .00 | .08 | .00 | -.03 | -.04 | .08 | -.07 | -.02 | .08 |

*

Note: Unlabeled variables:

11. Assignment--Ship    14. Recd Spec Pays    17. Tot Outstng Debts
12. Feelings Abt Loc    15. Spouse Civ Earn   18. Value Current Assets
13. MILPAY              16. Tot Fam Inc       19. Comparison Fin Sit
                                              20. RELMPAY

73

TABLE X (Continued)

| Variable | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|---|---|---|---|---|---|---|---|---|---|---|
| 21. Recv Civ Jb Offers | | | | | | | | | | |
| 22. Find Gd Civ Jb | .36 | | | | | | | | | |
| 23. Wd Use Mil Skil-Civ Jb | .12 | .29 | | | | | | | | |
| 24. Fam Btr-Civ Jb | -.17 | -.30 | .02 | | | | | | | |
| 25. Civ vs Mil Jb--Supe | -.02 | -.11 | .16 | .25 | | | | | | |
| 26. Civ vs Mil Jb--Have Say | -.11 | -.14 | .11 | .24 | .37 | | | | | |
| 27. Civ vs Mil Jb--Retmt Bene | -.07 | -.17 | -.03 | .23 | .15 | .17 | | | | |
| 28. Civ vs Mil Jb--Med Bene | -.10 | -.24 | -.11 | .26 | .13 | .14 | .54 | | | |
| 29. Civ vs Mil Jb--Insr Wk | -.11 | -.13 | .08 | .28 | .29 | .33 | .24 | .26 | - | |
| 30. Civ vs Mil Jb--Wage-Sal | -.09 | -.25 | -.10 | .34 | .22 | .24 | .27 | .27 | .23 | - |
| 31. Civ vs Mil Jb--Prom Opp | -.13 | -.14 | .06 | .25 | .21 | .27 | .32 | .33 | .39 | .25 |
| 32. Civ vs Mil Jb--Trng | -.06 | -.07 | .10 | .24 | .24 | .26 | .27 | .33 | .44 | .20 |
| 33. Civ vs Mil Jb--Co-Work | -.07 | -.13 | .12 | .24 | .43 | .24 | .13 | .19 | .37 | .18 |
| 34. Civ vs Mil Jb--Sched Hr | -.03 | -.15 | -.01 | .28 | .21 | .15 | .17 | .16 | .17 | .23 |
| 35. Civ vs Mil Jb--Jb Sec | -.09 | -.24 | .01 | .16 | .21 | .16 | .36 | .39 | .20 | .17 |
| 36. Civ vs Mil Jb--Jb Eq | -.11 | -.18 | .00 | .30 | .30 | .23 | .23 | .20 | .34 | .26 |
| 37. Civ vs Mil Jb--Jb Loc | -.14 | -.13 | .14 | .33 | .25 | .29 | .12 | .12 | .33 | .26 |
| 38. Y' | -.06 | -.11 | .05 | .44 | .11 | .18 | .13 | .16 | .19 | .22 |

74

TABLE X (Continued)

| Variable | 31 | 32 | 33 | 34 | 35 | 36 | 37 |
|---|---|---|---|---|---|---|---|
| 21. Recv Civ Jb Offers | | | | | | | |
| 22. Find Gd Civ Jb | | | | | | | |
| 23. Wo Use Mil Skil—C Jb | | | | | | | |
| 24. Fam Btr—Civ Jb | | | | | | | |
| 25. Civ vs Mil Jb—Supe | | | | | | | |
| 26. Civ vs Mil Jb—Have Say | | | | | | | |
| 27. Civ vs Mil Jb—Retmt Bene | | | | | | | |
| 28. Civ vs Mil Jb—Med Bene | | | | | | | |
| 29. Civ vs Mil Jb—Insr Wk | | | | | | | |
| 30. Civ vs Mil Jb—Wage-Sal | | | | | | | |
| 31. Civ vs Mil Jb—Prom Opp | | | | | | | |
| 32. Civ vs Mil Jb—Trng | .50 | | | | | | |
| 33. Civ vs Mil Jb—Co-Work | .26 | .31 | | | | | |
| 34. Civ vs Mil Jb—Sched Hr | .18 | .20 | .29 | | | | |
| 35. Civ vs Mil Jb—Jb Sec | .35 | .40 | .29 | .19 | | | |
| 36. Civ vs Mil Jb—Jb Eq | .27 | .37 | .27 | .26 | .26 | | |
| 37. Civ vs Mil Jb—Jb Loc | .21 | .28 | .29 | .31 | .18 | .24 | |
| 38. Y' | .09 | .10 | .14 | .11 | .13 | .09 | .18 |

of reenlistment. A final regression containing all five categories was block entered to measure the maximum total explanatory power of the key determinants. The regression results for each category are shown in Table XI.

TABLE XI

Results of Separate Regressions by Major Category

| | Category | $R^2$ | F Significance |
|---|---|---|---|
| I. | Demographic | .03 | .0614 |
| II. | Tenure | .0001 | .8253 |
| III. | Cognitive/Affective Orientation | .17 | .0000 |
| IV. | Income and Economic Incentives | .03 | .1222 |
| V. | Perceived Existence of Alternatives and Comparisons | .23 | .0000 |
| | All Five Categories | .30 | .00001 |
| | N = 479 | | |

A total explanatory power ($R^2$) of .30 was achieved when all five categories entered one regression. The largest explanatory power of any single category as measured by an R squared of .23 was that of Category V, "perceived existence of alternatives and comparisons." The set of variables comprising Category V explained 77% (.23/.30) of the maximum total variation of the logistic form of reenlistment intentions. The category having the second largest single explanatory power was Category III, "cognitive/affective orientation," with 57% (.17/.30) of the explanatory power of all blocks together.

For Category II, "tenure," the 6 year obligors have more tenure (average 4 yr LOS = 3.5 yr; average 6 yr LOS = 5.5 yr)

76

and slightly higher average age than the 4 year obligors.
Therefore one would expect to observe a significant differ-
ence of reenlistment probability between the 4 and 6 year
first termers. However, Table XI indicates reenlistment
intentions are not significantly different for the 4 year
obligor compared to the 6 year obligors ($R^2$ = .0001, F
significance = .83).

Each of the two remaining single categories--I, "demo-
graphic" and III, "income and economic incentives," could
account for only 10% (.03/.30) of the total explanatory power
when all five categories were entered into the equation.
These results strongly indicate that both the demographic
and economic variables were of little significance in explain-
ing the variation in first term reenlistment intentions.

C. ANALYSIS OF INDIVIDUAL DETERMINANTS OF TURNOVER

When a single stepwise regression was used to measure
the individual explanatory power of reenlistment probability
among all variables, only three predictor variables entered
the regression equations as shown in Table XII.

The most powerful single explanatory variable is "family
better off with respondent in a civilian job." The more a
first term enlistee feels that his/her family would be
better off with the respondent in a civilian job, the lower
the respondent's intention to reenlist. If military employ-
ment is not perceived as accommodating family needs then
strong motivation for job change is provided. This variable

77

## TABLE XII

### Regression Analysis of Individual Determinants

| Variable | b* | $R^2$ |
|---|---|---|
| Family Better Off With Me in Civilian Job | .40 | .20 |
| Satisfaction with Military Life | .18 | .24 |
| Feelings About Location | -.06 | .25 |

N = 479

*p $\leq$ .0001

may be capturing the effects of other specific variables which might be more revealing of how and why civilian job opportunities would contribute more favorably to a family's welfare. This issue is explored later in this section.

Satisfaction with military life was the second most significant variable. As satisfaction with military life decreases, intention to reenlist declines. This variable may likewise be capturing the effect of other variables. This issue is taken up later in this section.

The third variable, feelings about location, has a negative coefficient. As an individual becomes more settled and certain about remaining in his current location, the respondent is less likely to want to relocate by transferring away from the present locale and reenlistment intentions decline. The survey question related to this variable is

vague and open to interpretation. Location may be considered
by the respondent to mean either location of duty station or
location of family residence.

The three predictor variables of family better with me
in a civilian job, satisfaction with military life, and
feelings about location, do not yield clear interpretive
results. They are linked to and influenced by other
pecuniary and non-pecuniary factors.

A regression analysis was conducted to explore what
variables may lay behind the assessment of family better
off with me in military life. The procedure was to omit
these two variables from consideration and determine if any
new explanatory variables entered the regression equation.
As shown in Table XIII, six new explanatory variables were
considered to be significant.

TABLE XIII

Regression Results When Two Variables Are Deleted[*]

| Variables | b | $R^2$ |
| --- | --- | --- |
| Civilian vs Military Job--Wages-Salary | .25 | .05 |
| Civilian vs Military Job--Interesting Work | .11 | .07 |
| Assignment--Ship | -.32 | .09 |
| Special Pays--Allowances | .21 | .09 |
| Civilian vs Military Job--Medical Benef. | .08 | .10 |
| Civilian vs Military Job--Having a Say | .13 | .10 |

N = 479; $p \leq .0001$; Total variables entered = 35

[*]Two variables omitted: Family Better off with Respondent in a Civilian Job, and Satisfaction with Military Life.

79

Four civilian versus military job comparison variables from Category V were significant. The four variables with their R squared values are: wages-salaries, .05; interesting work, .07; medical benefits, .10; and having a say, .10. One additional variable of significance, assignment--ship ($R^2$ = .09) came from the cognitive/affective orientation, Category III and one additional significant variable, special pays--allowances ($R^2$ = .09), came from the income and economic incentive, Category IV.

The more an enlistee perceives that the military job factors of wages, interesting work, medical benefits and having a say are more restrictive and less competitive than what might be available in the civilian job sector, his/her probability of reenlistment intentions decline. If a respondent was currently on shipboard duty, the probability of reenlistment declined. This may be due to shipboard tours of duty being associated with negative job factors such as long hours and constrained working conditions. Also, shipboard duty and tour lengths impact negatively on family separation and are usually associated with declining reenlistment intentions. As special pays increase, reenlistment probabilities also increase. Even though the explanatory power of the new set of variables decreased, from .30 to .10, the new regression results have compatible explanatory power of turnover models such as those found in the literature, e.g., Arnold and Feldman (1982).

D.  SUMMARY

This thesis developed and tested a model to examine
reenlistment intentions among first term Navy men and women
who are within one year of their end of service contract.
The influences of various non-pecuniary and pecuniary explana-
tory variables were explored on the likelihood of reenlistment.
A logistic form of reenlistment intentions was used to test
for significant explanatory variables.

The analysis showed that the variable measuring the
respondent's perception of family being better off with the
respondent in a civilian job was the most influential factor
($R^2$ = .20) associated with reenlistment intentions.  Satis-
faction with military life was the second most influential
variable ($R^2$ = .24).

Of particular significance is that biodemographic varia-
bles such as gender, race, and education level and the tenure
variable, 4 YO vs 6 YO, were not significantly explanatory
variables for reenlistment intentions.  Also, when the two
predominant equation variables, family better off with the
respondent in a civilian job and satisfaction with military
life, were intentionally removed from the candidate variable
list, and a new regression conducted, neither demographics
nor tenure were reflected in the new equation.  Only one
pecuniary variable, special pays--allowances, was of direct
influence when it entered into the follow-up regression equa-
tion.  These results would suggest that previous research
which indicated significant explanatory power to demographic,

age and tenure variables relative to turnover, focused upon
a larger window of time to end of contract or time of service
(LOS).

E.  POLICY IMPLICATIONS

There are several policy implications of the empirical
results reported by this thesis.  First, the relevance of
job factors to reenlistment intentions for first termers
within 1 year EAOS suggests that enlistees are performing
some comparative analysis between opportunities and advan-
tages of civlian versus the military job for such elements
as wages--salaries, interesting work, medical benefits and
participation in decision matters.  At present (1982) the
military offers improved pay comparability.  Pay must remain
comparable or better with the civilian sector to retain en-
listees.

This Navy sample of 479 first termers also represents
a diversified spectrum of demographic characteristics such
as gender, race, education level, age, LOS, dependency, and
marital status.  The demographic variables were not signi-
ficant in any of the analyses conducted.  The lack of influ-
ence from biodemographic variables would suggest that non-
pecuniary policies pertaining to recruiting first termers
to ship over should not be specifically targeted to a specific
group (4 or 6 year obligor).

A second recommendation would be to continue support of
bonus programs and special pays such as sea pay.  The bonus

program would serve as an occupational incentive in under-manned ratings. The special pays would also serve as a first term incentive to reimburse the service member for encountered hardships as family separation due to sea duty.

Rules and legislation might be reduced for lower rated enlistees to enhance military life such as expanding eligibility for government accommodations to married first termers. 41.8% were married by one year to EAOS as compared to 7.5% at service entry.

The Navy in particular might consider investing in policies which could enhance customer services provided in association with medical benefits, and improving both professional and personal command communications through better organizational development and management at command level. It would appear that respondents desire interactive communications, a challenging job and interesting work. Shipboard assignment for the married first termers are a reality, however this reality requires due consideration of favorable second choice duties as can best be accommodated by the Navy.

If the service can project a professional, demanding, yet rewarding career with opportunities for increased responsibilities, seniority, and financial incentives comparable with the civilian sector, the first termer will be likely to reenlist with career aspirations.

## F.  FUTURE ANALYSIS

The two predictors, family better with respondent in a civilian job and satisfaction with military life, require further empirical analysis.  Specific job aspects that are related to these general concepts need to be identified in order to pursue appropriate policies to address their effects. Based upon the turnover intention model suggested in Chapter II and considering this chapter's results, a revised model is depicted in Figure 7.
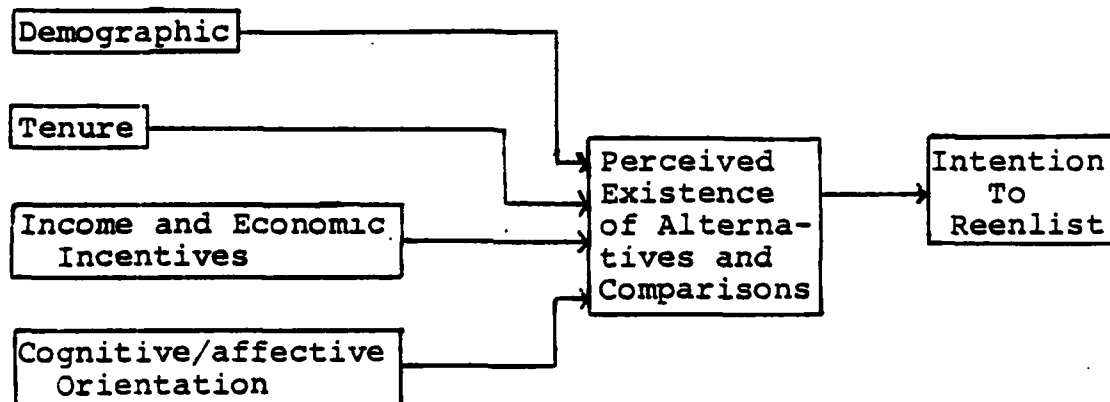


Figure 7.  A Revised Model of Turnover Intentions

The revised model suggests that for first termers the majority of key determinants affect intention to turnover through the block "Perceived Existence of Alternatives and Comparisons," when less than one year remains to end of contract, for enlistees between 17-24.  This principal category appears to capture the underlying influences of some economic and cognitive/affective component variables.

It is further suggested that for this sample, perceived existence of alternatives and comparisons serve as the antecedent for intention to reenlist.

Future surveys of a similar nature should include questions which are response specific or questioned specifically to reduce multiple interpretation. In particular this survey's questions about expectations of military life, and satisfaction with job or military life were difficult to interpret into a policy perspective.

## APPENDIX A

### FREQUENCY DISTRIBUTIONS AND CONDESCRIPTIVES FOR
### CANDIDATE VARIABLES

| Variable | Category | Absolute Frequency | Relative Frequency (%) |
|---|---|---|---|
| **I. DEMOGRAPHIC** | | | |
| Age at Service Entry | 17 | 84 | 17.5 |
| (Q42) | 18 | 198 | 41.3 |
| | 19 | 99 | 20.7 |
| | 20 | 41 | 8.6 |
| | 21 | 25 | 5.2 |
| | 22 | 18 | 3.8 |
| | 23 | 8 | 1.7 |
| | 24 | 6 | 1.3 |
| Current Age | 19 | 5 | 1.0 |
| (Q41) | 20 | 20 | 4.2 |
| | 21 | 103 | 21.5 |
| | 22 | 99 | 20.7 |
| | 23 | 104 | 21.7 |
| | 24 | 74 | 15.4 |
| | 25 | 39 | 8.1 |
| | 26 | 17 | 3.5 |
| | 27 | 13 | 2.7 |
| | 28 | 4 | 0.8 |
| | 29 | 1 | 0.2 |
| Gender | Female | 44 | 9.2 |
| (Q40) | Male | 435 | 90.8 |
| Entry Marital Status | Wido—Single | 443 | 92.5 |
| (Q45) | Mar-Sep-Div | 36 | 7.5 |
| Current Marital Status | Wido—Single | 279 | 58.2 |
| (Q45) | Mar-Sep-Div | 200 | 41.8 |
| Dependency | None | 371 | 77.5 |
| (Q54) | Some | 108 | 22.5 |
| Race (Q44) | Black | 44 | 9.2 |
| | White | 435 | 90.8 |
| High School Diploma | Yes | 57 | 11.9 |
| (Q53) | No | 422 | 88.1 |

| Variable | Category | Absolute Frequency | Relative Frequency (%) |
|---|---|---|---|
| II. TENURE | | | |
| ACDULOS | 4 Yr Obligor | 308 | 64.3 |
| | 6 Yr Obligor | 171 | 35.7 |
| Years of Service Intended (Q15) | Mean: 5.54 Std Dev: 3.75 Min: 3 Max: 40 | | |
| III. COGNITIVE/AFFECTIVE ORIENTATION | | | |
| Completion of Current Enlistment (Q14) | 3 Mos < | 92 | 19.2 |
| | 3-6 Mos | 211 | 44.1 |
| | 6-9 Mos | 152 | 31.7 |
| | 9-12 Mos | 24 | 5.0 |
| Current Education (Q52) | 10-12 Grade | 351 | 73.3 |
| | 1-5 Yr College | 128 | 26.? |
| Military Life As Expected (Q104A) | Strongly Agree | 15 | 3.1 |
| | Agree | 162 | 33.8 |
| | Neither A/D | 82 | 17.1 |
| | Disagree | 169 | 35.3 |
| | Strongly Disagree | 51 | 10.6 |
| Satisfaction With Mil Life (Q105) | Very Dissatisfied | 148 | 30.9 |
| | | 141 | 29.4 |
| | | 80 | 16.7 |
| | | 61 | 12.7 |
| | | 31 | 6.5 |
| | | 13 | 2.7 |
| | Very Satisfied | 5 | 1.0 |
| Assignment-Ship (Q5) | Yes | 298 | 62.2 |
| | No | 181 | 37.8 |
| Feelings About Current Location (Q7) | Very Dissatisfied | 52 | 10.9 |
| | | 59 | 12.3 |
| | | 71 | 14.8 |
| | | 93 | 19.4 |
| | | 86 | 18.0 |
| | | 74 | 15.4 |
| | Very Satisfied | 44 | 9.2 |

APPENDIX A (Continued)

| Variable | Category | Absolute Frequency | Relative Frequency (%) |
|----------|----------|--------------------|-----------------------|

IV. INCOME AND ECONOMIC INCENTIVES

Monthly Basic Pay     Mean: $589.11    Std Dev: `9.??
  (Q69)               Min: $400      Max: $1000   Range 600

Monthly BAQ         Mean: $ 78.26    Std Dev: 81.81
  (Q70)               Min: $ 0       Max: $250    Range 250

Monthly BAS          Mean: $ 38.53    Std Dev: 43.57
  (Q71)               Min: $ 0       Max: $100    Range 100

MILPAY              Mean: $8470.75   Std Dev: 1630.62
([Q69+Q70+Q71]x12)   Min: $4800     Max: $13,320   Range 8,520

Receive Special Pays—     Yes         289         60.3
  Allowances (Q73)       No          188         39.2

Spouse Civ Earnings     Mean: $842.59    Std Dev: 2457.41
  (Q90)               Min: $ 0       Max: $26,000   Range 26,000

Total Family Income     Mean: $8470.51   Std Dev: 5649.80
  (Q93)               Min: $ 0       Max: $70,000   Range 70,000

Total Outstanding Debts   Mean: 2.65      Std Dev: 1.3
  (Q94)               Min: 1          Max: 7    Range 6

Value Current Assets     Mean: 2.82      Std Dev: 1.28
  (Q95)               Min: 0          Max: 7    Range 7

Comparison of Current     Lot Better Now   98        20.5
  Financial Situation With   Somewhat Btr Now 134      28.0
  3 Years Ago (Q96)      About Same     138       28.8
                    Somewhat Wrs Now 66      13.8
                    Lot Wrs Now     43        9.0

Expect Civilian Earnings   Mean: $13,754.22 Std Dev: 4934.30
  (Q99)               Min: $800      Max: $49,900   Range 49,100

RELMPAY            Mean: .75      Std Dev: .75
(MILPAY/Q99)        Min: .14      Max: 10.94   Range 10.80

38

| Variable | Category | Absolute Frequency | Relative Frequency (%) |
|---|---|---|---|

V. PERCEIVED EXISTENCE OF ALTERNATIVES AND COMPARISONS

| Variable | Category | Absolute Frequency | Relative Frequency (%) |
|---|---|---|---|
| Received Civilian Job Offers— Past 12 Months (Q97) | Yes | 298 | 62.2 |
| | No | 181 | 37.8 |
| If Left Service Now Would Find a Good Civilian Job (Q98) | No Chance | 2 | .4 |
| | Very Slt Psblty | 2 | .4 |
| | Slt Psblty | 4 | .8 |
| | Some Psblty | 8 | 1.7 |
| | Fair Psblty | 10 | 2.1 |
| | Fairly Gd Psblty | 21 | 4.4 |
| | Gd Psblty | 32 | 6.7 |
| | Probable | 30 | 6.3 |
| | Very Probable | 64 | 13.4 |
| | Almost Sure | 95 | 19.8 |
| | Certain | 211 | 44.1 |
| Would Use Military Skills— Civilian Job (Q100) | No Chance | 50 | 10.4 |
| | Very Slt Psblty | 34 | 7.1 |
| | Slt Psblty | 18 | 3.8 |
| | Some Psblty | 21 | 4.4 |
| | Fair Psblty | 36 | 7.5 |
| | Fairly Gd Psblty | 15 | 3.1 |
| | Gd Psblty | 43 | 9.0 |
| | Probable | 27 | 5.6 |
| | Very Probable | 48 | 10.0 |
| | Almost Sure | 50 | 10.4 |
| | Certain | 137 | 28.6 |
| Family Better Off With Respondent in a Civilian Job (Q104D) | Strongly Agree | 310 | 64.7 |
| | | 99 | 20.7 |
| | | 60 | 12.5 |
| | | 7 | 1.5 |
| | Strongly Disagr | 3 | .6 |

89

APPENDIX A (Continued)

| | | Civ Lot Better | Civ Slightly Better | About Same | Civ Slightly Worse | Civ Lot Worse |
|---|---|---|---|---|---|---|
| | Civilian vs Military Job (Q102) | | | | | |
| A. | Immediate (Abs Fre) Supervisors (Rel Fre) | 216 45.1 | 111 23.2 | 134 28.0 | 17 3.5 | 1 .2 |
| B. | Having a Say | 293 61.2 | 133 27.8 | 45 9.4 | 7 1.5 | 1 .2 |
| C. | Retirement Benefits | 127 26.5 | 119 24.8 | 125 26.1 | 90 18.8 | 18 3.8 |
| D. | Medical Benefits | 85 17.7 | 91 19.0 | 123 25.7 | 135 28.2 | 45 9.4 |
| E. | Chance Interesting Work | 276 57.6 | 123 25.7 | 69 14.4 | 11 2.3 | 0 0 |
| F. | Wages--Salaries | 397 82.9 | 64 13.4 | 14 2.9 | 3 0.6 | 1 0.2 |
| G. | Chances of Promotion | 208 43.4 | 170 35.5 | 87 18.2 | 13 2.7 | 1 0.2 |
| H. | Training Opport. | 173 36.1 | 153 31.9 | 115 24.0 | 33 6.9 | 5 1.0 |
| I. | People Work With | 170 35.5 | 122 25.5 | 176 36.7 | 10 2.1 | 1 0.2 |
| J. | Work Schedule--Hrs | 315 65.8 | 83 17.3 | 65 13.6 | 13 2.7 | 3 0.6 |
| K. | Job Security | 64 13.4 | 52 10.9 | 154 32.2 | 167 34.9 | 42 8.8 |
| L. | Job Equipment | 235 49.1 | 120 25.1 | 115 24.0 | 9 1.9 | 0 0 |
| M. | Job Location | 345 72.0 | 73 15.2 | 54 11.3 | 6 1.3 | 1 0.2 |

| Variable | Category | Absolute Frequency | Relative Frequency (%) |
|---|---|---|---|
| VI. PROBABILITY OF REENLISTMENT | | | |
| Intention to Reenlist | No Chance | 405 | 84.6 |
| (Q20) | Very Slt Psblty | 14 | 2.9 |
| | | 15 | 3.1 |
| | | 7 | 1.5 |
| | | 6 | 1.3 |
| | | 11 | 2.3 |
| | Almost Certain | 2 | .4 |
| | Sure | 19 | 4.0 |
| Linear Probability | Mean: .165 | Std Dev: .184 | |
| (Y) | Min: .1 | Max: .9  Range .8 | |
| Logistic Probability | Mean: −1.83 | Std Dev: 1.01 | |
| (Y') | Min: −2.20 | Max: 2.20  Range 4.39 | |

# LIST OF REFERENCES

Arnold, Hugh J. and Feldman, Daniel C. "A Multivariate Analysis of the Determinants of Job Turnover," Journal of Applied Psychology, Vol. 67, No. 3, 1982, pg. 350-360.

Baysinger, Barry D. and Mobley, William H. "Employee Turnover: Individual and Organizational Analysis," TR-ONR-6. Texas A&M University: College of Business Administration, April 1982.

Coleman, John F., Ed. "CNO Outlines Goals and Objectives," All Hands, No. 789, October, 1982, pg. 2-6.

Doering, Z.D., Grissmer, D.W., Hawes, J.A., Hutzler, W.P. 1978 DOD Survey of Officer and Enlisted Personnel: User's Manual and Codebook, N-1604-MRAC. Santa Monica, Ca: The Rand Corporation, January, 1981.

Enns, John H. Reenlistment Bonuses and First Term Retention (R-1935-ARPA). Santa Monica, Ca: The Rand Corporation, Sept. 1977.

Goodstadt, Barry E., Korman, Abrahank, Romanczuk, Alan P., Frey, Robert L., Jr., and Glickman, Albert S. "Relationship Between Organizational Beliefs, Affective Dispositions and Navy Reenlistment Intentions: Theoretical and Administrative Implications." Tech. Rpt. 2 (AIR-32201-6/74-TR-2). Washington, D.C.: American Institute for Research, June 1974.

Gray, B.C. Summary of Econometric Analysis of Factors Influencing First Term Reenlistment Decisions (INS 411-72). Alexandria, Virginia: Center for Naval Analysis, Institute for Naval Studies. March 27, 1972.

Hand, Herbert H., Griffeth, Roger W. and Mobley, William H. Military Enlistment, Reenlistment and Withdrawal Research: A Critical Review of the Literature. Microfiche. AD-A048-955 Report No. TR3. Columbia: Center for Management and Organizational Research, University of South Carolina, Dec. 1977.

Hiller, John R. Analysis of Second-Term Reenlistment Behavior (R-2884-MRAL). Santa Monica, Ca: The Rand Corporation, Sept. 1982.

Hom, Peter W., Katerberg, Ralph, Jr. and Hulin, Charles L. "Comparative Examination of Three Approaches to the Prediction of Turnover," Journal of Applied Psychology, Vol. 64, No. 3. 1979. Pg. 280-290.

92

Iosue, Lt. Gen. Andrew P., USAF. "Personnel Outlook Improving," Air Force Magazine, August 1981, pg. 34-39.

Korb, Lawrence J. "Making the Volunteer Force Work," Defense 1982, January 1982, pg. 2-11.

Lockman, Robert F., Stoloff, Peter H., and Allbritton, A. Slagle, USN. Motivational Factors in Accession and Retention Behavior (INS 111-72). Alexandria, Virginia: Center for Naval Analysis, Institute for Naval Studies, January 1972.

March, James and Simon, Herbert A. Organizations. New York: John Wiley and Sons, Inc., 1958.

Maze, Rick. "Top Navy Officials Paint Bright Manpower Picture," Navy Times. No. 19. February 22, 1982.

Maze, Rick. "Raising Navy SRB's Would Save Money, Study Claims," Navy Times. No. 5. November 15, 1982, pg. 4.

Mobley, William, H. "Intermediate Linkages in the Relation- ship Between Job Satisfaction and Employee Turnover," Journal of Applied Psychology. Vo. 62, No. 2, 1977, pg. 237-240.

Mobley, William H., Horner, Stanley O., and Hollingsworth, A.T. "An Evaluation of Precursors of Hospital Employee Turnover," Journal of Applied Psychology. Vol. 63, No. 4, 1978. Pg. 408-414.

Muchinsky, Paul M. and Tuttle, Mark K. "Employee Turnover: An Empirical and Methodological Assessment," Journal of Vocational Behavior. February 14, 1979, pg. 151-174.

Nie, N.H., Hull, C.H., Jenkins, J.G., Steinbrenner, K., Bent, D.H. Statistical Package for the Social Sciences (SPSS). Second Ed. New York: Mcgraw-Hill Inc., 1975.

Nie, N.H. and Hull, C.H. SPSS Update 7-9. New York: McGraw-Hill Inc., 1981.

O'Neill, Richard Patrick, and Mirra, Anthony Henry. Identi- fication of Variables Related to the Reenlistment Inten- tions of Navy Cryptologic Technicians (Maintenance). Master's Thesis, Monterey Ca: Naval Postgraduate School, December 1979.

Pierce, Albert C. "Issues for the New Administration," AEI for Public Policy and Defense Review, Vol. 3, No. 4&5, 1981, pg. 47-70.

Porter, Lyman W. and Steers, Richard M. "Organizational
     Work and Personal Factors in Employee Turnover and
     Absenteeism," Psychological Bulletin, Vol. 30, No. 2,
     1973, pg. 151-176.

Porter, Lyman W., Steers, Richard M., and Mowday, Richard T.
     "Organizational Commitment, Job Satisfaction, and
     Turnover Among Psychiatric Technicians," Journal of
     Applied Psychology. Vol. 59, No. 5, 1974. Pg. 603-609.

Porter, Lyman W., Crampton, William H., Smith, Frank J.
     "Organizational Commitmentand Managerial Turnover:
     A Longitudinal Study," Organizational Behavior and
     Human Performance, 1976, 15, Pg. 87-89.

Price, James L. The Study of Turnover. Ames, Iowa: The
     Iowa State University Press. 1977.

Quinn, Robert P. and Mangione, Thomas W. The 1969-1970
     Survey of Working Conditions: Chronicles of an Unfinished
     Enterprise. Ann Arbor: University of Michigan, Survey
     Research Center, 1973.

Steers, Richard M. "Antecedents and Outcomes of Organizational
     Commitment," Administrative Science Quarterly, Vol. 22,
     March, 1977, pg. 46-56.

Steers, Richard M. and Mowday, Richard T. "Employee Turnover
     and Post-Decision Accommodation Process," In L.L.
     Cummings & B.M. Staw (Eds.), Research In Organizational
     Behavior (Vol. 3). Greenwich, Conn.: JAI Press, 1981,
     pg. 235-281.

U.S. Congress. House. Subcommittee of the Committee of the
     Committee on Appropriations. Department of Defense
     Appropriations for 1983. Part 6. 97th Congress, Second
     Session. Washington, D.C.: Government Printing Office.
     June 22, 1982, pg. 848-859.

U.S. Congress. Senate. Subcommittee of the Committee on
     Appropriations. Department of Defense Appropriations
     for Fiscal Year 1982. Part 2--Manpower. 97th Congress,
     First Session. Washington, D.C.: Government Printing
     Office: April 23, 1981, pg. 139-155.

U.S. Department of Commerce, Bureau of Census. Statistical
     Abstract of the United States (102 Ed.). Washington, D.C.:
     GPO, December 1981, p. 389.

U.S. Department of Defense. Report of Secretary of Defense
     Harold Brown to the Congress on the Fiscal Year 1981
     Budget. Washington, D.C.: GPO, 1980, pg. 267-269.

Weinberger, Casper W.  Chairman, Military Manpower Task
    Force.  Report to the President on the Status and
    Prospects of the All Volunteer Force.  October 1982,
    pg. III-18.
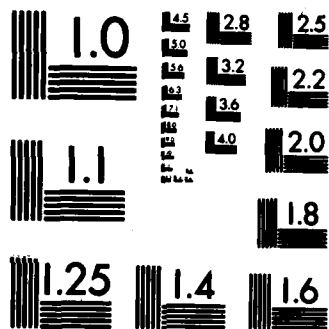
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

## INITIAL DISTRIBUTION LIST

No. Copies

1. Defense Technical Information Center      2
   Cameron Station
   Alexandria, Virginia 22314

2. Library, Code 0142      2
   Naval Postgraduate School
   Monterey, California 93940

3. Department Chairman, Code 54      1
   Department of Administrative Sciences
   Naval Postgraduate School
   Monterey, California 93940

4. Professor George Thomas, Code 54Te      3
   Department of Administrative Sciences
   Naval Postgraduate School
   Monterey, California 93940

5. Professor Richard Elster, Code 54Ea      2
   Department of Administrative Sciences
   Naval Postgraduate School
   Monterey, California 93940

6. Deputy Chief of Naval Operations      1
   (Manpower, Personnel and Training)
   Chief of Naval Personnel, OP-01
   Arlington Annex
   Columbia Pike and Arlington Ridge Road
   Arlington, Virginia 30270

7. LCDR Sandra Christensen      1
   1580 Monte Carlo Court
   Merritt Island, FL 32952

END

FILMED

6-83

DTIC