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An Analysis of First-Term Reenlistment Intentions

*by Peter H. Stoloff and others
November 1972 78p.*

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**CENTER FOR NAVAL ANALYSES
RESEARCH CONTRIBUTION 232**

Institute of Naval Studies

**AN ANALYSIS OF FIRST-TERM
REENLISTMENT INTENTIONS**

November 1972

**Peter H. Stoloff
Robert F. Lockman
A. Slagle Allbritton
Harold H. McKinley, Jr., LCdr., U.S.N.**

**This Research Contribution does not necessarily represent
the opinion of the Department of the Navy.**

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**APPROVED FOR PUBLIC RELEASE;
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ABSTRACT

Responses to a survey questionnaire that included measures of psychological, economic, and demographic variables were related to the reenlistment intentions of over 3000 first-term Navy enlisted men on sea duty. The major correlates of reenlistment intentions were related to satisfactions with various aspects of Navy life, motivations underlying enlistment decision, and desires for greater compensation.

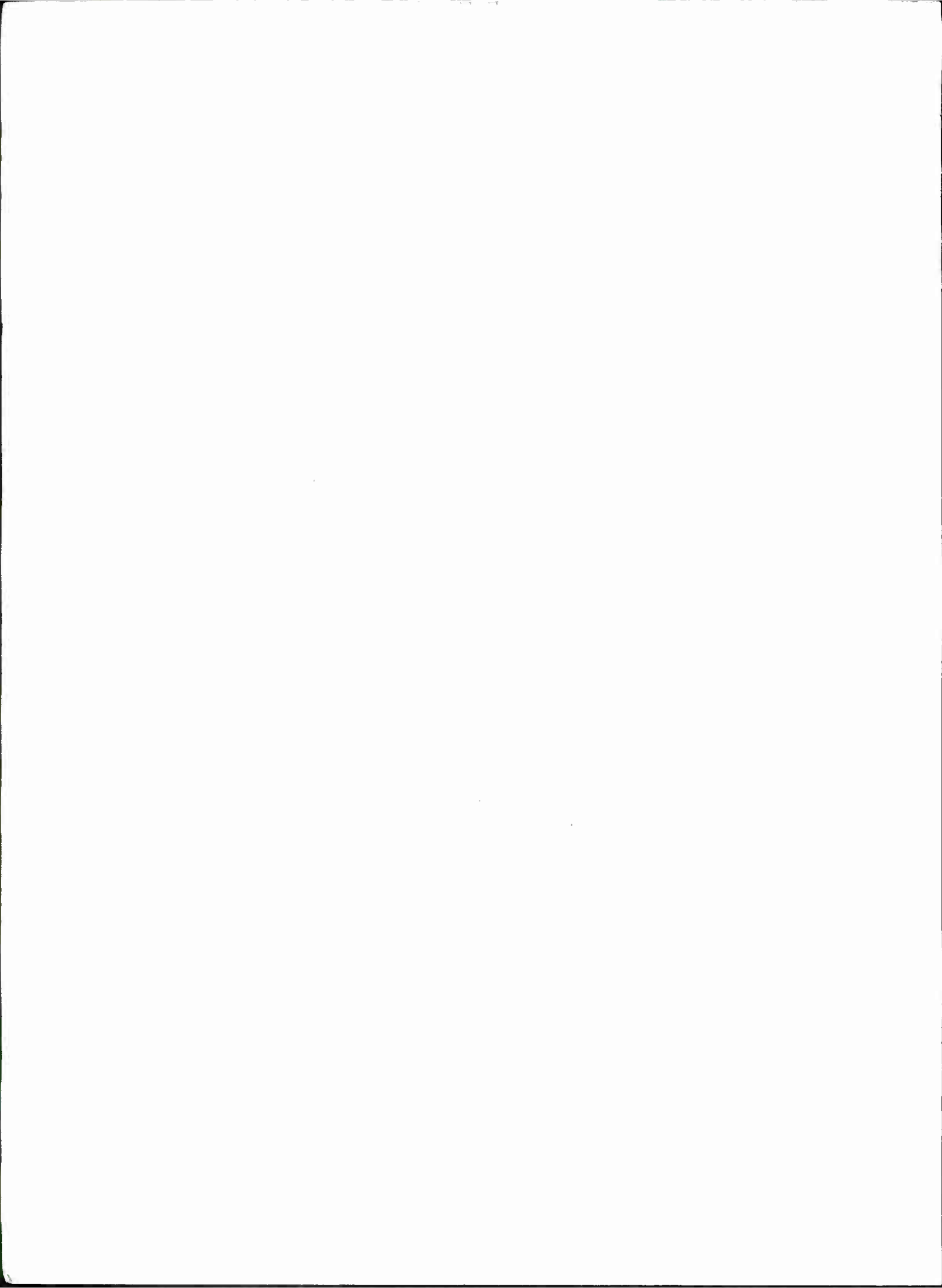


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SYNOPSIS

A survey questionnaire was designed to determine how psychological, economic, and demographic variables affect the reenlistment intentions of Navy enlisted men. It was administered aboard two aircraft carriers and 18 destroyers to 3115 men in paygrades E-4 and E-5 who were in their first enlistments.

Analyses focused on the response patterns and correlates of reenlistment intentions for different groups in the sample, particularly: (1) draft-motivated men (DM) and true volunteers (TV); (2) married and non-married men; (3) men serving aboard aircraft carriers and destroyers; and (4) men in different occupational groups.

For the sample as a whole, 5 percent intended to reenlist, 9 percent were uncertain, and the remaining 86 percent did not intend to reenlist. The reenlistment intent rates for different groups in the sample are shown in table 1. Significant differences were found between many of the groups. For example, a greater proportion of TVs, compared to DM men; and married, compared to non-married men, intended to reenlist or extend.

TABLE 1
SUMMARY OF REENLISTMENT INTENT RATES

Group	Proportion of total sample	Proportion intending to reenlist
Total sample	1.00	.05
Draft pressure:		
True volunteers	.26	.09
Draft-motivated	.74	.03
Marital status:		
Married	.33	.07
Non-married	.67	.04
Duty station:		
Destroyer	.29	.06
CVA	.71	.04
Paygrade:		
E-4	.65	.04
E-5	.35	.06
Race:		
Caucasian	.95	.04
Non-caucasian	.05	.21

Motivations underlying reenlistment intentions were identified both by asking men to state specific reasons for their intentions and by correlating responses to various questionnaire items with a derived scale of reenlistment intentions.

Reasons

The general pattern of results showed a high degree of consistency across ship types and a marked similarity in the kinds of reasons chosen by both true volunteers and draft-motivated men. Major differences were related to what the individual's reenlistment/extension intent was, rather than the kind of ship he came from or whether he was a true volunteer or draft motivated. A summary of these results is shown in table 2.

TABLE 2
SUMMARY OF REASONS GIVEN FOR
REENLISTMENT INTENTIONS*

Reason	Intention		
	Reenlist	Undecided	Not reenlist
Living conditions	.04	.08	.09
Retirement	.29	.04	.03
Military life	.05	.13	.40
Duty	.32	.39	.15
Leadership	.04	.12	.26
Working conditions	.02	.11	.07
Civilian alternative	.04	.00	.15
Time at home	.06	.34	.34
Advancement	.40	.31	.11
Work itself	.11	.05	.08
Compensation	.47	.41	.24

* Entries are proportions of those stating a given intention who gave each reason.

Liking compensation and fringe benefits, advancement opportunities, duties, and retirement were most frequently given as reasons for intending to reenlist or extend. On the other hand, disliking the military way of life, the amount of time spent at home, leadership/supervision, and compensation were the most frequent reasons given for not intending to remain in the Navy.

Correlates of Reenlistment Intentions

Based upon regression analysis, a number of items were found to relate to reenlistment intention. Table 3 summarizes the most significant correlates. By interpreting the pattern of regression coefficients, we get a composite picture of the "typical" reenlistee. He was a true volunteer at the time of enlistment; he is relatively more satisfied with his job, supervisor, and Navy life in general; his morale is higher; he has had a greater amount of Navy schooling which he uses on the job; he is married, earns more money, and has a larger family which lives near his ship's homeport; and he comes from a family having a slightly lower socio-economic status than the man who does not intend to reenlist.

TABLE 3
SUMMARY OF FACTORS CORRELATING WITH
REENLISTMENT INTENTIONS

Factor	Correlation
Satisfaction with Navy life and job	.28
Enlistment motivation	.34
Training received and utilized	.11
Marital status	.09
Seniority and performance	.09
Socio-economic status	-.02
Multiple correlation	.47

Recommendations

From these findings, recommendations can be made which might increase retention. One recommendation would be to select recruits based upon their potential for future reenlistment. Since we have identified individuals who had certain characteristics at the time of enlistment that correlated with their subsequent reenlistment intentions, recruiters could make an active effort to enlist such men: volunteers who seek job security and educational/technical training opportunities, whose incomes are in a lower socio-economic bracket than today's average Navyman. However, applying such standards may not be in accord with the practices of an equal opportunity employer. As an alternative, the Navy could use this list of "predispositions" in designing advertising to motivate these kind of men to contact a Navy recruiter.

Another recommendation concerns changes in the Navy itself which could reduce the dissatisfactions behind intentions not to reenlist. One of the strongest correlates of not wanting to reenlist was related to lack of communication between supervisors and their men. Civilian industries, faced with similar problems, have instituted human relations training programs which in many cases have reduced turnover rates. Such programs should be considered by the Navy for supervisory personnel. Alternatively, better selection techniques for supervisory personnel could be investigated, and the characteristics of effective supervisors who have higher proportions of men who reenlist could be identified.

Finally, we come to the recurring problem of compensation. Men who said they would not reenlist tended to be dissatisfied with the amount of time spent at home and the pay they received. No clear-cut answer to this problem was suggested by our results.

INTRODUCTION

STUDIES OF REENLISTMENT

Many studies have attempted to identify variables related to reenlistment. The majority have focused on economic factors and have shown that base pay and other forms of compensation are related to reenlistment rates (where the sampling units have been *groups* of men) and reenlistment behavior (where the sampling unit has been the *individual*). The policy-manipulable outputs of such studies have been elasticities that indicated the net percent increase in reenlistment rate for a group having a particular set of characteristics (e.g., the same AFQT, age, paygrade, rating), given a fixed percentage increase in pay.

To date, no controlled experiments have been performed to assess the results of pay manipulation. However, when the Navy has increased pay, usually in the form of a reenlistment bonus, the effects on reenlistment behavior have been confounded by another class of variables. Economists have referred to these variables as "tastes," which include attitudes, socio-economic status, economic opportunities outside the Navy, and other psychological factors which moderate (or influence) the relationships between pay and reenlistment. That is, increasing pay may result in a positive reenlistment decision if the man has other characteristics that make reenlistment attractive to him. The profile of crucial characteristics has been determined piecemeal; different studies have each uncovered only some of them.

Studies relating psychological factors to reenlistment report multiple correlations in the .50s, thus explaining about 25 percent of the variation in reenlistment behavior. Econometric studies report higher correlations, but they do not explain all of the variation.

Studies in which econometric and psychological variables are jointly related to reenlistment behavior are few, perhaps because of lack of communication between psychologists and economists and basic methodological differences inherent in their approaches. Individual sampling vice group sampling is one such methodological difference. In forming groups (sampling units) based on demographic or economic categories, variance due to grouping is eliminated. Since psychological measures, such as attitudes, cannot be expected to be homogeneous within groups, averaged measures are not considered as part of the model—and rightly so. Using attitude measures themselves as the basis for grouping (i.e., groups of people who show the same "level" of a relevant attitude) has not been investigated. Such measures usually have relatively high errors of measurement and are continuously distributed, making it difficult to sort individuals reliably into groups.

It should also be mentioned that most economic studies have not used surveys to amass data (the method favored by the psychometricist) to study the reenlistment problem. Rather, searches of records and files have been used to collect data. Such an approach usually cannot be used to integrate psychological and socio-economic information into a study. Only a survey can be used successfully for this purpose.

The purpose of this study was to design and administer a survey questionnaire, incorporating both psychological and economic measures, to determine how these variables interact with a

measure of reenlistment, and to suggest which of these findings have implications for Navy policy that might affect retention—particularly in a draft-free environment.

MEASURES OF REENLISTMENT BEHAVIOR

Categorizing an individual at the expiration of his active obligated service (EAOS) is not as straightforward as it might seem. It is complicated by such things as the six-year obligor program (6 YO), broken reenlistments, and extensions of enlistments.

Recruits who enlist under the 6 YO program can sign a four-year contract, but are obligated for an additional two years at the Navy's discretion. That is, if the Navy considers it undesirable to have an individual in the Navy for the additional two years, he can be separated after four years of service. However, if the individual is required to fulfill a six-year obligation, he can do so by either reenlisting or extending for the additional two-year period. This could be called an "involuntary" two-year reenlistment. Whether the individual reenlists or extends is entirely up to him. However, if he reenlists he is counted for administrative purposes as a reenlistee; but if he extends, he is not. When viewed by an investigator looking for indicators of career motivation, reenlistment of this kind would probably be classified as involuntary and the individual classified as a non-careerist—along with non-reenlistees. However, the individual may reenlist at some later point in time.

Similar problems arise when dealing with short-term extensions. A man can extend for a few months to attend a school, complete a cruise, or obtain a desired duty assignment. When an investigator tries to obtain a measure of reenlistment behavior at a point in time, he must know more than the individual's reenlistment/extension intentions or short-term behavior.

The selection of a reenlistment measure determines a number of key aspects of our study: the point in time during a Naval career to survey an individual; the time lag between survey administration and relating survey data to the reenlistment measure; and the kinds of conclusions that can be drawn from the data.

The preferred measure of reenlistment behavior would be the actual reenlistment decision—whether or not an individual voluntarily reenlists after his EAOS. Gathering data of this sort requires that we survey men relatively close to EAOS and then relate the survey data to their reenlistment decisions. Since a finite number of men face a reenlistment decision at any one point in time and the proportion of first-term reenlistees is small relative to non-reenlistees, this would mean that the EAOS dates for participants in the study be spread over time. A conservative estimate as to how long we would have to wait for the reenlistment measure to mature for the entire sample would be at least one year. Due to time constraints and the difficulty of locating the appropriate individuals and administering a survey questionnaire to them we decided to use a proxy measure for actual reenlistment decision.

Past survey results suggest that reenlistment intent is a good substitute measure for actual reenlistment behavior (Lockman, et al., 1972; Brunner, 1971). We consider it a good alternative because it was equally predictable and tended to be explained by more or less the same factors as reenlistment behavior when both measures were available. The use of reenlistment intention as a proxy measure for reenlistment behavior eliminated many of the constraints associated with selecting only men near EAOS, particularly in choosing a sample and a survey method.

SURVEY APPROACH

A number of different ship types were chosen for study, mainly carriers and destroyers. Initially, a CNA team went aboard the USS AMERICA (CVA-66), ENTERPRISE (CVA(N)-65), and EPPERSON (DD-719) to administer the survey. Based upon experience aboard these ships, we developed a survey package which could be sent to an operating ship for administration by ship's personnel. The latter approach was utilized for 17 other ships. The response rate across ships averaged 85 percent of the target population, representing some 3400 men serving aboard two carriers and 18 destroyers.

The respondents were E-4 and E-5s in their first enlistment who had at least two years of active duty. The requirement of at least two years of active duty was based on two considerations: (1) We felt that certain attitudes critical to motivation either for or against reenlistment would require an exposure to Navy life before they would develop; an enlistee could spend up to a year in schools, and subsequent sea duty experiences would further temper his attitudes. (2) Since we are using reenlistment intent as a proxy measure of career motivation, we felt that it was important to survey men at a point in their service where their intentions concerning reenlistment can be considered relatively stable.

Our analyses of past survey data (Lockman, et al., 1972) showed no correlation between either reenlistment intent or reenlistment decision and when individuals were surveyed from 1 to 12 months prior to EAOS. But we found a .50 correlation between reenlistment intent and reenlistment decision. Brunner (1971), surveying individuals 12 months prior to EAOS, found that 89.8 percent of those who had formulated reenlistment plans carried out their intentions. No evidence is available which might indicate the stability of intent measures for periods greater than 12 months prior to EAOS.

Rather than limit our population to a "12 months before EAOS" criterion, we decided to use a two-year requirement and statistically control time to EAOS; that is, if we assume validity for the intent measure taken 12 months prior to EAOS, and the 12-month group can be shown to be similar to the remaining men surveyed with respect to correlates of intentions, the two years of active service stipulation would be justified.

SURVEY QUESTIONNAIRE

The results of our previous study suggested several classes of variables related to reenlistment behavior and intent that can be roughly categorized as psychological, economic, and personal characteristics.

Psychological variables included attitudes about the Navy, job satisfaction, interests, and needs (e.g., security). Economic variables included different forms of compensation: base pay, special pays (VRB, pro pay, hazardous duty pay), cash-in-kind, such as commissary and medical benefits, and job opportunities outside the Navy. Personal characteristic measures such as age, number of dependents, number of years active duty, and perceived draft pressure were also shown to be relevant to reenlistment. The selection of variables was guided by the results of our previous research and review of the literature. A copy of the survey questionnaire is included in appendix A.

PSYCHOLOGICAL VARIABLES

Job Satisfaction

We focused on two aspects of job satisfaction hypothesized to relate to reenlistment: hygies and motivators. Hygies are related to satisfaction with the context of the job environment: perceptions of living conditions, supervision, relations with shipmates, perceived fairness of compensation, and attitudes toward the Navy in general. Motivators are related to the content of one's job: liking the duties associated with a particular rating, perceived recognition for a job well done, and feelings of accomplishment and achievement.

By supplementing our survey data with self-performance evaluation data, we attempted to relate these different aspects of job satisfaction to performance. In this way, we hoped to generate variables that would relate to reenlistment intentions contingent upon job satisfaction for given levels of performance.

Leadership Style and Morale

Psychological research has shown that supervisory styles can be categorized according to the consideration a supervisor shows to his subordinates in dealing with their personal needs and to production orientation where the supervisor is an overseer solely interested in output. These styles have different relationships to work group productivity and grievance rates. We plan to carry the analysis of supervisory style one step further to determine its effects on reenlistment intentions.

Morale is also related to the work situation. It is a by-product of group feelings of mutual acceptance and confidence in the desirability of, and progress toward, the goals of the organization or work group. Past research has indicated that morale relates to productivity, grievances, absenteeism, and turnover. We will examine the relationships of various indexes of morale to reenlistment intent and performance.

Psychological Background

Psychological background characteristics have been shown to predict reenlistment behavior. They include attitudes of wife, girlfriend, or family towards a Navy career; attitudes of wives toward various aspects of Navy life (status, living accommodations, husband's time away from home); and family background and socio-economic status.

ECONOMIC VARIABLES

Compensation

We looked at compensation from two vantage points. First, we related current levels of compensation (base pay and special pays) to reenlistment intentions. Then, we sought to determine what levels or different forms of compensation would be necessary to increase the probability of reenlistment. This recognizes that certain tradeoffs exist among various economic incentives. While some individuals might require more dollars in pay to reenlist, others may be more concerned with such things as additional time at home. By knowing the relative importance of these factors and their tradeoffs, and by being able to identify groups of individuals typically making certain trades, we could recommend policy changes to enhance reenlistment.

Civilian Job Opportunities

Certain ratings are considered to be critical for reasons of short supply. Men in these ratings tend to be highly trained over a long period of time at great expense. They are offered large incentives—Pro pay and VRB—to remain in the Navy. These highly trained specialists supposedly leave the Navy because the “grass is greener” in the civilian job market, so we will look at how strong the incentive of civilian job opportunities was for leaving the Navy.

PERSONAL CHARACTERISTICS

Demographic Data

Measures such as age, race, number of dependents, years of active duty, and length of enlistment have been shown to relate to reenlistment and were therefore incorporated into the survey.

Draft Pressure

One goal of the study is to project our results into a draft-free environment. We can approach this goal by isolating the data for men in our sample who can be considered to be “true volunteers.” For this purpose, a number of questionnaire items were included to determine reasons for enlistment.

METHODS

This section describes the analytical methods used to relate the survey responses to our dependent variables, such as intent, and to define certain contrast groups (e.g., draft-motivated men vs. true volunteers, occupational groups, potential reenlistees vs. non-reenlistees).

ANALYSIS PLAN

The ideal outcome of our analyses would be a set of recommendations that would tell policymakers how much they would need to change certain aspects of the enlisted men's environment (e.g., pay, working, or living conditions) to increase the reenlistment rates for certain groups of the survey population (e.g., different occupational groups or true volunteers). The steps taken in the process of the analysis towards this end are described below.

Content Analysis of Open-ended Questions

Open-ended questions were incorporated in part 1 of the survey: items 11 and 12 requested enumeration of reasons for reenlistment intentions. We sampled responses to these items to establish a set of categories under which all responses could be classified; then we tabulated the frequency with which each category was chosen as either a positive or negative reasons for reenlistment. Using this procedure, 57 different reasons were found among the responses of USS AMERICA's 1200 participants.* These were grouped into 12 categories shown in table 4.

Item Scaling

Response alternatives in part 2 of the survey were rescaled from letter or categorical responses to numerical scales to produce metric properties that would allow computation of parametric statistics. Rescaling was performed such that a high numerical value would reflect a positive effect of an item, and a low value a negative effect. Therefore, correlating any item with reenlistment intent would allow us to estimate the direction and magnitude of its effect on intent. The schemes used to rescale item alternatives are shown in appendix A.

Item-content Analysis—Part 2

Frequency distributions, cross-tabulations, correlations, and other descriptive measures of the rescaled item responses were compiled. They allow us to determine which items showed little or no correlation with reenlistment intent or with other dependent variables of interest, and had similar patterns of responses in that they were highly intercorrelated.

Grouping of Survey Items

The survey questionnaire contained 173 items. Those that dealt with a common subject matter were grouped into sections. We examined the response distributions and intercorrelations among these groups of items and noted patterns of similar responses. This suggested that a more

*Data was available at an earlier date for these respondents; analysis of subsequent data produced similar kinds of reasons.

TABLE 4
CATEGORIES OF REASONS GIVEN FOR
REENLISTMENT INTENTIONS

Living conditions	Working conditions
Living conditions	Working hours
Facilities	Number of workers
Recreational activities	Watches at sea
Services	Operating schedules
Exchange and commissary practices	Co-workers
Privacy	
Military housing	At home
	Amount of liberty/leave
Retirement	Watches in homeport
Close to retirement	Time at home
Too many years in to give up now	Family separation
Medical care/benefits	Moving
Security	Time at sea
Retirement benefits	Tied down
	Family reasons
Military way of life	Advancement
Treatment by civilians	Education
Chicken regulations	Training
Navy way of life	Advancement
Caste system	Officer programs
Autonomy	Change in rate
Self-expression	
Duty	Work itself
Travel	Challenge of job
Choice of duty station	Recognition for job performance
Assignments	Work itself
Rotation	Use of skills
Leadership/supervision	Patriotism
Enforcement of Z-grams	Contribution to society
Administering of regulations and instructions	Patriotism
Incompetent Petty Officer leadership	
Incompetent officer leadership	Compensation
Too many lifers	Pay
Discipline	Bonus
Civilian alternatives	
Fulfilled obligation	
Tired of Navy	
Civilian opportunities	
Try civilian life	

parsimonious measure of the groups of items could be constructed by statistically combining items that were highly intercorrelated. Factor analysis was used for this purpose. An additional benefit of using this technique is a check on the internal consistency of the relationships among items being factored. For example, 33 supervisory behavior items were hypothesized to measure the structure (production orientation) and consideration (human relations) dimensions described earlier. If this were actually the case, these items should be measuring two, rather than 33, qualities of supervisory behavior. Factor analysis would show if two composites containing clusters of items with similar patterns of intercorrelations can be constructed from the data. The items within each of these composites would be internally consistent, or reliable, if they exhibit high intercorrelations among themselves and with the hypothetical dimensions of Structure or Consideration.

Establishing Comparison Groups

We expected that reenlistment intention and its correlates might differ for different groups of enlisted men. Consequently, comparison groups were constructed for (1) occupational groups, (2) paygrade, (3) married vs. non-married men, (4) true volunteer vs. draft-motivated enlistees, and (5) ship types. Intent rates and their correlates were calculated for each group, and differences between groups were tested.

Data was gathered from a number of different ships of the same type, since certain hypothesized effects on intent (such as morale, living conditions, time at sea, and perception of leadership) may be specific to a given ship. For example, by comparing measures of morale and their net relations to intent for the two carriers, we can determine whether morale is a relevant factor across ships or specific to a given ship. Then comparison of measures across ship type will allow us to generalize to the ship types represented in the survey.

Relating Reenlistment Intent and Its Correlates

Multiple linear regression analysis was used to determine the effects that the survey measures had on reenlistment intent. Regression analysis has been used in two ways in past studies of reenlistment. One way, prevalent in econometric studies, involves grouping men (or using data on previously grouped men where disaggregation is not possible) according to a number of factors, e.g., paygrade, occupation, mental level, and marital status. Then the reenlistment rate is calculated for each group, and the scores of the group members for each of the (independent) variables thought to be related to reenlistment rate are averaged. These averaged scores are regressed against the reenlistment (intent) rate. It is assumed that each observation (group of men in a given paygrade, occupation, etc.) is relatively homogeneous with respect to the factors used in the grouping system and therefore can be treated as a group with respect to policy changes suggested by the regression analysis. Each group also acts as a control, because the presupposed effects of occupation, paygrade, etc., are held constant.

The other way of using regression analysis is the individual approach, where each person is the observation. It seeks to predict the individual's reenlistment behavior rather than the rate for his group, and group membership is treated as another independent variable. This way, we are able to get a clearer picture of individual behavior which is masked in the group approach.

We used a combination of both approaches. The individual approach was used to identify variables that significantly related to individual intentions. Then we sorted individuals into groups which differed with respect to a number of independent variables and analyzed their intent rates using the group approach.

DEFINING GROUP MEMBERSHIP

Draft-motivated and True Volunteers

Because of the varied times when the survey participants entered the Navy, not all men were subject to the draft lottery. This meant that we could not use lottery numbers to determine which men were draft-motivated. As an alternative, we used two items (115 and 116) from the survey. Table 5 shows the various combinations of responses to these items used to define true volunteers (TV) and draft-motivated (DM) enlistees. This scheme identified 269 of 1001 men, or 27 percent, as volunteers aboard the 18 destroyers, and 588 of 2344 men, or 25 percent, as volunteers aboard the two carriers.

TABLE 5
ITEMS USED TO IDENTIFY TRUE VOLUNTEERS
AND DRAFT-MOTIVATED MEN
(Percent)

		Item 115: Would be drafted if hadn't enlisted			
		Yes	?	No	Sums
Item 116: Would have enlisted in absence of draft	No	DM (50.4)	DM (5.6)	DM (1.1)	58.1
	?	DM (15.8)	DM (3.6)	TV (2.6)	22.0
	Yes	TV (10.1)	TV (5.3)	TV (6.3)	22.0
	Sums	76.3	14.5	11.0	

Reenlistment Intent Groups

Question 1 of part 2 of the survey asked, "What do you plan to do when you complete this enlistment?" Items 11 and 12 of part 1 were open-ended questions where reasons for and against reenlistment/extension intent were solicited. Data from both sources were used to determine an individual's intentions, because a response of "reenlist" or "extend" to question 1, part 2, may be a mandatory extension or "reenlistment" required on the part of the man in exchange for training or a desired assignment. We are interested in voluntary extensions and reenlistments. Table 6 shows the combinations of responses used to determine intent. Individuals who could *not* be assigned to either the voluntary reenlist (R) or non-reenlist (NR) groups were dropped from analyses which contrasted these two groups, as were those individuals determined to be non-voluntary extendees or reenlistees (i.e., 6 YOs who said "reenlist/extend" because they had to do so).

We were also able to identify probable long- and short-term reenlistment intentions. This was done by inspecting the service record (NAVPERS-601) for each individual and deciding if he

intended to extend/reenlist for a short period of time to attend a school or obtain a specific duty assignment. Such short-term continuations were viewed as voluntary, but received less "weight" than longer-term intended continuations where no extrinsic motivation was discernable. Our reenlistment intent measure resulted in a five-point scale illustrated in table 7.

TABLE 6
CLASSIFICATION OF INTENTIONS TO
REENLIST AND EXTEND

Response to open-ended items (Part 1)	What do you plan to do when you complete this enlistment?			
	Return to civilian life	Reenlist	Extend	Undecided
Expressed reasons for reenlistment (Item 11)		Long-/short-term (R)	Short-term (R)	
Expressed conditional reasons about reenlistment (Item 12A)	No (NR)			Maybe (?)
Expressed unconditional reasons against reenlistment (Item 12B)	No (NR)			

TABLE 7
INTENT SCALE

Scale value:	1	2	3	4	5
Characteristics:	Return to civilian life	Might reenlist (R)/extend (E)	Short-term or undetermined (< 2 years) E/R for extrinsic reason	2 year E/R	Greater than 2 year E/R

Occupational Groups

The results of our earlier study indicated that reenlistment behavior was more predictable for some ratings than others, where ratings were combined into categories reflecting similar types of jobs or occupations (e.g., electronics, mechanical, or communications). Since the current study included a broader sampling of rating, an expanded set of occupational groups was developed and is shown in table 8.

TABLE 8
OCCUPATIONAL GROUPS

Personal services		Electro-mechanical		Clerical/technical		Elex. oper/technician		Tradesmen	
Rating	Number	Rating	Number	Rating	Number	Rating	Number	Rating	Number
SD	5	ADJ	125	AG	11	AC	12	ABE	42
CS	47	ADR	7	AK	25	AQ	140	ABF	27
PC	9	AE	133	AZ	37	AT	216	ABH	44
SH	30	AME	32	CTI	1	AWA	1	AO	151
SHB	2	AMH	72	CYN	21	CTM	1	BM	73
SHL	2	AMS	73	DK	12	CTO	1	BT	92
Total	95	ASE	10	DM	2	CTR	3	EN	37
		ASH	10	DP	8	DS	43	GMG	36
		ASM	15	DT	16	ETN	78	GMM	19
		EM	135	HM	35	ETR	128	MM	308
		HT	90	GMT	32	FTG	39	PR	18
		IC	82	JO	1	FTM	57	TM	12
		MR	26	LI	2	RD	133	SM	42
		Total	810	MN	2	RM	106	Total	901
				PH	19	STG	84		
				PN	26	Total	1042		
				PT	7				
				QM	33				
				SK	56				
				TD	1				
				YN	50				
				Total	397				

RESULTS

This section contains the results of our analyses, which were used in developing a model of the correlates of reenlistment intent.

BACKGROUND OF RESPONDENTS

The sample of first-term enlisted men can be broken down in several ways. At one level we have "head counts" of demographic characteristics showing the numbers of men in each occupational group, ship type, racial group, marital status, and so on. Another level concerns the attitudes of these men. We will describe these attitudes because they are important in their own right, regardless of their relationship to reenlistment intent. For example, it is important to know the overall level of such measures as morale and job satisfaction, because they set the framework or context for interpreting how enlisted men feel about Navy life in general.

If these attitudinal items correlate with reenlistment intentions but have response distributions that are highly skewed, limitations are imposed on the interpretation of the relationships. For example, in the extreme case where all men who don't intend to reenlist report "very low morale," and those who intend to reenlist report "low morale," the implication is that if "very low morale" could be increased to "low morale" it should increase the probability of reenlistment. Alternatively, we could ignore the labels on the response alternatives and simply consider the morale of reenlistees as being higher than that of non-reenlistees.

Table 9 contains some data on the basic non-attitudinal characteristics of the men in our sample. Standard deviations are indicated only for continuously distributed (non-dichotomous) variables. Variability of the characteristics descriptive of this sample is indicated by the *proportions* of men in categories such as true volunteers, married, paygrade, and so on.

The observed variation is large enough to represent a fairly good cross section of first-term E-4s and E-5s who have completed at least two years of active duty.

ATTITUDES OF RESPONDENTS

The survey questionnaire included attitudinal items about leadership and supervision, job satisfaction, living conditions, socio-economic status, Navy climate, feelings that wives have about the Navy way of life, how discipline is handled, morale, economic expectations, civilian alternatives, self-reported job performance, initial reasons for enlistment, and more. In addition to studying the contribution of these items to reenlistment intentions, the interrelations among them are important to answering questions such as:

1. What factors contribute to high morale, job satisfaction, and favorable perception of Navy climate?
2. What leadership styles contribute to high morale, job satisfaction, and performance?
3. What were the important reasons for initial enlistment?

4. What are the characteristics which differentiate draft-motivated enlistees from true volunteers?

5. How do men perceive their living conditions aboard ship, and how does this affect morale, job satisfaction, and performance?

TABLE 9
DESCRIPTIVE STATISTICS: DEMOGRAPHIC
AND NON-ATTITUDINAL VARIABLES

<u>Variable</u>	<u>Mean</u>	<u>S.D.*</u>
Age (years)	22.75	1.50
Years of active duty	3.29	1.05
Months to EAOS	10.36	12.71
Reported earnings (monthly dollars)	347.31	115.48
Reported fringe benefits (dollars)**	72.71	87.49
Months in homeport (per year)	4.23	2.93
Proportion: true volunteers	.25	
E-4 (vs. E-5)	.35	
married	.33	
from destroyers (vs. CVAs)	.29	
whites	.95	
A-school graduates	.80	
B-school graduates	.05	
C-school graduates	.40	
getting VRB	.15	
getting pro pay	.03	
whose families live near homeport	.23	
high school graduates	.96	

*Standard deviations not shown for dichotomous measures.

**For medical, dental, commissary, exchange, and special services only.

In attempting to answer these questions, we first looked at patterns of responses of the total sample to items from similar content areas, e.g., leadership, morale, and habitability. Factor analyses of these subsets of items helped both to explain the relationships among them and to combine items measuring the same thing into linear composites. Then we looked at how items or composites from other subsets related to, or explained the variation in, the relevant dependent measures.

Preliminary analyses of the data showed a high degree of response similarity to many attitudinal items for the two carriers,* particularly with respect to reenlistment intentions, job satisfaction, and morale. Except for an example of response similarity of carrier-based men to morale-related items, we will not present any contrasts within ship-type. However, we did find some basic differences in responses of men assigned to carrier and destroyers which will be examined.

*Differences in responses among the destroyers were difficult to assess, since there were 18 of them and the number of respondents on each was small.

Supervisory Behavior Ratings

We expected two factors or underlying dimensions to account for the interrelationship among the 33 leadership/supervision items of section D of the questionnaire. Table 10 shows that two factors did indeed emerge from the analysis. The entries in the table are factor loadings which indicate the correlation between a given item and the dimension measured by the factor. Because these dimensions are independent or uncorrelated, men who perceive their supervisors as being high in Consideration do not necessarily perceive them to be either high or low on Structure. That is, some men have a "nice guy" (high in Consideration) for a supervisor who strongly pushes his men to get the job done, (figure 1, quadrant 2); others have a "nice guy" for a supervisor who doesn't push (quadrant 1). The number of men falling within each quadrant is approximately the same. The percentage distributions of the two composites, which were formed by summing the items that defined each of the dimensions, are shown in figure 2. Considerable variation for both composites is evident.

Examination of the factor loadings in table 10 reveals that the Consideration dimension relates to human relations behavior and a democratic leadership style, while the Structure dimension relates to "doing the job by the book" and some autocratic leadership traits.

Habitability

Seven items derived from our previous survey analysis asked respondents to assess facilities and services available aboard their ships. The overall rating of habitability averaged near the "just fair" category. Most items correlated rather highly with overall living conditions and among themselves, indicating that satisfaction with habitability seemed to be an all or none phenomenon: men were either generally satisfied with all of the aspects of habitability measured or dissatisfied with all of them. This was confirmed by the results of a factor analysis shown in table 11. Since all of these items appeared to be measuring the same thing, a composite measure was found by adding the responses to the seven items.

Navy Climate

Section F of the survey was designed to measure reactions to a career in the Navy and feelings about civilian life. A common core of seven descriptors was used to evaluate three concepts: Navy Way of Life (NWL), A Navy Career (NC), and Civilian Life (CL). We speculated about possible relationships among these concepts. For instance, individuals who felt negatively about civilian life might have positive feelings about the Navy Way of Life. This might relate to positive feelings about a Navy Career, which should, in turn, relate positively with reenlistment intentions.

To determine the overall relationships among the descriptors and concepts, we factored their intercorrelations (7 x 3, or 21 variables). The results were difficult to interpret. Inspection of the correlations suggested that the responses to the NWL and NC items correlated among themselves, but not with CL.

We then factored the correlations among the descriptors for each concept separately. The factor pattern of the CL items was still hard to interpret, but those of the other two concepts were identical and readily interpretable. The results of the NWL and NC analyses are summarized in table 12.

TABLE 10
SUPERVISORY BEHAVIOR FACTORS

	<u>Factor loading</u>
I. Consideration	
Puts suggestions that are made by men under him into operation	.75
Is willing to make changes	.73
Backs up his men in their actions	.72
Offers new approaches to problems	.71
Stands up for his men even though it makes him unpopular	.67
Is friendly and can be easily approached	.65
Sees that a man is rewarded for a job well done	.65
Expresses appreciation when one of us does a good job	.63
Tries to keep the men under him in good standing with those in higher authority	.61
Helps his men with their personal problems	.60
Stresses the importance of high morale among those under him	.54
Is easy to understand	.54
Resists changes in ways of doing things	-.66
Rejects suggestions for changes	-.63
Insists that everything be done his way	-.63
Refuses to give in when people disagree with him	-.62
"Rides" the man who makes a mistake	-.51
Changes the duties of people under him without first talking it over with them	-.49
Criticizes his men in front of others	-.45
II. Structure	
Stresses being ahead of competing work groups	.56
Emphasizes the quantity of work	.55
Emphasizes meeting of deadlines	.55
Decides in detail what shall be done and how it shall be done	.54
Insists that his men follow standard ways of doing things in every detail	.50
Sees to it that people under him are working up to their limits	.49
Rules with an iron hand	.47
"Needles" men under him for greater effort	.47
Insists that he be informed on decisions made by men under him	.46
Talks about how much should be done	.43
Criticizes poor work	.42
Asks for sacrifices from his men for the good of the entire group	.41

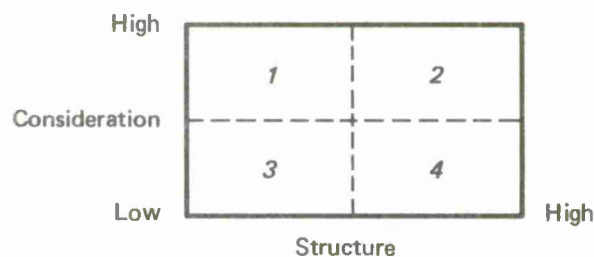


**FIG. 1: ILLUSTRATION OF INDEPENDENCE OF
CONSIDERATION AND STRUCTURE FACTORS**

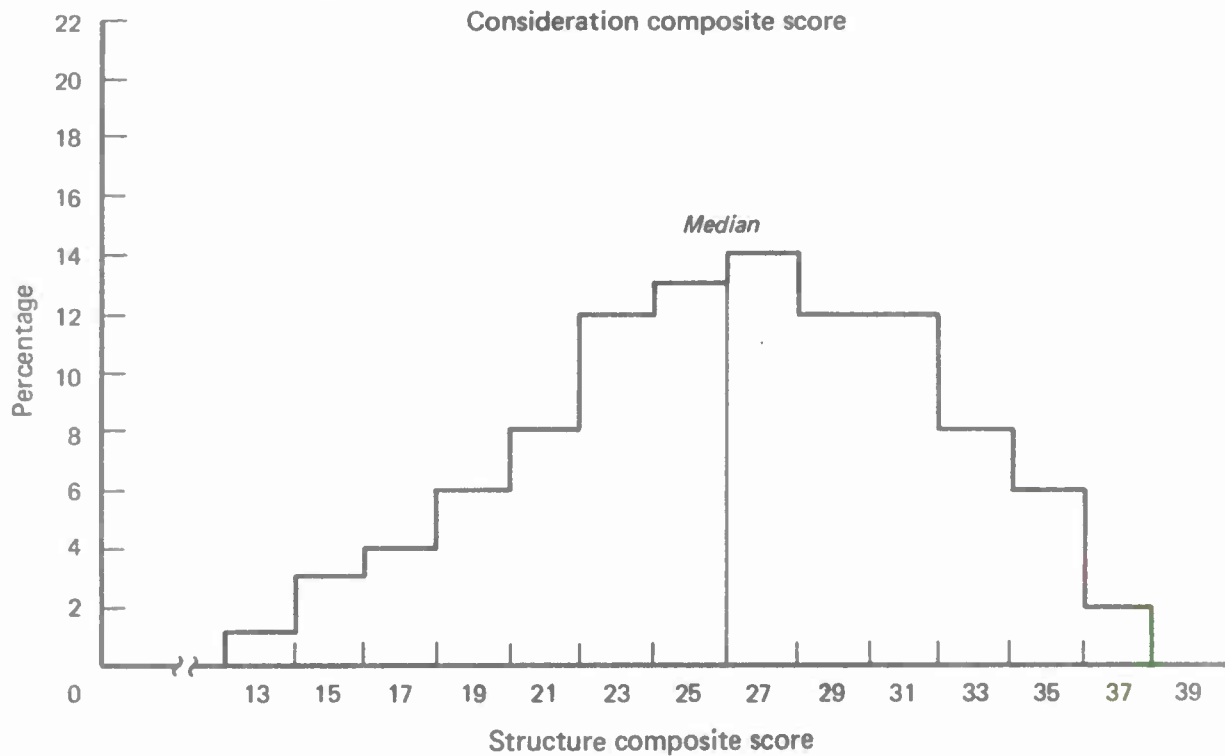
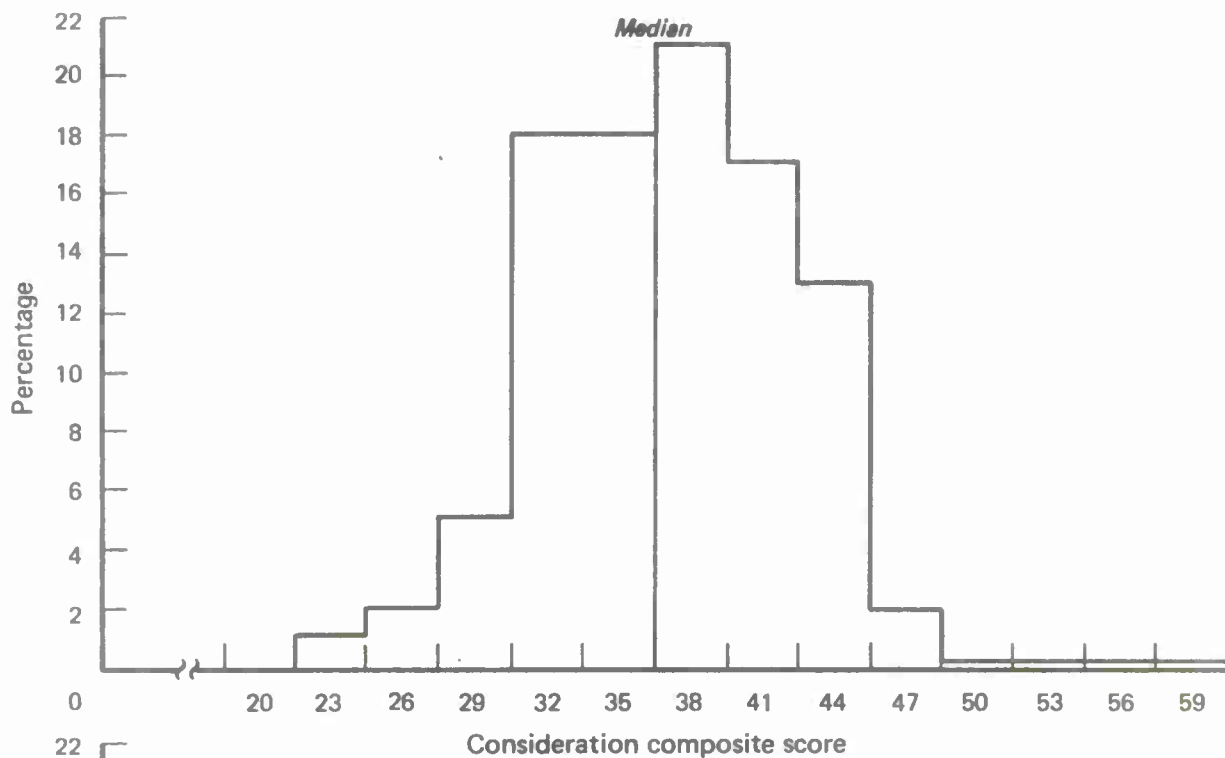


FIG. 2: DISTRIBUTIONS OF LEADERSHIP FACTORS

TABLE 11
HABITABILITY FACTOR
(N = 3115)

<u>Items</u>	<u>1st Principal component</u>
Mess facilities	.72
Bunks	.71
Heads	.68
Food	.65
Ventilation	.60
Stowage space	.58
Recreation space	.57
Percent trace	42.0

Percent distribution of habitability factor					
Average rating:	Poor	Just fair	OK	Very good	Excellent
Percent	5	48	45	11	1

TABLE 12
NAVY CAREER AND WAY OF LIFE FACTORS
(N = 3115)

<u>Items</u>	<u>Factor loadings</u>		
	<u>I</u>	<u>II</u>	<u>III</u>
Good	.79		
Routine		.67	
Easy		.89	
Satisfactory	.81		
Boring			.75
Challenging	.78		
Frustrating			.91
Percent trace	28.3	20.3	22.6

Correlations among factors		
Factor	II Easy	III Frustrating
I Challenging	.00	-.24
II Easy	---	.41

We labeled the three factors common to the NWL and NC items "Navy Climate" factors. Factor I measures the correlates of the challenge in a Navy Career and Navy Way of Life: if the man perceives the Navy as being challenging, he also perceives a Navy career as good and satisfactory. Factor II emphasizes the easy aspects of the concept: if NC or NWL is easy, it is also described as being routine. Factor III represents negative aspects: if NC or NWL is perceived as frustrating, it is also perceived as boring.

The intercorrelations among these three factors are also shown in table 12. The pattern indicates that when either NWL or NC is not perceived as challenging, it will be perceived as boring and frustrating. If NWL or NC is perceived as easy, it will also be perceived as frustrating. We might consider the challenge as the causal agent in these relationships.

We suggested earlier that perceptions of the quality of CL might be at odds with NWL and NC and that this could affect reenlistment intentions. Data in support of this is given in table 13, which shows how the responses of the "challenging" descriptors relate to the three concepts and reenlistment intentions.

TABLE 13
INTERCORRELATIONS OF CHALLENGING
ON CONCEPTS AND INTENT
(N = 3000)

	CL	NWL	NC	Intent
CL	—	-.11	-.08	-.19
NWL	-.11	—	.62	.28
NC	-.08	.62	—	.33

A modest, but significant, relationship exists between the challenges of CL and NWL. Men who find CL challenging don't find the NWL or a NC challenging, and they do not intend to reenlist. Perhaps it is the lack of challenge (which correlates with satisfaction) that leads to a dislike of NWL and then NC which influences reenlistment intentions. We will pursue this matter when we investigate the correlates of reenlistment in greater detail.

Wives' Opinions

Approximately one-third of the first termers in our sample were married. Items 10-17 in part 2 asked how they thought their wives felt about eight different aspects of Navy life. Table 14 summarizes the responses to these items. The men's perceptions show that wives feel rather dissatisfied with most aspects of Navy life and only moderately satisfied with medical care and exchange and commissary privileges. The greatest area of dissatisfaction was with absences from home.

A factor analysis was performed to determine the relationships among the eight items, and the results appear in table 15. Three dimensions emerged. The first contains items concerned with aspects of Navy life that wives encounter in day-to-day *living* (income, housing, social life, and

status in the community). The second factor contains items on fringe *benefits* (medical care and PX) which were favorably rated. The third factor is primarily defined by the item of maximum dissatisfaction—*absences* from home. The correlations among the three factors were positive, but small enough to indicate that they were measuring somewhat different things.

TABLE 14
WIFE OPINION ITEMS FOR MARRIED MEN
(N = 1040)

Question number	Item	Response distribution (percent)		
		Dissatisfied	?	Satisfied
10	Absences from home	91	4	5
11	Income	60	14	26
12	Housing	50	19	25
13	Moves	63	24	13
14	Social life	57	28	15
15	Status	52	27	21
16	Medical care	42	11	47
17	Exchange/commissary	30	13	57

TABLE 15
WIFE OPINION FACTORS
(N = 1040)

Items	Factor loadings		
	Living	Benefits	Absences
Absences from home			.85
Income	.74		
Housing facilities	.68		
Frequency of moves			.48
Navy social life	.59		
Social status in civilian community	.44		
Medical care		.78	
Exchange/commissary merchandise		.76	
Percent trace	20.5	17.9	14.7

Correlations among factors				
Factor	Benefits	Absences	Homeport*	Intent
Living	.25	.21	.10	.31
Benefits	—	.12	.06	.13
Absences		—	.18	.17

*Correlation between wife opinion item and whether or not wife lives in ship's homeport.

We felt that dissatisfaction with certain aspects of being a Navy wife, particularly family separation, would be tempered by whether or not she lived in or near the homeport of her husband's ship. The correlation between the homeport item and the factor reflecting satisfaction with absences from home was .18. This means that absences from home produced somewhat less dissatisfaction when the wife lived in or near her husband's homeport. Alternatively, when the wife did not live near her husband's homeport, a greater amount of dissatisfaction with absences from home was expressed.

Job Satisfaction

Industrial studies have shown that indexes of a general attitude toward one's job (job satisfaction) relate to many behavioral aspects of work such as turnover, absenteeism and grievance rate. A previous Navy study (Stoloff, 1971) also showed that measures of job satisfaction (JS) related to reenlistment behavior and job performance. A number of items contained in section C of the survey questionnaire focused on perceived satisfaction with different aspects of Navy jobs.

The civilian literature suggests that two independent factors (the intrinsic and extrinsic dimensions discussed earlier) should account for the variability in responses to these items, but the results of our factor analysis proved to be disappointing. No clear factor pattern emerged, so an alternate procedure was used to assess the relationships among the JS items. We correlated each of the nine components of JS with the overall measure, called General Job Attitude (GJA), and then used multiple regression to determine the net contribution of each of the JS components in predicting GJA. The results are shown in table 16.

TABLE 16
JOB SATISFACTION COMPONENTS
(N = 3227)

Items	Percent			Mean *	R ₀₁ **
	-	0	+		
Supervision	✓ 49	9	41	1.92	.24
Pay	✓ 65	8	26	1.61	.13
Co-workers	22	11	66 ✓	2.44	.15
Recognition	✓ 65	10	23	1.58	.14
(Job) work itself	42	9	48 ✓	2.06	.26
Working conditions	✓ 63	7	29	1.66	.11
Advancement	35	10	54 ✓	2.19	.13
Hours	/ 54	6	38	1.84	.11
Training	42	11	45 ✓	2.03	.09
GJA				2.68	—
Multiple R					.61

Percent distribution of GJA					
Value:	1	2	3	4	5
Percent:	15	22	43	16	2

*Three-point scale (1 = dissatisfied, 2 = ?, 3 = satisfied).

**Partial correlation.

The partial correlations (R_{01})* show the independent contribution of a given component when the contributions of all other components are held constant. The biggest contributors to GJA are the "Work itself" and "Supervision" items. This means that those who say they are generally satisfied with their job in general are likely to be satisfied with their work itself and their supervision.

The percentage distribution for each of the JS items is also given in table 16. An overall level of satisfaction can be determined from the percentage distribution of the GJA item which is skewed toward the dissatisfaction end of the continuum (twice as many people fall into the dissatisfied as compared to the satisfied categories). The percentage of those satisfied/dissatisfied varied considerably for the separate JS components.

Morale

The response distributions to the four morale items in table 17 show that more people report low than high morale. The pattern of responses is similar for both CVAs as well as between ship types. Because the intercorrelations among the items measuring "morale over the past few months" (items, 62, 63, and 64) averaged .57 for the total sample, as well as within ship types, we combined them into a single composite. However, the correlation between "morale today" and the three "morale over time" items was close to zero. Further, the "morale over time" composite correlated significantly with reenlistment intention, but "today's" morale did not. This suggests that the man's morale at the time he took the survey was unrelated to his reenlistment intentions. Had the results been otherwise, we might have been forced to conclude that reenlistment intentions were biased by morale-related factors that occurred on the day the survey was administered—perhaps by taking the survey itself. The absence of any correlation between "today's" morale and longer-term morale indicates that day-to-day fluctuations in morale do exist—people have their good and bad days—but apparently do not affect longer-term perceptions of things such as reenlistment intent and job satisfaction.

Trades Between Time at Home and Money

In an attempt to determine the enlisted man's perception of monetary value of time in homeport, we asked how much of a hypothetical reenlistment bonus he would trade for one through six additional months in homeport each year. We also asked how many months a year in homeport he would require before reenlisting, and how much more pay in the form of an additional four-year reenlistment bonus he would require to reenlist.

The responses to these questions were disappointing. The mean size of bonus required both for those not intending to reenlist and those who were uncertain exceeded \$20,000. Many people responded, "... not for a million dollars." Only a small proportion of the sample produced trades for each of the six time periods, and only a few of the complete responses were usable due to the unusual ranges of values reported.

These results probably illustrate the interaction of taste and economic variables, where strong negative feelings about the Navy tend to mask meaningful estimates of the cash value of reenlisting. It is doubtful that all who have such extreme responses to the tradeoff item would have stuck to

*Indicates symbol for partial correlation, significant at $p < .01$.

their answers if the cash were laid before them. This suggests a methodological bias in obtaining estimates of economic value using a survey approach.

TABLE 17
RESPONSE DISTRIBUTION FOR MORALE ITEMS

Ship	Question number	Item	Response distribution (percent)				
			1 Always low	2 Usually low	3 So-so	4 Usually high	5 Always high
AMERICA N = 1034	61	Your morale today*		40	42	17	
	62	Your morale past few months	15	52	37	16	18
	63	Ship's morale past few months	13	54	41	7	8
	64	Co-worker's morale past few months	12	53	41	12	13
ENTERPRISE N = 1309	61	Your morale today*		35	49	16	
	62	Your morale past few months	13	58	45	15	16
	63	Ship's morale past few months	10	62	50	6	6
	64	Co-worker's morale past few months	11	56	45	10	11
Total sample N = 3115	61	Your morale today*		46	39	14	
	62	Your morale past few months	14	54	40	15	16
	63	Ship's morale past few months	13	58	45	7	8
	64	Co-worker's morale past few months	12	53	41	11	12
		Composite (3 items)	6	39	33	45	15

*Always low and usually low are combined (low); always high and usually high are combined (high).

Since the number of cases discarded because of unusable data was so large, we felt no meaningful conclusions could be drawn from the 77 remaining cases.

CORRELATES OF MAJOR ATTITUDINAL MEASURES

Now we will show which variables describe and correlate with major attitudinal variables such as morale, job satisfaction, and wives' views about a Navy career. We will also describe the correlates of performance self-evaluation items. The independent variables used for a given dependent variable were determined on a logical basis. For example, when looking for correlates of wives' opinions, we considered items which could influence the wives. Items related to shipboard life, such as habitability or supervision, normally do not affect the wife or family relationship and were not initially considered. We later considered the effects of these other kinds of items on the relationships found among the wife-influence items.

The total item pool for the attitudes analyses consisted of 65 items and composites, with three additional composites for married men only.

Supervisory Behavior

The degree of predictability of the two Supervisory Behavior factors, Consideration and Structure, from the total item pool (63 other variables) was not very high (around .30). However, the items that did relate to the factors provide some insight into why men are satisfied with these two aspects of supervision. The results are shown in table 18. Again the R_{01} value is the partial correlation or independent contribution of each variable that relates significantly ($p < .01$) to supervisory behavior. There is little overlap of items which predict the two supervisory factors. The exceptions are Morale and GJA, which are related to both but in different ways.

TABLE 18
CORRELATES OF SUPERVISORY FACTORS
(N = 3115)

Variable	R_{01}
Consideration	
Morale	.12
GJA	.10
Navy career — satisfactory	.07
Handle complaints	.06
D/CVA	.06
Schooling — father	-.05
Security	.05
Multiple R	.30
Structure	
Morale	-.12
Feeling about work group size	-.09
C-school	-.07
Joined to serve country	.09
Size of work group	-.07
GJA	-.07
Paygrade	-.06
Job promised	.05
Z-grams	.05
Multiple R	.26

The profile of men who describe their supervisors high in consideration includes high morale and overall job satisfaction, perception of a Navy career as satisfying, liking the way complaints are handled, having fathers with less schooling, and joining the Navy for security. A greater proportion of men from destroyers reported their supervisors as being high in consideration.

The general conclusions are that high consideration promotes high morale and job satisfaction, while high structure promotes lower morale and less job satisfaction. These parallel findings in civilian settings. We also observed that the production-oriented supervisory style may be applied to unskilled men in lower paygrades in large work groups.

Habitability

As shown in table 19, a number of variables related significantly to the evaluation of habitability, together resulting in a multiple correlation of .47. Positive evaluations of habitability were associated with satisfaction with different aspects of Navy life such as Job Satisfaction, Morale, and other Navy climate variables. Differences between ship types were also noted: men aboard carriers rated their habitability as being somewhat better than did men aboard destroyers. Those who reported unfavorable evaluations of habitability required more months in homeport, suggesting that men can live only so long under poor habitability conditions and require a break in the routine of constantly living aboard ship.

TABLE 19
CORRELATES OF HABITABILITY FACTOR
(N = 3115)

Variable	R ₀₁
Duty station	.18
GJA	.09
Handle complaints	.11
Travel	.07
Morale	.10
Months homeport required to reenlist	-.08
Navy career — satisfactory	.07
Feeling about work group size	.07
Changes in duty station	.06
A-school	-.07
Get VRB	.06
D/CVA	-.06
Performance, self-rating	-.06
Fringe benefits	.05
Use training	.05
Multiple R	.47

Since we had no physical measures of the quality of habitability facilities and services to compare with men's perceptions of habitability, it is difficult to know if, for example, high morale produces an attitude that habitability is good or if the perception of good habitability results in high morale. Unless we can establish cause and effect, it would be inappropriate to make recommendations about improving the facilities and services aboard ships.

Liking Duty Station

Table 20 contains the correlates of liking one's duty station. The pattern of results is markedly similar to the habitability data. This is not surprising, since habitability is one aspect of liking duty station.

TABLE 20
CORRELATES OF LIKING ONE'S DUTY STATION
(N = 3115)

Variable	R ₀₁
Morale	.22
Habitability	.17
D/CVA	.13
GJA	.09
Changes in duty station	-.10
Navy career — satisfactory	.05
Handle complaints	.08
Joined to serve country	.08
Months to EAOS	.07
Performance, peer comparison	.06
Marital status	-.07
Months homeport required to reenlist	.06
Education	.06
Intent	.05
Underway time	.05
WGF nearby	.05
Months in homeport required	-.05
Use training	-.05
Like rating	.05
Multiple R	.55

Navy Career

The correlates of satisfaction with a Navy career (and Navy Way of Life) are shown in table 21. The largest is reenlistment intention—the more favorably disposed a man is toward a Navy Way of Life, the more likely his intention to reenlist. Further, true volunteers are more favorably disposed toward a Navy career, particularly those whose wives, girlfriends, or families feel the same way about it.

Attitudes of Wife, Girlfriend, or Family about a Navy Career (WGF)

We analyzed the correlates of the reported WGF attitude about a Navy career three different ways. First, we correlated all variables for the total sample with the WGF item. Then we followed the same procedure for married men only. Finally, we looked at the relationship of the WGF item for married men with those items related to family separation and life style, as opposed to items having to do with shipboard life where the impact on the wife would not be obvious. These results are presented in tables 22-24, respectively.

The correlates of the WGF item are quite similar for the total and the married sample, and the wife-related items, not the “shipboard” items, proved to be major correlates. The areas of similarity, all variables considered, include: reenlistment intent, underway time, impact of Z-grams,

joining for reasons of job security, and level of education. That is, these variables all have significant relationships with WGF attitudes.

TABLE 21

**CORRELATES OF SATISFACTION
WITH A NAVY CAREER
(N = 3115)**

Variable	R ₀₁
Intent	.24
GJA	.10
Joined for job security	.11
Z-grams	.10
Navy career — frustrating	-.14
Habitability	.08
WGF	.09
Morale factor	.07
DM/TV	.07
Navy career — easy	.08
Months homeport required to reenlist	-.08
Handle complaints	.06
Consideration	.06
Training	.07
Months to EAOS	-.05
Multiple R	.57

TABLE 22

**CORRELATES OF ATTITUDES OF WGF
(N = 3115)**

Variable	R ₀₁
Intent	.19
Marital status	-.21
Navy career — satisfactory	.10
DM/TV	.07
Area of town	-.07
Joined for job security	.06
Z-grams	.06
Education	-.07
Underway time (satisfied with)	.05
Months homeport required to reenlist	-.05
Navy career — frustrating	-.05
Multiple R	.44

TABLE 23

**CORRELATES OF WGF ATTITUDE ABOUT
NAVY FOR MARRIED PERSONNEL
(N = 1040)**

Variable	R ₀₁
Satisfaction with the Navy:	
Navy career — frustrating	-.11
Z-grams	.10
Underway time	.08
Reenlistment intent	.05
Wife opinion:	
Absences	.12
Enlistment decision:	
Joined for job security	.09
Personal characteristics:	
Education	-.09
Multiple R	.61

TABLE 24

**CORRELATES OF WGF ATTITUDE ABOUT NAVY:
WIFE-INFLUENCED VARIABLES
(N = 1040)**

Variable	R ₀₁
Enlistment decision:	
Joined for job security	.25
Wife opinion:	
Living	.17
Absences	.13
Personal characteristics:	
Months to EAOS	.12
Months homeport required to reenlist	-.09
Satisfaction with the Navy:	
Underway time	.09
Multiple R	.44

There was a negative relationship between WGF and marital status, meaning that wives are less favorably disposed toward a Navy career for their husbands than are the families or girlfriends of single men. This being the case, we wondered if the relationships between WGF attitude and its correlates differed for married and single men. By examining the responses of married and unmarried men to the items which correlated with WGF, we found two differences—in underway time and months in homeport. Thus, we can conclude that WGF attitude is affected by underway time, but more so for married men.

General Job Attitude (GJA)

Satisfaction with one's job was highly predictable from a number of job-related factors, shipboard living items, and morale. As shown in table 25, morale had the highest correlation. This is consistent with findings of industrial studies which show that high job satisfaction on the part of the individual promotes high morale. Another interesting finding is that younger men, regardless of paygrade and other time related variables, were less satisfied with their jobs in general. Job specific variables which related to GJA were utilization of training, feelings about the size of the work group (smaller), liking a civilian job similar in content to current Navy job, and kind of supervision. Liking one's duty station and habitability also seem to promote high job satisfaction.

TABLE 25
CORRELATES OF GENERAL JOB ATTITUDE
(N = 3115)

Variable	R ₀₁
Morale factor	.24
Would like civilian job similar to Navy work	.14
Navy career — satisfactory	.12
Handle complaints	.11
Habitability	.10
Like rating	.12
Duty station	.09
Feeling about work group size	.09
Joined to serve country	.09
Use training	.08
Z-grams	.08
Supervision — consideration	.09
Supervision — structure	-.08
Age	-.06
Fringe benefits	.06
Multiple R	.60

Morale

The correlates of morale are presented in table 26. The results are quite similar to the findings on job satisfaction. Certain exceptions, such as racial characteristics and the effects of compensation and educational level, were observed. Non-white enlisted men reported higher morale than whites, as did men with more education. Men reporting higher base pay reported lower morale, but this may mean that they have other characteristics which generate this correlation. The relationship

between job satisfaction and reported fringe benefits (in dollars) was positive, but again this may be due to some other characteristic.

TABLE 26
CORRELATES OF MORALE COMPOSITE
(N = 3115)

Variable	R ₀₁
GJA	.25
Duty station	.21
Handle complaints	.12
Supervision — consideration	.11
Habitability	.10
Supervision — structure	-.11
Navy career — satisfactory	.07
Underway time	.07
Race	-.07
Navy career — frustrating	-.05
Earnings	-.06
Joined to serve country	.05
Education	.05
Multiple R	.58

Performance Self-evaluation

Two items in the survey ask the man to evaluate his on-the-job performance. One question asked him to rate his performance in a manner similar to his semi-annual performance evaluation.* The other asked him to rate his performance relative to men doing the same job. The two items correlated .50. Their distributions showed considerable spread, but the "self-evaluation" item was more skewed to the high performance end of the continuum, while the "peer comparison" item was more normally distributed.

Tables 27 and 28 show the correlates of these performance evaluation items. The common correlations are non-attitudinal variables. Older, more senior men, who originally came from a better area of town (one of our proxy measures for socio-economic status) reported higher performance. This reflects the expectation that higher levels of performance are associated with seniority. Good performers, although not currently looking for a civilian job, felt it would be easy to obtain one. However, performance evaluations were *not* related to reenlistment intentions.

DIFFERENCES IN BACKGROUND AND ATTITUDES BETWEEN GROUPS

Now we will focus on the differences in attitudes and background characteristics of various groups in our sample. We want to identify major differences which could produce different effects

*NAVPERS-792, Report on Enlisted Performance Evaluation.

for these groups on the reenlistment intent measure. Four breakdowns of the sample will be looked at: (1) draft-motivated vs. true volunteers, (2) destroyers vs. carriers, (3) married vs. non-married, and (4) five occupational groups.

TABLE 27

PREDICTION OF PERFORMANCE:
SELF EVALUATION*
(N = 3115)

Variable	R ₀₁
Personal characteristics:	
Months to EAOS	-.18
Paygrade	.15
Marital status	.06
Education	.05
Satisfaction with Navy:	
Easy to get good job	.10
Like rating	.06
Choose rating	-.06
Civilian job similar to Navy work	.05
Socio-economic:	
Area of town	.06
Enlistment decision:	
Joined to serve country	.06
Career benefits:	
Pro pay	.06
Multiple R	.32

*Peer comparison performance deleted.

TABLE 28

PREDICTION OF PERFORMANCE:
PEER COMPARISON*
(N = 3115)

Variable	R ₀₁
Personal characteristics:	
Months to EAOS	-.12
Paygrade	.09
Age	.05
Education	.06
Satisfaction with the Navy:	
Z-grams	.06
Handle complaints	-.06
Duty station	.06
Easy to get civilian job	.06
Looking for civilian job	-.05
Career benefits:	
Fringe benefits	-.08
Socio-economic:	
Area of town	.08
Multiple R	.29

*Self evaluation of performance deleted.

Two analytical procedures were used to contrast the responses of these groups. When two groups were involved, a dummy coded (0, 1) variable was generated to represent group membership as the dependent variable in step-wise regression analysis. Whenever an independent variable related significantly to the (dummy) groups membership variable, this meant that there was a significant difference in the mean response of the two groups to the item. The multiple correlation was interpreted as an index of the overall differences in response profile of the contrast groups.*

In the case of the occupational groups, where more than two were involved, a step-wise discriminant function analysis was employed to identify differences in means among the occupational groups on various items.

*Using a dichotomous dependent variable generally leads to heteroskedasticity, which does not bias estimates of coefficients but does render them inefficient (i.e., higher variance and hence lower significance). As no correction was made for heteroskedasticity, we may have termed some variables insignificant which could be significant.

Draft-motivated (DM) vs. True Volunteers (TV)

These groups were contrasted using two subsets of variables. First, we compared their responses to all background and Navy experience items. Then we compared their responses only on the background items. The latter comparison would apply to new recruits who have not formed opinions about such things as habitability and job satisfaction that are based upon Navy experience.

The purpose of the two comparisons was to determine the net effects of the background items, independent of their relationships to the experience items. For example, the net effect of a background item may be zero because it correlates with an experience item. Such a result would mean that DM and TV were different at the time of enlistment, but that Navy experience diminished the difference.

Comparing the results shown in tables 29 and 30, we see that the background items produce the same multiple correlation as do both background and experience items together. This means that the experience items are not as important as the background items for statistically differentiating DM from TV.

TABLE 29
DIFFERENCES BETWEEN DRAFT MOTIVATED AND TRUE VOLUNTEERS
ON BACKGROUND AND EXPERIENCE VARIABLES

	R_{01}	Means	
		DM = 0 (N = 2321)	TV = 1 (N = 794)
Background variables			
Joined to serve country	.21	2.62	3.46
Travel	.14	2.68	3.60
Continue family tradition	.08	1.31	1.73
Job opportunities	.06	1.43	1.93
WGF attitude toward reenlistment	.05	1.28	1.52
Education level	-.07	2.69	2.28
Had civilian job	-.07	1.80	1.71
Age (years)	-.06	22.95	22.35
Number of siblings	.05	3.36	3.65
Experience variables			
Navy career	.10	4.08	4.98
GJA	.05	2.58	2.95
Underway time	.05	1.24	1.39
VRB	.06	1.14	1.17
Multiple R	.53		

TABLE 30

**DIFFERENCES BETWEEN DRAFT MOTIVATED AND
TRUE VOLUNTEERS ON BACKGROUND VARIABLES**

Background variables	R ₀₁	Means	
		DM = 0 (N = 2321)	TV = 1 (N = 794)
Joined to serve country	.18	2.62	3.46
Travel	.17	2.68	3.60
Continue family tradition	.07	1.31	1.73
Job security	.07	1.31	1.77
Training opportunities		2.75	3.50
Job opportunities	.08	1.43	1.93
Education	-.08	2.69	2.28
Number of siblings	-.06	3.36	3.65
Age (years)	-.07	22.95	22.35
Had civilian job	-.08	1.80	1.71
Multiple R	.52		

The biggest discriminators between DM and TV were reasons for joining the Navy. The TV means were significantly higher for Travel and Serve Country. These results are not surprising, since the main reason for DM enlistments is to avoid being drafted. Therefore joining the Navy, vice the other services, for reasons of travel or security, would be of less importance to the DM enlistee. However, an examination of the distribution of DM responses showed that a small proportion did choose these reasons as important influences in joining the Navy.

Because these reasons for joining can be interpreted as correlates of the DM and TV categories themselves, as well as characteristics of the men in each category, we reanalyzed the differences between the DM and TV groups excluding them. Of particular interest are items which were important discriminators regardless of their relationship to "reasons for joining."* Table 31 shows the results.

The TV was younger, came from a home having a lower standard of living, had less education, and was less likely to have been employed prior to entering the Navy. He also differed in attitudes tempered by Navy experience. He was more satisfied with the Navy way of life and Navy career, had a higher level of job satisfaction, liked his duty station, found his underway time to be less unsatisfactory, and reported that his wife, girlfriend, or family was more favorably disposed to reenlistment. Further, he had more years of active duty, reported a greater amount of fringe benefits, would require fewer months in homeport to reenlist, and was more likely to have received a VRB.**

*An item which discriminates between DM and TV when considered jointly with "reasons for joining," but not in their absence, would correlate highly with one of the reasons. The "reason" item having a greater mean difference would then mask the relationship of the other item.

**These were men in the 6 YO program who had served at least four years and were receiving VRB while in their first enlistment.

TABLE 31

**DIFFERENCES BETWEEN DRAFT MOTIVATED AND TRUE VOLUNTEERS
EXCLUDING REASONS FOR JOINING**

	R_{01}	Means	
		DM = 0 (N = 2088)	TV = 1 (N = 794)
Background variables			
WGF attitude toward reenlistment	.08	1.28	1.52
Education level	-.10	2.69	2.28
Had civilian job	-.08	1.80	1.71
Age (years)	-.10	22.95	22.35
Standard of living	-.06	3.72	3.57
Experience variables			
Navy career	.12	4.08	4.98
GJA	.06	2.58	2.95
Underway time	.07	1.24	1.39
Duty station	.06	1.74	2.06
Years of active duty	.06	3.27	3.34
Fringe benefits	.05	82.92	91.10
Months required to reenlist	-.05	9.28	8.36
Multiple R	.37		

Comparing the results, which excluded reasons for joining, with those in table 29, where these reasons are included, shows a similar picture of the average TV. The most apparent difference between the two analyses is the magnitude of the multiple correlation coefficients. Including the reasons for joining explains over 50 percent more of the variation between groups.

To sum up the differences between DM and TV, we found that TV had more positive attitudes toward various aspects of Navy life, were younger, less well educated, had less civilian job experience, and came from homes of a lower socio-economic status. TV were more strongly motivated to join the Navy (vice another military service) for reasons other than avoiding the draft.

Avoiding the draft was probably a primary motivator for DM enlistment in *any* military service. However, DM did assign some importance to other reasons, which we interpret as motivation for enlisting in the Navy rather than in another military service.

One item which did not emerge as a significant discriminator between DM and TV was reenlistment intent. However, their mean values on the intent item were significantly different when looked at independently of the other items which discriminated between the two groups. Thus, reenlistment intentions correlate rather highly with the items which do discriminate between the groups, but the pattern and magnitude of the correlations are such as to obscure the differences in reenlistment intention. When we look at the items which correlate with reenlistment intention, we will get a clearer picture of the relationship between enlistment motives and reenlistment intentions.

Ship Types

Table 32 shows the 21 items which were answered differently by men on board carriers and destroyers. The item accounting for the biggest difference between the ship types was average time of EAOS. Men assigned to destroyers had about 14.5 months to EAOS, while carrier-based men reported an average of 8.7 months. Coincidentally, men assigned to carriers were about six months older than men on destroyers. This EAOS/age difference is probably due to the differences in the distribution of E-4s and E-5s between the ship types: 37 percent of the men on the carriers were E-5, compared to 29 percent of the men on the destroyers. The higher proportion of more senior petty officers aboard the carriers would be correlated with the age and time to EAOS measures, assuming that the average length of service was equal for both ship types. This explanation receives further support when we see that a higher proportion of carrier-based men went to A, B, and C schools.

TABLE 32
DIFFERENCES IN CHARACTERISTICS OF
PERSONNEL ASSIGNED TO D VS. CVA SHIPS
(N = 3115)

Variable	R ₀₁	Means	
		CVA = 0 (N = 2212)	D = 1 (N = 903)
Personal characteristics:			
Months to EAOS	.21	8.69	14.48
Months in homeport	.19	3.86	5.18
Underway time, feeling about	.09	1.23	1.37
Age (years)	-.07	22.95	22.43
Satisfaction with the Navy:			
Size of work group	.15	4.17	4.45
Duty station	.12	1.74	2.03
WGF in/nearby homeport	.12	1.20	1.31
Feelings about work group size	-.09	1.68	1.56
GJA	-.07	2.70	2.61
Habitability	-.07	15.06	14.70
Like rating	-.05	0.61	0.54
Civilian job promised	.05	1.44	1.51
Navy career — easy	-.05	4.43	4.17
Training:			
Used source of civilian job opportunities	-.11	3.26	2.95
B-school	-.10	1.06	1.03
A-school	-.08	1.82	1.77
C-school	-.05	1.42	1.35
Use school training	.06	2.42	2.45
Enlistment decision:			
Travel	.08	2.87	3.02
Training	-.05	2.96	2.91
Joined to serve country	-.05	2.86	2.76
Multiple R	.46		

Although men aboard carriers were more senior and highly trained, they reported less utilization of the skills for which they had been trained. On the other hand, a higher proportion of them liked their ratings and were satisfied with their jobs and the size of their immediate work groups (which are significantly larger than those on destroyers). Carrier-based men also gave more favorable rating of habitability, but they rated their duty station somewhat worse than did men aboard destroyers. Apparently, overall satisfaction with one's duty station goes beyond being satisfied with one's work and habitability aboard ship. Men assigned to carriers spent less time in homeport, which was associated with more negative feelings about underway time, and this may be the reason for disliking a carrier as a duty station.

Finally, a greater proportion of men aboard carriers joined the Navy for training and to serve their country, while a greater proportion of men on destroyers joined because of travel opportunities.

Married and Non-married Personnel

Approximately one-third of the men in our sample were married. They differed from non-married men on a number of attitudinal as well as background items listed in table 33.

TABLE 33
DIFFERENCES IN RESPONSES TO QUESTIONNAIRE
ITEMS BY MARRIED AND NON-MARRIED MEN

Variable	R_{01}^*	Means	
		Married = 0 (N = 1040)	Non-married = 1 (N = 2075)
Easy to get good civilian job	-.11	1.56	1.71
Civilian job promised	.06	1.51	1.43
Source of civilian jobs	-.07	2.92	3.30
WGF	-.17	1.17	1.42
Choose rating	-.07	1.70	1.73
Performance, self-rating	.07	3.99	3.79
Duty station	-.06	1.73	1.86
Changes of duty station	-.10	2.06	2.30
Underway time	-.08	1.20	1.31
Joined for travel	-.14	2.52	3.11
Joined to serve country	.10	2.90	2.81
Area of town	-.05	2.63	2.66
Nearby, WGF	.03	1.46	1.12
Monthly earnings	.29	407.08	317.34
Months homeport required to reenlist	.07	9.65	8.74
Intent	.13	1.27	1.19
Multiple R	.58		

*A negative sign indicates that the mean of the non-married men was higher than the mean of the married men.

The greatest average difference between married and non-married men was in reported earnings, with married men reporting higher earnings. A greater proportion of married men received pro pay (4 vs. 2 percent) and were E-5s (43 vs. 30 percent), and they probably included their allowance for quarters and dependents in their estimates of earnings.*

In general, married men and their families had less favorable attitudes toward various aspects of Navy life. For example, their wives were less favorably disposed towards a Navy career than were the girlfriends or families of non-married men. Married men were less satisfied with the number of changes in their duty stations and with underway time during their current enlistment, as well as with their current duty stations. A greater proportion of them said they did not choose their ratings, but no differences in level of job satisfaction or other job-related items were observed.

On the positive side, married men have a higher probability of reenlisting or extending, report higher levels of on-the-job performance, and were not currently looking for a civilian job. A higher proportion of them originally joined the Navy to serve their country, and they would require fewer months in homeport to reenlist.

Occupational Groups

Differences between the five occupational groups are shown in table 34, where items are listed in the order of the overall mean differences between the groups. Since these items are correlated both among themselves and with differences in responses between groups, it was important to examine the relative tradeoffs which might occur between the groups. For example, if liking one's rating is correlated with compensation for the entire sample, does this relationship hold within each of the occupational groups?

The technique used to determine these tradeoffs was canonical analysis. It shows which variables cluster together and allows us to compare the group means for each of the clusters. This is analogous to computing separate regression equations for each occupational group and then comparing their predicted scores. Table 35 shows the results.

Two canonical roots, representing two homogeneous clusters of variables, emerged from the analysis. The Weights are the correlations each variable had with the hypothetical dimension underlying the cluster. The Group Score represents the relative location of each occupational group on the hypothetical dimension; the greater the difference between groups scores, the further apart they are on the dimension.

The first dimension is related to group differences in training and choice of rating. Lesser correlates of this dimension include liking one's rating, education, pro pay, and paygrade. The two groups furthest apart on this dimension are electronic technicians (who received the most training, were more likely to have chosen their rating, had a higher level of civilian education, were receiving more pro pay, and had a higher proportion of E-5s) and tradesmen (who had lower "scores" on the relevant aspects of the dimension).

*Single men earn a quarters allowance (lower than a married man), but do not receive it if the Navy provides quarters (i.e., ship barracks).

TABLE 34
MEAN DIFFERENCES OF ITEMS RESPONDED TO DIFFERENTLY
BY MEN IN FIVE OCCUPATIONAL GROUPS

Variable	Group mean				
	Personal services	Tradesmen	Electro- mechanical	Clerical/ technical	Elex. oper/ technician
C-school	.11	.20	.42	.18	.67
Like rating	.58	.37	.74	.69	.63
A-school	.40	.72	.80	.70	.95
Education	2.51	2.34	2.47	2.92	2.76
D/CVA	.50	.34	1.4	.22	.37
Size group	4.60	4.06	4.40	4.47	4.19
Job similar	1.83	1.55	2.12	1.73	1.89
Job promised	.46	.57	.46	.43	.37
Months to EAOS	6.38	11.22	7.90	6.77	13.28
Size of work group	1.51	1.54	1.66	1.67	1.74
Habitability	17.08	15.25	14.77	15.37	14.53
Years of active duty	3.32	3.20	3.29	3.06	3.44
Race	.83	.96	.95	.94	.96
Joined to serve country	2.96	3.00	2.92	2.85	2.63
Pro pay	.02	.01	.01	.01	.07
B-school	.02	.07	.02	.03	.07
Choose rating	.49	.58	.80	.70	.81
Use training	2.22	2.42	2.42	2.35	2.50
Joined for training	2.99	2.95	3.04	2.42	3.08
Navy career — easy	4.02	4.10	4.30	4.39	4.63
DM/TV	.25	.33	.26	.20	.21
Paygrade (percent E-5)	.22	.27	.39	.26	.42
Performance, self-rating	3.97	3.78	3.88	4.05	3.82
Fringe benefits	\$103.23	82.91	68.95	75.80	62.57
Changes	2.38	2.33	2.13	2.22	2.18
Joined for job security	1.68	1.45	1.47	1.45	1.35
Duty station	1.77	1.79	1.74	1.86	1.90
Civilian job	1.73	1.82	1.80	1.71	1.75
Age (years)	23.03	22.40	22.74	23.13	22.80
Easy to get good civilian job	1.65	1.62	1.62	1.69	1.71
N	92	860	777	384	1000

TABLE 35

**CANONICAL ANALYSIS OF DIFFERENCES
BETWEEN FIVE OCCUPATION GROUPS**

Root/dimension	<u>1</u>			<u>2</u>
Canonical R	.56			.42
Percent dispersion	.55			.27
<u>Variable</u>	<u>Weights</u>		<u>Variable</u>	<u>Weights</u>
C-school	-.75		Like rating	-.55
A-school	-.51		D/CVA	.42
Choose rating	-.39		Size group	-.41
Like rating	-.31		Months to EAOS	.40
Like group size	-.29		Civilian job similar	-.36
Education	-.26		B-school	.25
Paygrade	-.26		Choose rating	-.21
Job promised	.26			
Pro pay	-.25			
Civilian job similar	-.25			
Navy career — easy	-.24			
<u>Group</u>	<u>Group score</u>		<u>Group</u>	<u>Group score</u>
Personal services	.26		Personal services	-.11
Tradesmen	.71		Tradesmen	.65
Electro-mechanical	-.04		Electro-mechanical	-.69
Clerical/technical	.21		Clerical/technical	-.50
Elex. oper/technician	-.88		Elex. oper/technician	-.40

The second dimension is related to liking one's rating, contingent upon ship type. Other correlates were size of immediate work group and amount of time to EAOS. The electro-mechanical, clerical-technical, and electronic technicians group together on one end of this dimension, characterizing men who were assigned to CVAs and liked their ratings. Tradesmen, who were assigned to destroyers and did not like their ratings, were on the other end.

Reviewing the entries in table 35, we notice some overlap in the variables which define the two dimensions. This implies that liking one's rating is contingent upon both occupational group membership and ship type. A plot of the group scores on the two dimensions, shown in figure 3, depicts the relationship between them (i.e., tradeoffs between training, liking one's rating, and ship type).

We can interpret the relative differences of the group scores on the two dimensions by their distance from the origin (the indifference point for liking one's rating, equal probability of coming from a carrier or destroyer, and average amount of training) and each other. Electronics technicians are furthest away from tradesmen in the two dimensional plot. This corresponds to the greatest difference on the training factor, which accounts for the greatest percentage of group differences. The remaining three groups, regardless of their average amount of training, tended to cluster together in the area of the graph that represents liking one's rating and being assigned to a CVA. They fall between the electronics technicians and tradesmen.

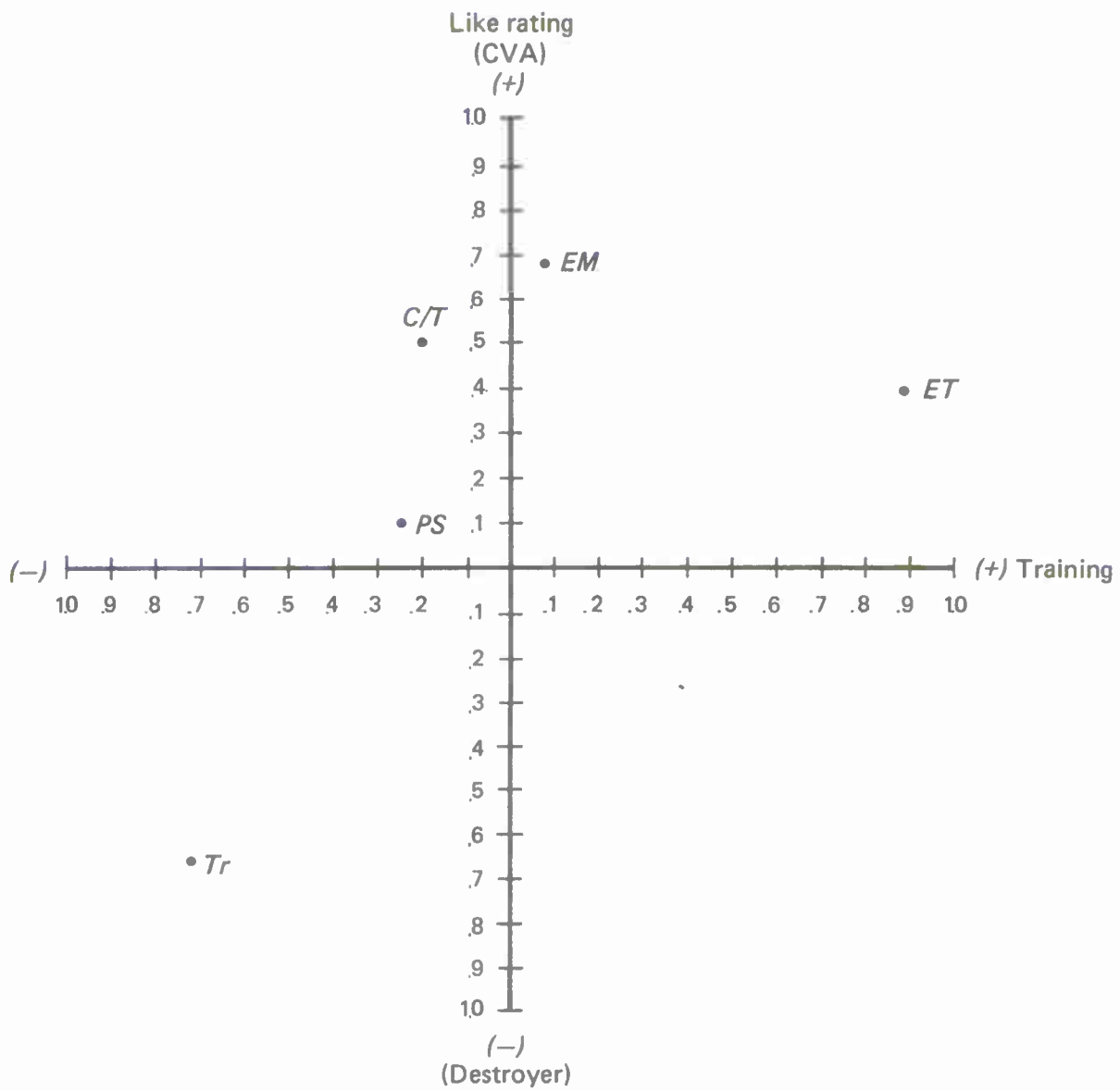


FIG. 3: DIMENSIONS OF OCCUPATIONAL GROUP DIFFERENCES

To summarize, the major differences between occupational groups were accounted for by amount of training, liking one's rating, and type of duty station (CVA vs. destroyer).

REENLISTMENT INTENT

Now we focus on reenlistment intent using a variety of data. We first present percentage distributions of the intent measure for the different groups in the sample. Then we analyze the reasons given both for (+) and against (-) reenlisting, and what attitudinal and background items correlated with the reasons. We will also look at men whose reenlistment intentions were uncertain (?), with particular concern for their suggestions about what the Navy could do to get them to reenlist. Contrasting the reasons of the +, -, and ? groups should give us some insights about how to increase reenlistments. Finally, we will determine the correlates of our reenlistment intent scale.

Percentage Distributions of Reenlistment Intent Scale

Table 36 shows the proportions of men in various groups (e.g., occupations, true volunteers) who do not intend to reenlist, who are undecided, and who intend to reenlist or extend. The reenlistment intent rate is the cumulative percent of those individuals falling into the third (short-term extension) through fifth (long-term reenlistment) intervals of the scale.

TABLE 36
**PROPORTION DISTRIBUTIONS OF REENLISTMENT
INTENT MEASURE**

Group	Intent scale value					Reenlistment intent rates	p in group
	1	2	3	4	5		
Total (N = 3133)	.863	.092	.016	.023	.006	4.5	1.000
True volunteers	.755	.157	.039	.043	.006	8.8	.254
Draft motivated	.899	.070	.009	.017	.006	3.2	.746
Personal services	.728	.141	.065	.054	.011	13.0	.029
Tradesmen	.861	.098	.014	.027	.001	4.2	.277
Electro-mechanical	.866	.086	.023	.021	.005	4.9	.249
Clerical/technical	.886	.093	.003	.016	.003	2.2	.123
Elex. oper/technician	.866	.087	.014	.023	.011	4.8	.321
Married	.851	.085	.025	.028	.012	6.5	.330
Non-married	.868	.096	.012	.021	.003	3.6	.670
Destroyer	.849	.094	.020	.036	.001	5.7	.288
CVA	.868	.091	.015	.018	.008	4.1	.712
E-4	.856	.103	.016	.022	.003	4.1	.654
E-5	.875	.070	.018	.027	.010	5.5	.346
Whites	.875	.088	.013	.019	.005	3.7	.953
Non-whites	.632	.164	.082	.116	.014	21.2	.047

Upon first inspection of the intent-to-reenlist/extend rates, the proportions seem to be quite low in comparison with historical reenlistment rates. For example, in FY-68 and FY-69 the actual onboard reenlistment rates for eligible first termers were about 11 percent in the cruiser-destroyer force and 7.2 percent aboard carriers. Our previous study of the relationship between actual reenlistment rates and intent rates (measured one year prior to EAOS) showed that the actual reenlistment rate was about double the intent rate, with most of those who intended to reenlist actually reenlisting (Lockman, et al., 1972). If we were to double the intent rates for our samples, they would approximate the historical reenlistment rates.

Comparing reenlistment intent rates across the various groups in table 36, we find quite a bit of variation. The only groups not showing substantial differences in intent rates were ship types and paygrades.

Reasons for Reenlistment Intentions

Table 37 shows the percentage distributions for the reasons given by respondents who intended to reenlist, would not reenlist, and were uncertain. Since most respondents chose a maximum of three reasons, only the first three reasons an individual gave were considered.

TABLE 37
PERCENTAGE DISTRIBUTIONS OF REASONS
FOR REENLISTMENT INTENTIONS

Reason	- Non-reenlist			+ Reenlist			? Uncertain		
	DM	V	Total	DM	V	Total	DM	V	Total
Living conditions	10	09	09	01	07	04	10	05	08
Retirement	03	03	03	35	22	29	04	03	04
Military life	43	32	40	06	04	05	12	14	13
Duty	15	17	15	31	33	32	37	42	39
Leadership	26	26	26	04	03	04	11	14	12
Working conditions	07	07	07	00	04	02	13	09	11
Civilian alternative	16	13	15	03	06	04	00	00	00
Home	35	32	34	04	09	06	39	27	34
Advancement	11	13	21	39	42	40	28	34	31
Work itself	07	08	08	13	10	11	06	05	05
Compensation	24	24	24	50	43	47	53	48	41
N =	2688			141			286		

The general pattern of results shows a marked similarity in the kinds of reasons given by both true volunteers and draft-motivated men. Major differences appear to be generated by the individual's reenlistment/extension intent.

Liking compensation and fringe benefits, advancement opportunities, early retirement, and duties were the most frequently given reasons for intending to reenlist or extend. On the other

hand, disliking the military way of life, the amount of time spent at home, the kind or quality of leadership/supervision, and monetary compensation were the most frequently given reasons for not intending to remain in the Navy.

The only reason having both a strong positive and negative influence was compensation. Some individuals were quite satisfied with their pay, and this was associated with positive reenlistment intentions; others were dissatisfied with pay, and this was associated with negative reenlistment intentions.

Among the reasons given for conditional reenlistment by the uncertain group, the most important were improvements in compensation, various aspects of the duty associated with their stations, time at home, and advancement. These are areas for changes which should affect reenlistments among the uncertain group. However, the effects of such changes Navy wide would probably be difficult to gauge because: (1) The uncertain group consisted of a relatively small percentage of all respondents (10 percent); (2) The effect of these changes on the group not intending to reenlist might be minimal, since they claimed that nothing could cause them to reenlist. This conclusion is indirectly supported by the fact that the absence of negative aspects of why people are going to leave the Navy do not seem to be inducements for those who intend to reenlist. For example, disliking the military way of life is a reason why people plan to separate, but liking it was not associated with plans to reenlist. (3) The effect of changes in compensation, which was both a positive and negative inducement for people reporting the same amount of pay, is difficult to interpret without looking at their other characteristics. This suggests that greater insights into why certain people were influenced by the reasons listed in table 37 could be gained by determining their correlates from among the other questionnaire items. Thus, we will focus on the correlates of reasons given by true volunteers who do not intend to reenlist and who were uncertain, since the Navy of the future will probably be manned by true volunteers.

Table 38 shows the correlates of the reasons given by men who would not reenlist "regardless of what the Navy would do." Regression analyses were performed only when a given reason was stated by at least 15 percent of the relevant group.

Although the same kinds of reasons for wanting to leave the Navy were given by the same proportions of men in the DM and TV groups, the correlates of these reasons for the two groups were somewhat different. Dislike for military life was the reason selected by the largest proportion of men in both groups. TV who stated this reason were less satisfied with the Navy climate and more frustrated by it than those who did not choose it as a reason for not intending to reenlist. The profile of characteristics for DM men who gave this reason is more involved. It includes those who were not married, did not go to either C or B school, did not join to serve their country, reported that their girlfriends or families were not in favor of a Navy career, rated themselves low on job performance and job satisfaction, and had low opinions of how complaints were handled.

Dissatisfaction with the amount of time spent at home (or in homeport) was the second largest objection to reenlisting. For both DM and TV, being married was the largest correlate of this reason. Men who gave this reason for wanting to leave the Navy were probably not dissatisfied with work-related factors, since they felt that they would like a job similar to their Navy rating in civilian life, and, in the case of the TV, were satisfied with the Consideration aspects of their supervision.

TABLE 38
CORRELATES OF REASONS FOR LEAVING THE NAVY

Draft motivated (N = 2088)		True volunteer (N = 600)	
Military life	R ₀₁	Military life	R ₀₁
Navy career — satisfactory	-.06	Navy career — satisfactory	-.17
WGF	-.05	Navy career — frustrating	.11
GJA	-.06		
Compare performance	-.07		
Handle complaints	-.06		
Joined to serve country	-.08		
Marital status	-.16		
B-school/C-school	-.05		
Months required	.09		
Multiple R	.28	Multiple R	.22
			.14
Civilian alternative	R ₀₁	Civilian alternative	R ₀₁
Navy career — frustrating	-.06	Z-grams	-.12
Morale	.05	GJA	.10
D/CVA	.06		
Job similar	-.10		
Z-grams	-.08		
GJA	.05		
Duty station	.05		
Joined to fulfill military obligation	.05		
Marital status	-.06		
Multiple R	.20	Multiple R	.22
			.14
Duty	R ₀₁	Duty	R ₀₁
Navy career — satisfactory	.11	Navy career — satisfactory	.14
Z-grams	.09	Navy career — easy	.09
Size group	-.05	Handle complaints	-.08
Duty station	-.06	Joined for tradition	.09
Underway	-.05	Education	.11
Joined for training	.07		
Marital status	.06		
Pro pay	.06		
Multiple R	.21	Multiple R	.22
			.27
Leadership	R ₀₁	Leadership	R ₀₁
Consideration	-.06	At home	
Navy career — satisfactory	-.05	Consideration	.10
Navy career — frustrating	.04	Job similar	.11
Morale	-.06	Underway	-.14
Months to EAOS	-.08	Race (B)	-.09
GJA	-.04	Marital status	.29
Handle complaints	-.08		
Town size	.04		
Race	.06		
Marital status	-.08		
Months required	-.05		
Multiple R	.24	Multiple R	.27
			.36

Amount of compensation was also a dominant reason for intentions to leave the Navy. For both DM and TV, this was associated with higher expectations of civilian earnings, not having joined for reasons of security, and being favorably impressed by Z-grams (but not enough to increase the likelihood of reenlisting). For TV, being married, not having attended B school, dissatisfaction with underway time, but satisfaction with the Navy climate, were correlates of dissatisfaction with compensation.

Dissatisfaction with leadership was selected by both groups but for different reasons. The TVs who gave this reason for intending to leave the Navy reported their supervisors to be high in structure, while DM men intending to leave reported their supervisors to be low in consideration. This finding is consistent with studies conducted in industry where high Structure and low Consideration have been found to be associated with high turnover rates (Fleischman and Harris, 1962).

Table 39 shows the correlates of the reasons associated with conditional reenlistment intentions for DM and TV. About half of both groups whose reenlistment intentions were uncertain said that they would consider reenlisting if compensation were increased. The TV would also require more time in homeport before reenlisting.

Perhaps giving men more time in homeport would allow them to "moon-light" and earn extra income. However, it is difficult to determine from the data if men who selected increases in compensation would be satisfied with additional free time in homeport as a substitute if both more money *and* more time at home are necessary conditions for reenlisting. If we look at the correlates of the more time at home reasons for conditional reenlistment, we observe that TV who gave this reason tended to live nearby their homeports with their families. This may indicate that additional time at home might be spent with their families, but does not preclude the possibility of "moon-lighting."

There is very little similarity between DM and TV with regard to the correlates of conditional reenlistment for more time at home and money. Compensation seems to be an important factor for DM who had a greater amount of civilian job experience and who have not been using their Navy trained skills. Perhaps they are comparing the irrelevant work they perform on their Navy jobs with whatever they did in civilian life and feel that, other things being equal, they are being under-compensated. On the other hand, performing meaningful work may be its own compensation. Industrial research has shown that putting more meaning into work has resulted in less turnover (Ford, 1969), but no relationship to compensation was reported.

The correlates of the other two most frequently cited reasons for conditional reenlistment intentions, duty and advancement, were also quite different for DM and TV. Among the TV who cited duty, we find a greater proportion of non-white enlisted men, those who came from urban areas, those who came from broken homes, and those who reported that their WGF's were against a naval career.

A review of the foregoing results suggest that changes in compensation, time at home, and factors associated with ship-board duty could induce more men to considering reenlisting.

TABLE 39
CORRELATES OF REASONS FOR THOSE WITH
UNCERTAIN REENLISTMENT INTENTIONS

Draft motivated (N = 161)		True volunteer (N = 125)	
Military life	R01	Military life	R01
Months to EAOS	.16		
Feeling about group size	-.23		
Town size	.19		
Multiple R	.33		
		Advancement	
		Consideration	.18
		Easy to get good civilian job	.16
		Handle complaints	.22
		Lika rating	-.31
		Months required	.18
		Multiple R	.44
Duty		Duty	
Months to EAOS	-.24	WGF	-.22
Feeling about group size	.23	Changes	.25
		Parents M.S.	-.25
		Town size	.18
		Race	-.25
Multiple R	.30	Multiple R	.46
Leadership		Leadership	
Navy career -- easy	.17	C-school	.24
Navy career -- frustrating	.18	Earn	-.22
Age	.23		
Feeling about group size	-.21		
Military service -- father	.22		
Multiple R	.43		
		Work condition	
		Schooling -- father	.35
		Number of siblings	.20
		Marital status	-.22
		Number of dependents	-.26
		Civilian (dollars)	.19
Multiple R	.43	Multiple R	.45
At home		At home	
Duty station	.34	Age	.20
Education	-.17	Joined for travel	-.23
Marital status	.40	Nearby	.42
Months homeport	-.22		
Multiple R	.47	Multiple R	.50
		Compensation	
		Number of siblings	-.22
		Months required	.21
		Multiple R	.28
		Work condition	
		Months to EAOS	-.23
		D/CVA	.21
		Feeling about group size	-.23
		Changes	-.21
		Handle complaints	.26
		Town size	-.23
		Area town	-.24
		Multiple R	.53

Compensation, advancement, and discretionary time are interrelated areas from an economic point of view. Advancement in paygrade means more base pay, hence an increase in compensation. Discretionary time provides an opportunity to earn extra income. However, certain aspects of advancement and discretionary time are also psychological or "taste" factors which are not directly associated with money. Advancement is a sign of progress or growth and means recognition and status for the man and his family in the community. Discretionary time may be used in other ways besides moon-lighting, such as being with one's family. In the Navy community, there undoubtedly exists a mix of people, some of whom might be motivated to reenlist strictly for monetary incentives, others for the psychological rewards associated with time at home and advancement, and yet others for both more money as well as non-pecuniary benefits.

Dislike for ship-board duty, military life, and leadership/supervisory practices were prominent reasons for not reenlisting. Unfortunately, there is probably little the Navy can do to change some peoples' attitudes about these things. Men must continue to man ships and someone must perform menial chores. One the other hand, part of the dislike for military life stems from reactions to "chicken regulations." The Navy has recently taken steps to try and cope with this problem by issuing "Z-grams." But however favorably men perceive the *intent* of Z-grams, their impact on the system will probably not benefit the reenlistment rate until supervisors who enforce "chicken regulations" believe that a change in the system will benefit themselves and the Navy.

Large industrial organizations, faced with similar problems of boring jobs, stifled lines of communication, and supervisor-worker conflicts, have turned to human relations training. The focus has been on educating or sensitizing supervisors to the dynamics of human needs in the work situation. These programs have met with varying degrees of success. When they have worked, the supervisor, those under him, and organization effectiveness have benefited.

After presenting additional evidence of the importance of human need satisfaction to reenlistment intent, we will return to the issue of human relations training of Navy supervisory personnel.

Correlations of Reenlistment Intent Scale

Now we present the correlates for the five-point reenlistment intent scale, independent of the particular reasons cited for the intentions. These correlates were determined by step-wise linear regression, and only those variables which were significant ($p < .01$) were included in the regression. We used this relatively stringent level to identify the "strong" correlates of the intent measure. Analyses were performed on the total group, true volunteers, married men, and men in each of five occupation groups.

Table 40 shows the results for the entire sample of first termers. The weights of the variables are partial correlation coefficients and may be interpreted as their independent effects on intent. The greater the weight, the stronger the effect. A positive weight means that high scores on the variable are associated with intending to reenlist; a negative weight means a high score is associated with not intending to reenlist.

The "satisfaction with the Navy" variables were grouped because of their high correlations with the morale composites, i.e., they seemed to be measuring things common to morale, job

satisfaction, and satisfaction with Navy life. Among these variables, we observe that intent was strongly affected by Z-grams, satisfaction with Navy life, liking one's duty station, and, in the case of non-reenlistees, not wanting a civilian job similar to the one they had in the Navy. We infer that those who intend to reenlist probably do like their Navy jobs, as they indicated that they would pursue the same kind of work in a civilian context. Attitude of the enlisted man's WGF toward a Navy career also had a strong influence on reenlistment intentions. This result is consistent with our previous study, where the WGF measure was the strongest predictor of actual reenlistment decisions.

TABLE 40
PREDICTION OF REENLISTMENT INTENT
(N = 3115)

Variable	R_{01}
Satisfaction with the Navy:	
Navy career — satisfactory	.25
Z-grams	.10
Civilian job similar to Navy	.07
Duty station	.06
WGF attitude towards reenlistment	.18
Personal characteristics:	
Race (Blacks)	-.14
Months to EAOS	.10
Marital status	.07
Dependent children	.06
Enlistment decision:	
Job security	.15
Training:	
Pro pay	.12
B-school	.05
Multiple R	.56

Higher proportions of non-whites, married personnel—particularly those with larger numbers of dependents—and men with more months remaining to EAOS (6 YOs) expressed positive reenlistment intentions. Job security, an important factor influencing enlistment decision, also related to positive reenlistment intentions.

The final two variables which related to intent were pro pay and B school. Although only 3 percent of our sample were receiving pro pay, it seemed to be a positive reenlistment incentive for the men involved.

Table 41 shows the results of the regression analysis for each of the five occupational groups. With the exception of the Personal Services group, the kinds of variables related to intent and their multiple correlations are similar across the groups. Taken as a whole, the occupational group results mirror those of the total group shown in table 40.

TABLE 41
PREDICTION OF REENLISTMENT INTENT
FOR FIVE OCCUPATIONAL GROUPS*

Variable	Group				
	Personal services	Tradesmen	Electro-mechanical	Clerical/technical	Elex. oper/technician
Satisfaction with Navy:					
Navy career — satisfactory	.43	.24	.31	.23	.23
Z-grams		.09	.10	.20	.08
Similar civilian job		.09			.09
Duty station		.10			
GJA					.06
Morale	.31				
WGF		.24	.11	.17	.16
Enlistment decision:					
Job security	.61	.14	.17	.17	.07
Joined to serve country	-.31				
Personal characteristics:					
Race		-.16	-.28		
Months to EAOS		.14	.10		
Marital status		.12			
Military service — father		.12			
Dependent children			-.18		-.10
Years of active duty				.18	-.12
Size of home town				.13	
DM/TV				.11	
Schooling — father					-.08
Training:					
A-school			.11		
B-school					.16
Pro pay					.23
Multiple R	.80	.57	.57	.62	.56

*Entries are partial correlation coefficients significant at $p < .01$.

The results of the regression analyses performed on true volunteers and for married men are presented in tables 42 and 43. Again, these groups have similar correlates of reenlistment intentions. One feature which seems to stand out for the married men is the very strong affect of their wives' attitudes toward a Navy career. Other than that, each of the group analyses provides us with little additional information than we were able to obtain by looking at the total group results.

It is interesting to note which variables did *not* relate to reenlistment intentions, particularly the draft status measure (DM vs. TV). Although the simple correlation between the draft status variable and intent was .51, it dropped to below significance when the satisfaction with Navy career, job security, and WGF items were all jointly considered. Because the differences between the groups on these variables were more highly correlated with intent than was the draft status variable, the effect of draft status was masked. Other variables with initially high correlations also

did not enter into the regression (i.e., their partial correlations went to zero) for similar reasons. These are listed in table 44. This phenomenon was a shortcoming of using step-wise regression analysis for identifying which of our 64 measures were important correlates of reenlistment intent.

TABLE 42
PREDICTION OF REENLISTMENT INTENT: VOLUNTEERS
(N = 794)

Variable	R_{01}
Satisfaction with Navy:	
Navy career — satisfactory	.27
Duty station	.10
GJA	.09
WGF attitude towards reenlistment	.19
Personal characteristics:	
Race	-.20
Months to EAOS	.10
Marital status	.10
Enlistment decision:	
Job security	.16
Training:	
Pro pay	.12
Multiple R	.56

TABLE 43
PREDICTION OF REENLISTMENT INTENT:
MARRIED MEN
(N = 1040)

Variable	R_{01}^*
Satisfaction with Navy:	
WGF attitude towards reenlistment	.42
Navy career — satisfactory	.30
Enlistment decision:	
Job security	.18
Personal characteristics:	
Race	-.13
Months to EAOS	.11
Dependent children	.10
Career benefits:	
Pro pay	.10
Multiple R	.68

TABLE 44
ITEMS SIGNIFICANTLY CORRELATING WITH INTENT SCALE
(N = 3115)

Item	Simple correlation coefficient	Item	Simple correlation coefficient
*Navy career — satisfactory	.41	Habitability	.13
*Joined for job security	.32	*B-school	.11
*WGF attitude	.30	*Dependent children	.11
*Z-grams	.25	Joined for tradition	.11
GJA	.22	Joined to serve country	.10
Joined for job opportunities	.20	Underway time	.10
Joined for training	.20	Like rating	.10
*Duty station	.19	Civilian job promised	-.08
Morale	.19	Find job easily	-.08
*Months to EAOS	.19	Joined to fulfill military obligation	-.08
*Pro pay	.19	Education	-.05
*Civilian job similar	.19	Fringe benefits	.07
*Race	-.18	Use training	.07
Joined for travel	.18	WGF nearby	.06
Navy career — frustrating	-.18	Source of civilian jobs	.06
DM/TV	.15	Standard of living	-.06
Months required in homeport	-.14	Schooling — father	-.05
Supervision — consideration	.13	*Marital status	.05
Handling complaints	.13		

*Variables also having significant partial correlations.

An alternate method was used to overcome this shortcoming. Since many initially significant variables dropped out of the regression analysis because of their high correlations with other variables (multicollinearity), we took advantage of these relationships by grouping variables which correlated highly among themselves, but had low correlations with other groups of correlated variables. We used factor analysis to determine these groupings, and the results are shown in table 45. Six factors emerged from the analysis.

Factor I is composed of variables related to satisfaction with various aspects of Navy life, such as the Navy climate, one's job, duty station, habitability, the way complaints and requests are handled, and morale.

Factor II is related to seniority. The variables which defined it were age, paygrade, years of active duty, and performance self-evaluation. The correlation of performance with the seniority factor may be an indication that more experienced personnel are "expected" to be better performers and, given the option to rate their own performance, do so accordingly.

Factor III represents the training an enlisted man has received and uses on his job. Since the items in this factor were positive intercorrelated, we concluded that the more skills a man has been trained to perform, the more likely he is to use them in his Navy job.

TABLE 45
QUESTIONNAIRE FACTORS AND THEIR ITEMS
(N = 3115)

	<u>Factor loading</u>
I. Satisfaction with the Navy	
General job attitude (GJA)	.68
Morale	.68
Duty station	.62
Habitability	.51
Handling of complaints/requests	.49
Navy career — satisfactory	.49
II. Seniority/performance	
Age (years)	.69
Paygrade	.57
Years of active duty	.56
Professional performance, self-rating	.48
Professional performance, peer-comparison	.45
Months to EAOS	-.59
III. Training	
A-school	.65
Received school training for duties assigned	.61
C-school	.51
Use school training	.47
Choose rating	.41
IV. Enlistment motivation	
Joined for job security	.61
Joined for training	.58
Joined for job opportunities	.57
Joined for travel	.54
Draft-motivated/volunteer	.50
Joined for tradition	.39
V. Marital characteristics	
Marital status	.75
Dependent children	.61
WGF nearby	.50
Monthly earnings after taxes	.48
VI. Socio-economic	
Standard of living	.54
Area of town	.53
Bedroom of own	.53
Schooling — father	.48
Educational attainment	.41
Number of siblings	-.53

The items in the Factor IV are characteristics which discriminate between DM and TV. The higher the score a man receives on this dimension, the more likely he is a TV.

Factor V contains items which differentiate between married and non-married men. Factor VI is a socio-economic status indicator.

We formed six composites, each composed of the items correlating with the relevant factor. Then we regressed the six composite scores against reenlistment intentions using a method suggested by Mosier (1938) and by Fruchter (1962). Table 46 shows the correlations of each factor with the intent measure.*

TABLE 46
REGRESSION OF QUESTIONNAIRE FACTORS
ON REENLISTMENT INTENT
(N = 3115)

Factor	Correlation
Satisfaction with Navy	.28
Seniority and performance	.09
Training	.11
Enlistment motivation	.34
Marital status	.09
Socio-economic status	-.02
Multiple R	.47

Here is the composite picture of the average reenlistee: he was a true volunteer at the time of enlistment; experiences a relatively higher level of satisfaction with Navy life and his Navy job; has higher morale and a greater amount of Navy school training which he utilizes on the job; is older and a more senior petty officer who reports his own level of performance as higher; is married, earns more money, and has a larger family which tends to live near his ship's homeport; and comes from a family having a slightly lower socio-economic status than those who do not intend to reenlist. The strongest correlates of intent were the true volunteer and satisfaction dimensions.

Analyses of Groups

Now we will compare regressions of the questionnaire items on reenlistment intent for individual observations (the psychometric approach) with those for group observations (the econometric approach). To define the characteristics of the men who would belong in a given group or "cell," we used a five-way classification. The five variables used to sort people into cells were:

1. Draft motivation (2 levels);
2. Paygrade (2 levels);
3. Marital status (2 levels);

*Since the factors are uncorrelated, the square root of the sum of the squares of each of the six correlation coefficients gives the multiple correlation of the six factors with intent.

4. Ship type (2 levels);
5. Occupation (4 levels).*

Table 47 shows the number of men who were sorted into the 64 cells of the five-way classification. When a cell had fewer than 10 observations, it was deleted, leaving 51 cells for analysis. Rather than using an intent "rate," e.g., number of men in a cell intending to reenlist divided by the number of men in the cell, we used the cell mean-intent scale score because of the greater variation which could be obtained by the weighting scheme for long-term reenlistees. This procedure also makes the cell analysis directly comparable to the individual observation analysis.

The independent variables regressed against the cell intent means were selected on the basis of the level of significance of their zero-order correlations with intent. That is, we computed the means of the individuals in each cell for all of the independent variables, excluding those in the classification. These were then intercorrelated with their respective intent scale means, and those variables whose correlation coefficients were significant ($p < .01$) were used in the multiple regression analysis. In performing the multiple regressions, we weighted each of the observations by the number of people in the corresponding cells to account for discrepancies in cell size.

Table 48 shows the results. Two variables were significantly related to intent, satisfaction with a Navy career and influence of Z-grams. These results are consistent with the results of the individual observation analyses where these two variables were among the largest correlates of reenlistment intent. The main difference between the two kinds of regression analyses was that more variables were required to explain the variation of the intent measure for the individual observations. This is probably due to the averaging of characteristics among men in some cells.

To determine the relative accuracy of predicting reenlistment intent from the level of satisfaction and influence of Z-grams, we calculated the number of standard errors in predicting intent from these two variables for each of the cells in the classification. Table 49 shows the mean number of standard errors for each level of the five-way classification. We can determine the relative accuracy of using the two variables represented in the regression equation in table 47 by calculating the average absolute standard error of prediction for each of the occupational groups, DM vs. TV, ship types, marital status, and paygrades. The smaller the average error of prediction for a particular group, the more accurate the prediction of average intent. Comparing these values between groups and within categories leads us to conclude that group differences are relatively small. That is, our model predicts the intent of the various groups with almost equal accuracy. This is partly due to the relatively high multiple correlation ($R = .69$), which is an indication that errors of prediction across cells are rather small.

*The Personal Services occupational group was eliminated due to the relatively small number of men in it.

TABLE 47

COMPOSITION OF CELLS: FIVE-WAY CLASSIFICATION

		DM				TV			
		Tradesmen	Electro-mechanical	Clerical/technical	Elex. oper/technical	Tradesmen	Electro-mechanical	Clerical/technical	Elex. oper/technical
E-4	CVA	196	184	128	205	92	72	33	64
	Married	86	116	50	62	81	31		12
	Non-married	107	36	43	120	56	16		48
	Married	48	19	11	56	17			14
E-5	CVA	58	112	32	145	44	50		35
	Married	51	83	31	101	16	23	12	15
	Non-married	19	19		61				16
	Married	21	10		43	17			

Note: Empty squares indicate cells with <10 observations.

TABLE 48
WEIGHTED CELL REGRESSION ANALYSES
(51 cells)

Regression of items of intent (Y)

<u>Item</u>	<u>R₀₁</u>
Navy career — satisfaction (X ₁)	.47
Z-grams (X ₂)	.32
Multiple R	.69

Regression equation

$$Y = 1.45 X_1 + .44 X_2 + .001$$

TABLE 49
RELATIVE ACCURACY OF PREDICTION:
CELL ANALYSIS

<u>Category</u>	<u>Group</u>	<u>Average number S.E. of residual</u>
Occupation	Tradesmen	.83
	Electro-mechanical	.67
	Clerical/technical	.61
	Elex. oper/technician	.96
Draft status	Draft motivated	.77
	True volunteer	.82
Ship type	CVA	.76
	Destroyer	.84
Marital status	Non-married	.79
	Married	.80
Paygrade	E-4	.71
	E-5	.89

CONCLUSIONS AND RECOMMENDATIONS

The results of our analyses suggest that reenlistment intentions (and reenlistment rates) could be improved if the Navy were to recruit men who have characteristics similar to true volunteers and make changes which would promote satisfaction with Navy life, Navy jobs, duty station, and morale.

The type of man the Navy recruiter should seek if he is to maximize reenlistment rates is the man who feels, or can be convinced, that job security, training, and travel opportunities are important considerations in a Navy career, and that job opportunities are better in the Navy than in civilian life.

Once the recruit is in the Navy, his reenlistment intentions will be strongly affected by his experiences which promote satisfaction with his job and life in the Navy in general. By reviewing the correlates of the variables which comprise "satisfaction," we find that the following are relevant areas to consider:

1. Lack of job satisfaction was correlated with not liking the work itself. Civilian industries, faced with problems of worker turnover related to not liking the "work itself," have developed programs of diversifying and expanding the "interest" content of jobs (Ford, 1969); many of these programs have been successful.

2. Lack of job satisfaction was also associated with supervision, specifically with supervisory styles of low consideration and high structure or production-orientation. A possible answer to this problem might lie in supervisory selection and/or in human relations training for Navy supervisors. The Navy has a human relations training program, but it is primarily concerned with race relations, not job satisfaction and supervisory style.

A study relating job satisfaction and reenlistment intentions of Air Force enlisted personnel has shown the importance of the enlisted man's first-line supervisor in satisfying the psychological needs of his men (Contrell, Sims, and Hartman, 1966). The authors point out that first-line supervisors are the primary and most important point of contact between the enlisted man and the "system." Satisfaction of needs by the supervisor become associated with the system's capability of satisfying these needs. The kinds of needs that the supervisor is capable of satisfying are the motivators* associated with job satisfaction. Our study has shown the importance and interrelationship of liking the work itself, supervisory style, and their impact on reenlistment intentions.

At the same time, the Air Force study pointed out a second dimension of job satisfaction—hygienes, or job extrinsic factors such as size of work group and habitability, which are strongly affected by organizational policy. The role of the supervisor in helping to satisfy these hygienes becomes that of a link between the enlisted man and the higher chain of command. Hence, communication skills are important. We found that an important determinant of the satisfaction dimension, how complaints and requests were

*Things which make liking the work itself an important determiner of satisfaction with one's job, e.g., recognition for a job well done.

handled, was associated with reenlistment intentions. We also found widespread dissatisfaction with habitability. However, dissatisfaction with habitability may not be correlated with physical accommodations, but rather with being at sea for long periods of time.

3. Satisfaction with a Navy career was associated with it not being boring. This problem may be alleviated by making the work itself more interesting, but an additional factor that bears on this issue is time at sea. Long deployments and too little time at home are associated with a Navy career being boring as well as with family separation. Perhaps a review of sea-shore rotation policies and length of sea duty assignments is in order. Shorter sea tours and more frequent rotation with more time ashore with one's family could alleviate both problems simultaneously.

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APPENDIX A

SURVEY ITEMS AND SCORING KEY

CNAVY SURVEY — PART I

INSTRUCTIONS: Please *FILL IN* the information requested or *CIRCLE* the appropriate answer.

Ship or Station	Division or Air Squadron	Service Number	Rating (abbreviation)	Paygrade E—
Month and Year of Birth	Month and Year of 1st Enlistment Contract (Including Reserve)	Month and Year of EAOS	Years of Active Duty (Round to nearest year)	

1. Are you in, or striking for, the rating you like best? YES NO
 IF YOU CIRCLED "YES" SKIP TO QUESTION 4. IF YOU CIRCLED "NO", GO TO QUESTION 2.

2. Which rating would you like to be in? (use abbreviation) _____

3. If you could change to this rating, would you re-enlist? YES NO

4. Considering your pay and allowances, how much money do you make a month after taxes? \$ _____

5. How much a month do you think your Navy fringe benefits (such as medical and dental care, commissary and exchange privileges, and special services) are worth? \$ _____

6. If you left the Navy today and got a job, how much would you expect to make the first year you were out? \$ _____

7. During your present enlistment, how many months a year in homeport have you averaged while being assigned to a ship? _____

8. How many months a year in homeport would you require before you would re-enlist? _____

9. How much more pay, in the form of an additional 4-year re-enlistment bonus, would you require before you would re-enlist? \$ _____

- 10. Suppose the Navy could reward you for a 4-year re-enlistment either by giving you an additional re-enlistment bonus or by increasing your time in homeport. How many dollars of the additional re-enlistment bonus (you indicated in question 9) would you trade to get additional months in homeport per year? Fill in an amount for each of the months shown at right.

Months in homeport
 0
1
2
3
4
5
6

Dollars traded

11. If you intend to re-enlist or extend, list the reasons for your decision; otherwise skip to question 12.
 A. _____
 B. _____
 C. _____
 D. _____
 E. _____

NOW GO TO PART II

12. If you are undecided about re-enlisting, or you do not intend to re-enlist, is there anything the Navy could do to get you to re-enlist? YES MAYBE NO
 If you circled "Yes" or "Maybe", what would it be?
 A. _____
 B. _____
 C. _____
 If you circled "No", why do you feel this way?
 A. _____
 B. _____
 C. _____

NOW GO TO PART II

CNAVY SURVEY — PART II

INSTRUCTIONS:

1. *Read each question carefully, and decide which answer best applies to you.*
2. *On the blue answer sheet, make sure that the number of the question you are answering is the same as the number of the question in this booklet.*
3. *Then blacken the box below the letter on the answer sheet that corresponds to your answer. Erase completely any answer you change.*
4. *When you finish, make sure you have answered every question.*

SECTION A

1. What do you plan to do when you complete this enlistment?
 - 1 A. Return to civilian life
 - 3 B. Re-enlist
 - 3 C. Extend
 - 2 D. Undecided
2. If you left the Navy at the end of your present enlistment, what would you do?
 - 2 A. Trade school or 2 year college
 - 2 B. 4 year college or graduate/professional school
 - 1 C. Work
 - 1 D. Other
3. If you left the Navy at the end of your present enlistment, do you think it would be easy to get a good job?
 - 3 A. Yes
 - 1 B. No
 - 2 C. Don't know
4. Do you have a job promised when you leave the Navy?
 - 1 A. Not leaving the Navy
 - 2 B. Yes, returning to old job
 - 2 C. Yes, a new job
 - 1 D. No
5. What is the most important source of your information about civilian job opportunities?
 - A. Shipmates
 - B. Friends or family at home
 - C. Military and other government publications, such as "Navy Times"
 - D. Civilian newspapers and publications
 - E. Contacts with civilian employers or employment agencies
6. When is the last time you used your most important source of information about civilian job opportunities?
 - 5 A. Not looking for a job
 - 1 B. Within the last month
 - 2 C. Within the last 3 months
 - 3 D. Within the last 6 months
 - 4 E. Within the last year or more
7. Would you like a civilian job similar to the work you do in the Navy?
 - 3 A. Yes
 - 1 B. No
 - 2 C. Don't know
8. Which of the following best describes the feelings of your wife, girlfriend, and/or family about your future in the Navy?
 - 3 A. Want me to re-enlist in Navy
 - 1 B. Want me to leave the Navy
 - 2 C. No opinion or don't know
9. Have Z-grams affected your re-enlistment intentions?
 - 2 A. Yes, favorably
 - 1 B. Yes, unfavorably
 - 1 C. No

SECTION B

If you are married, please answer the questions below. If you are not married, skip to section C.

How do you think your wife feels about the following aspects of Navy life? Use the alternatives listed below to answer items 10 through 17.

- 3 A. Satisfied
 - 1 B. Dissatisfied
 - 2 C. No opinion or don't know
- 10. Your absences from home
 - 11. Your income
 - 12. Housing facilities or housing allowance provided
 - 13. Frequency of moves
 - 14. Navy social life
 - 15. Your social status in the civilian community as a Navy family
 - 16. Navy medical care and services
 - 17. Navy Exchange and Commissary merchandise

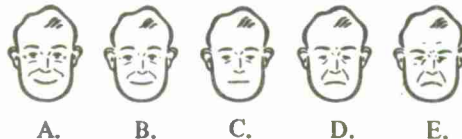
SECTION C

How do you feel about the following aspects of your Navy job? Use the alternatives listed below to answer items 18 through 26.

- 3 A. Satisfied
 - 1 B. Unsatisfied
 - 2 C. Undecided
- 18. My supervisor
 - 19. My pay
 - 20. The people I work with
 - 21. The recognition I get for a job well done
 - 22. The work itself
 - 23. Working conditions
 - 24. Advancement opportunity
 - 25. Working hours
 - 26. The training I receive on the job

Mark the letter on your answer sheet that corresponds to the fact that expresses how you feel about your job in general, including the work, the pay, the supervision, the opportunities for advancement, and the people you work with.

27.



SECTION D

Below are statements about supervisors. For each one, mark your answer sheet "A" if it applies to your supervisor, "B" if it does not, or "C" if you cannot decide.

- | | |
|---|-------|
| 28. Refuses to give in when people disagree with him | A = 3 |
| 29. Expresses appreciation when one of us does a good job | B = 1 |
| 30. Is easy to understand | C = 2 |
| 31. Demands more than we can do | |
| 32. Helps his men with their personal problems | |
| 33. Criticizes his men in front of others | |
| 34. Stands up for his men even though it makes him unpopular. | |
| 35. Insists that everything be done his way | |
| 36. Sees that a man is rewarded for a job well done | |
| 37. Rejects suggestions for changes | |
| 38. Changes the duties of people under him without first talking it over with them | |
| 39. Tries to keep the men under him in good standing with those in higher authority | |
| 40. Resists changes in ways of doing things | |
| 41. "Rides" the man who makes a mistake | |
| 42. Stresses the importance of high morale among those under him | |
| 43. Backs up his men in their actions | |
| 44. Criticizes a specific act rather than a particular individual | |
| 45. Is willing to make changes | |
| 46. Is friendly and can be easily approached | |
| 47. Puts suggestions that are made by men under him into operation | |
| 48. Rules with an iron hand | |
| 49. Criticizes poor work | |
| 50. Talks about how much should be done | |
| 51. Asks for sacrifices from his men for the good of the entire group | |
| 52. Insists that his men follow standard ways of doing things in every detail | |
| 53. Sees to it that people under him are working up to their limits | |
| 54. Offers new approaches to problems | |
| 55. Insists that he be informed on decisions made by men under him | |
| 56. Stresses being ahead of competing work groups | |
| 57. "Needles" men under him for greater effort | |
| 58. Decides in detail what shall be done and how it shall be done | |
| 59. Emphasizes meeting of deadlines | |
| 60. Emphasizes the quantity of work | |

SECTION E

61. How is your morale today?
3 A. High
2 B. So-so
1 C. Low
62. How has your morale been the past few months?
5 A. Always high
4 B. Usually high
3 C. So-so
2 D. Usually low
1 E. Always low
63. How has the morale on your ship or station been the past few months?
5 A. Always high
4 B. Usually high
3 C. So-so
2 D. Usually low
1 E. Always low
64. How has the morale been among the people you work with the past few months?
5 A. Always high
4 B. Usually high
3 C. So-so
2 D. Usually low
1 E. Always low
65. As a recruit, did you choose your present rating?
2 A. As 1st choice
2 B. As 2nd choice
2 C. As other choice
2 D. No, but I chose a similar area
1 E. Not at all
66. Are you now assigned to duties for which you received Navy school training?
3 A. Yes
1 B. No
2 C. Have no Navy school training
67. Since you joined the Navy, have you generally been assigned to duties where you use your Navy school training?
3 A. Yes
1 B. No
2 C. Have no Navy school training
68. What is the approximate size of your normal, routine work group?
5 A. 5 or less
4 B. 6 to 15
3 C. 16 to 25
2 D. 26 to 50
1 E. More than 50
69. How do you feel about the size of this group as it affects the group's work?
1 A. It's too large
2 B. It's about right
1 C. It's too small

70. How do you rate your professional performance?
- 5 A. Extremely effective and reliable, and work well on my own
 - 4 B. Highly effective and reliable, and need only limited supervision
 - 3 C. Effective and reliable, and need occasional supervision
 - 2 D. Adequate, but need routine supervision
 - 1 E. Need constant supervision
71. How do you think you compare with other men in the same paygrade who do the same kind of work?
- 5 A. I am the best
 - 4 B. I am better than most of them
 - 3 C. I am above average
 - 2 D. I am average
 - 1 E. Most of them do better than I do
72. How do you rate your present duty station?
- 5 A. Excellent
 - 4 B. Very good
 - 3 C. OK
 - 2 D. Just fair
 - 1 E. Poor
73. Which of the following best describes your feelings about the changes of duty station you have had?
- 1 A. Too many changes
 - 2 B. The number of changes has been about right
 - 3 C. Too few changes
74. Which of the following best describes your feelings about the underway time your ship has spent?
- 1 A. Too much time spent underway
 - 2 B. The underway time is about right
 - 3 C. Not enough time spent underway
 - 2 D. Not now assigned to a ship
75. What is your opinion of the way requests and complaints are handled in the Navy?
- 5 A. Always fair
 - 4 B. Usually fair
 - 2 C. Usually not fair
 - 1 D. Never fair
 - 3 E. No opinion

For items 76 through 83, rate the facilities and services available to you by choosing one of the five alternatives listed below.

- 5 A. *Excellent*
 - 4 B. *Very good*
 - 3 C. *OK*
 - 2 D. *Just fair*
 - 1 E. *Poor*
76. Ventilation, air conditioning, and heating in the spaces you usually use
77. The bunk in which you sleep
78. Heads
79. Food
80. Mess facilities
81. Stowage space for personal gear
82. Reading, writing, and recreation space
83. Overall living conditions

SECTION F

Below are words — such as good, routine, easy, and so on — that describe different feelings about CIVILIAN LIFE, NAVY WAY OF LIFE, and A NAVY CAREER. For each of these words, mark your answer sheet "A" if you feel it applies, "B" if you feel it does not, or "C" if you cannot decide.

CIVILIAN LIFE

- | | |
|------------------|-------|
| 84. Good | A = 3 |
| 85. Routine | B = 1 |
| 86. Easy | C = 2 |
| 87. Satisfactory | |
| 88. Boring | |
| 89. Challenging | |
| 90. Frustrating | |

NAVY WAY OF LIFE

- 91. Good
- 92. Routine
- 93. Easy
- 94. Satisfactory
- 95. Boring
- 96. Challenging
- 97. Frustrating

A NAVY CAREER

- 98. Good
- 99. Routine
- 100. Easy
- 101. Satisfactory
- 102. Boring
- 103. Challenging
- 104. Frustrating

SECTION G

- 105. What is your military status?
 - 2 A. Regular
 - 1 B. Reserve
- 106. What is your present enlistment or extension status?
 - A. First enlistment
 - B. Extension of first enlistment
 - C. Second enlistment
 - D. Extension of second enlistment
 - E. Third or later enlistment

107. How long did you enlist for in your first enlistment?

- 2 A. 2 years
- 3 B. 3 years
- 4 C. 4 years
- 6 D. 6 years

Indicate how important items 108 through 114 were in your decision to join the Navy by choosing one of the five alternatives listed below.

- 5 A. Extremely important
- 4 B. Important
- 3 C. Fairly important
- 2 D. Not very important
- 1 E. Of no importance

108. Job opportunities looked better than in civilian life

109. For travel, adventure, new experience

110. Opportunity for advanced education or technical training

111. Wanted to fulfill my military obligation at a time and in the service of my choice rather than be drafted

112. Wanted to serve my country

113. To continue a family tradition of military service

114. For a secure job with promotions and favorable retirement benefits

115. Do you think you would have been drafted if you had not enlisted?

- A. Yes
- B. No
- C. Don't know

116. If there had been no draft, would you have enlisted?

- A. Yes
- B. No
- C. Don't know

117. What was the marital status of your parents at the time you first enlisted?

- 2 A. Married
- 1 B. Divorced or separated
- 1 C. Widowed (one deceased)
- 1 D. Both deceased
- 1 E. Other

118. Which of the following best describes how much schooling your father or guardian had?

- 1 A. Some high school or less
- 2 B. Graduated from high school
- 3 C. 1 to 2 years of college
- 4 D. More than 2 years of college
- 5 E. Graduated from college

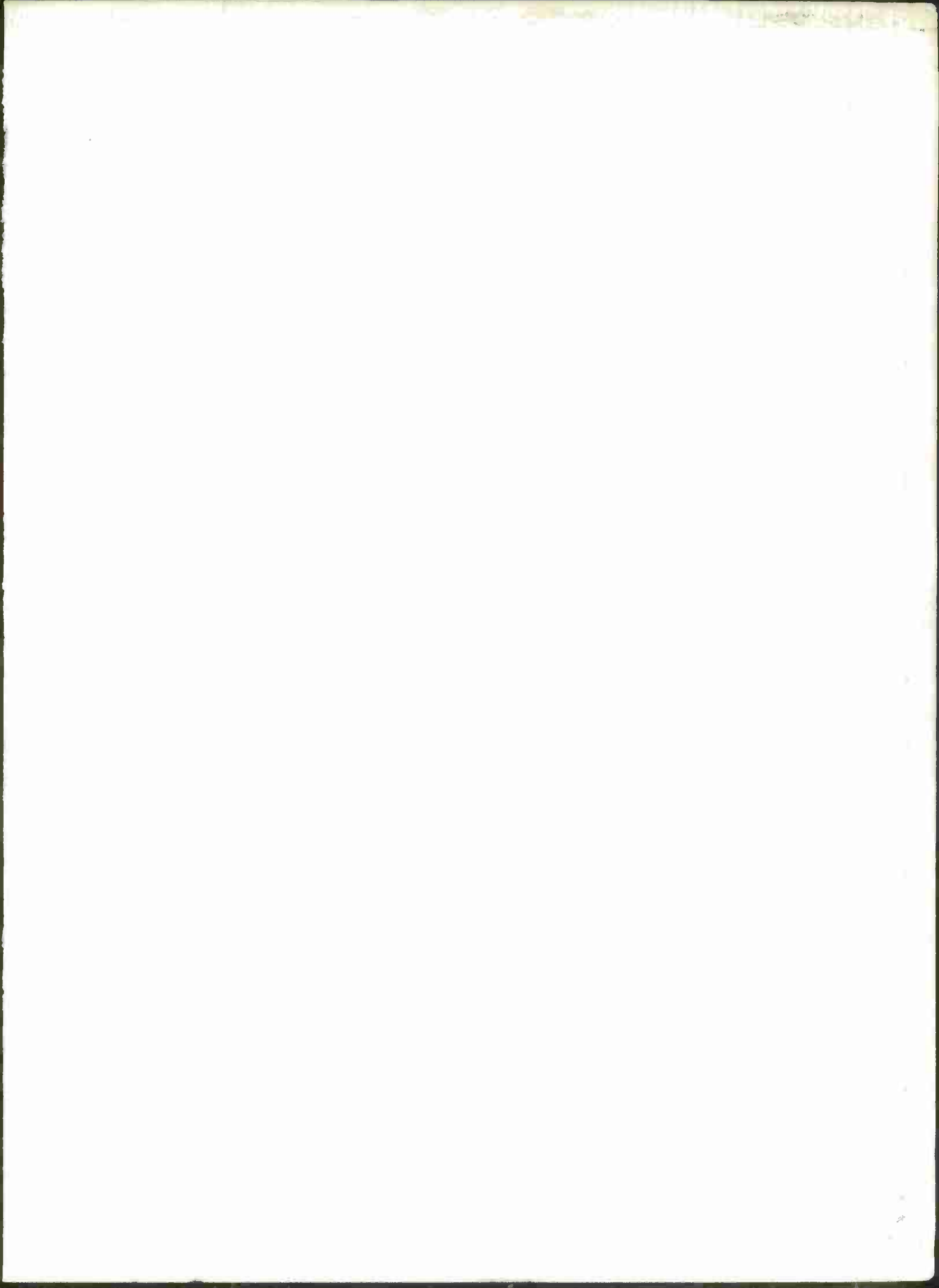
119. What U.S. military service did your father have?

- 1 A. None
- 2 B. Was in the Navy when I enlisted
- 2 C. Had been in the Navy
- 2 D. Was in another of the armed services when I enlisted
- 2 E. Had been in another of the services

120. How many brothers and sisters did you have?
- 1 A. None
 - 2 B. 1
 - 3 C. 2
 - 4 D. 3
 - 5 E. 4 or more
121. While you were growing up, did you have a bedroom of your own?
- 5 A. Yes
 - 4 B. No, shared with 1 person
 - 3 C. No, shared with 2 persons
 - 2 D. No, shared with 3 persons
 - 1 E. No, shared with 4 or more persons
122. When you were growing up, which of the following best describes your family's standard of living?
- 1 A. Lived from hand to mouth
 - 2 B. Barely lived on income
 - 3 C. Income provided for all necessities
 - 4 D. Income provided for all necessities and some luxuries
 - 5 E. We could buy anything we wanted
123. Where have you lived most of your life?
- 1 A. A rural area or a village (less than 5,000 population)
 - 2 B. A small town (5,000–50,000)
 - 3 C. A large town (50,000–250,000)
 - 4 D. A city (250,000–1,000,000)
 - 5 E. A metropolitan area of over one million population
124. In what area of town did your family live for the longest time while you were growing up?
- 4 A. One of the best areas
 - 3 B. A good, but not the best, area of town
 - 2 C. On a farm or ranch
 - 2 D. An average area
 - 1 E. One of the poorer areas
125. Which of the following best describes how much schooling you had before you first enlisted in the Navy?
- 1 A. Did not graduate from high school
 - 2 B. Graduated from high school
 - 3 C. Attended college (one semester or more), but did not graduate
 - 4 D. Graduated either from trade school or junior college
 - 5 E. Graduated from 4 year college
126. Did you ever have a full-time civilian job before you joined the Navy?
- 2 A. Yes
 - 1 B. No
127. What is your race?
- 2 A. White
 - 1 B. Black
 - 1 C. Other
128. What is your present marital status?
- 1 A. Single
 - 1 B. Engaged
 - 1 C. Divorced or separated
 - 1 D. Widowed
 - 2 E. Married

129. How many dependent children to you have?
- 1 A. None
 - 2 B. 1
 - 3 C. 2
 - 4 D. 3
 - 5 E. 4 or more
130. Does your wife, or your family if you are not married, live in or near your homeport?
- 2 A. Yes
 - 1 B. No
131. Have you been to a Class A School?
- 2 A. Yes
 - 1 B. No
132. Have you been to a Class B School?
- 2 A. Yes
 - 1 B. No
133. Have you been to a Class C School?
- 2 A. Yes
 - 1 B. No
134. Did you ever receive a Variable Reenlistment Bonus (VRB)?
- 2 A. Yes, lump sum
 - 2 B. Yes, annual increments
 - 1 C. No
135. Are you now receiving Proficiency Pay (Pro Pay)?
- 2 A. Yes
 - 1 B. No
136. Have you ever had a Captain's Mast?
- 1 A. Yes, and punished
 - 2 B. Yes, but not punished
 - 3 C. No
137. Have you ever had a Summary Court Martial?
- 1 A. Yes, found guilty
 - 2 B. Yes, not guilty
 - 3 C. No
138. Have you ever had a Special Court Martial?
- 1 A. Yes, found guilty
 - 2 B. Yes, not guilty
 - 3 C. No
139. Have you ever had a General Court Martial?
- 1 A. Yes, found guilty
 - 2 B. Yes, not guilty
 - 3 C. No
140. Have you ever been "busted" (reduced in rate)?
- 1 A. Yes
 - 2 B. No

Thank you for your cooperation



U1236

CENTER FOR NAVAL ANALYSES

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