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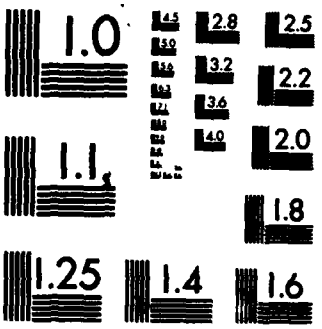

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NAVAL RESERVE FORCE ASW FRIGATE MANPOWER STUDY

FINAL REPORT

A Joint Project Between

THE CHIEF OF NAVAL RESERVE

Captain Milton L. Boykin, USNR-R

and

THE MOBILIZATION CONCEPTS DEVELOPMENT CENTER
NATIONAL DEFENSE UNIVERSITY

Commander Hardy L. Merritt, USNR

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BIOGRAPHICAL NOTE

Milton L. Boykin is a Professor of Political Science at The Citadel, The Military College of South Carolina. He is a Captain in the Naval Reserve and is assigned as a drilling reservist to the Voluntary Training Unit, Charleston Naval Reserve Center, Charleston, South Carolina.

Hardy L. Merritt is a Senior Fellow at the Mobilization Concepts Development Center, National Defense University. He is a Commander in the Naval Reserve, a TAR, and an author and lecturer on military manpower policy.

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The opinions, assertions, and interpretations contained in this paper are the views of the authors and are not to be construed as official or as necessarily reflecting the views of the National Defense University, the Chief of Naval Reserve, the Department of the Navy or the Department of Defense.

ABSTRACT

This report examines the effects of sea pay and bonus payments on the decision to accept a billet aboard a Naval Reserve Force ship in preference to drilling at a Naval Reserve Center. After a brief review of the literature, it investigates the interest which reservists have in going to sea, and how this attitude is affected by sociological conditions, active-duty experiences, reserve drill experiences and economic motivations. The purpose is to provide information on tne effectiveness of non-pecuniary and pecuniary incentives in accepting afloat billets.

APPROACH

The methods employed involved selected interviews with reserve personnel and a survey of attitudes and opinions among 735 Naval Reservists drilling in 31 Reserve Units located on the East Coast of the United States.

HIGHLIGHTS

1. More sailors indicate a preference for drilling abroad NRF ships than at Naval Reserve Centers.

2. Sea pay and a bonus of $10.00 per drill in addition to current compensation will attract approximately 68 percent of the reservists to a billet abroad a NRF ship.

3. Sociological conditions such as longevity and seniority are positively associated with the decision to prefer an afloat billet.

4. The attitudes of family, employers and friends are important in understanding a reservist's willingness to go to sea.

5. The degree of responsiveness to economic incentives is conditioned to a large extent by a reservist's past experiences on active duty and his satisfaction with his current drilling unit. It costs far less to convince a reservist who is satisfied rather than dissatisfied with the Naval Reserve to accept an afloat billet.

6. Compensation is a necessary but not sufficient condition for long term retention after assignment to a NRF ship. Rather, drilling reservists are motivated to maintain their affiliation primarily through sound leadership and management within the reserve unit.

TABLE OF CONTENTS

NAVAL RESERVE FORCE SHIP

MANPOWER STUDY

1983

FINAL REPORT

Introduction

The operational readiness of the Navy depends to a large extent upon the training and education of its reserve personnel. This is especially true since the advent of the All Volunteer Force (AVF). The AVF concept relies upon a small professional active-duty force supported by a well-trained reserve. The Naval Reserve has the advantage of maintaining in the civilian population a group whose public sentiments on national defense are grounded in personal knowledge and in countering the presumed militaristic impulses of the professional soldier. These advantages are meaningless if men cannot be persuaded to go to sea. If the Naval Reserve is to be the primary source of augmentation of the active duty forces for mobilization, sailors must go aboard ships in time of peace to learn those skills necessary during time of war. This paper is concerned with analyzing the pecuniary and non-pecuniary motivations associated with the decision to drill aboard Naval Reserve Force (NRF) ships. Particular emphasis is placed upon the effects of sea pay and bonuses on recruitment and retention.

The manning of NRF ships is a long-standing problem but it is receiving renewed attention at this time. Under the Naval Reserve Force Frigate program, twenty-four FF-1052 / FFG-7 class ships are being phased into the Naval Reserve Force during the period January 1982 to June 1987.

Naval Reserve Force ships usually are commanded by active-duty reservists (TARS). They have active-duty Navy personnel as the larger portion of the crew, supplemented by inactive-duty reservists (SELRES) who spend their two-week annual Active Duty For Training (ACDUTRA) aboard these NRF ships.

Under the NRF Frigate authorizations, the crew consists of approximately 60 percent active duty and 40 percent inactive-duty reservists for FFG-7 class ships, and approximately 50 percent active duty and 50 percent inactive-duty reservists for FF-1052 class ships. Not only is there a manpower problem supporting the existing Naval Reserve Force ships (DDs and MSOs), but there is a future manpower problem of even larger proportions in manning the new FF-1052 / FFG-7 class ships.

The enlargement of the Naval Reserve Force is consistent with the implementation of what the Department of the Navy calls the "One Navy" policy; that is, the active duty and reserve entities are considered part of a coordinated mobilization force. The reserve components most closely associated with their active-duty counterparts, other that the naval aviation squadrons, are the Naval Reserve Force ships. Other reserve surface units are one step removed from drilling abroad the ships routinely and going to sea on the weekend. The main purpose of the Naval Reserve is to provide personnel to supplement the manning of the ships and aircraft of the United States Navy during times of national emergency; yet one of the most difficult manning problems in the Naval Reserve, as in the active-duty Navy, is filling billets aboard ships.

The Commanding Officers of Naval Reserve Centers often have had to resort to extreme measures to persuade reservists to accept assignment to NRF ships. A large percentage of these men are mandatory drillers who have no choice. This is not the best source of manpower, not only because today there are fewer in this category, but as one commanding officer pointed out,

"Mandatories comprise 10 percent of my personnel and give me 90 percent of my personnel problems." Even those voluntary reservists who go aboard the NRF ships are not likely to stay. The turnover rate on NRF ships is much higher than in the Naval Reserve Centers.

When one asks why this is so, the answers from staff personnel are varied. The ships themselves are old, the living conditions poor, and administrative support inadequate. There are inequities in drill time. The NRF ships go to sea for the entire weekend while reservists at the Naval Reserve Centers go home in the evening. Aircraft Squadrons fly on the weekend away from home, but there is liberty at end of the flight. Obviously, there is not liberty in the middle of the ocean for those on NRF ships. Young single reservists value their Saturday nights, and married reservists want to be with their families.

NRF ships also have active-duty fleet support assignments which means that they are occasionally not in port when the reservists arrive to drill. Some reservists have driven long distances to the ship only to find themselves temporarily assigned to the Naval Reserve Center. When they report aboard the NRF ships, the active-duty personnel assigned as part of the ship's crew sometimes resent their arrival, feeling that if they were assigned to a regular fleet ship they would probably not have to work on the weekends. Because of these conditions, those required to drill aboard NRF ships are often dissatisfied and are frequently perceived as poor performers.

The Naval Reserve is comprised of veterans who for one reason or another decided not to make the Navy a career. The reason many veterans left the Navy is because they were in sea-going rates and did not like sea duty. They do not now want to be reassigned to a ship in the Naval Reserve. Many perceive that serving as ship's company makes them more likely to be recalled to active duty with all the associated inconveniences to family, employers and friends that this involves.

These morale problems exist despite the fact that reservists on NRF ships are allowed to drill 60 drills per year instead of 48 drills; therefore, receiving more pay than reservists who drill at the Naval Reserve Center. They also have the advantage of working on a platform that offers realistic training plus the excitement of participating in naval operations. The addition of the FF-1052 / FFG-7 class ships will increase these positive aspects of afloat billets, yet these advantages have not in the past been so great as to encourage many men to volunteer.

The question to be considered is: What incentive package would encourage a reservist to exchange the comparative convenience of a Naval Reserve Center for the life aboard a NRF ship?

One of the proposed solutions to this problem has been the suggestion by Navy Manpower Managers that Naval reservists receive sea pay. A Naval reservist E-5 with over six years experience receives approximately $30.00 per drill or $120.00 per weekend. If he were given an additional $30.00 sea pay each weekend, would that be sufficient to persuade him to accept assignment

abroad an NRF ship? Since he could drill 5 times during the weekend rather than the customary 4 drills authorized at the Naval Reserve Center, he could also earn an additional $30.00 in drill pay. With sea pay and the extra drill he would earn about $180.00 instead of $120.00 per weekend--a $60.00 pay raise.

Another suggestion is that reservists receive incentive bonuses to transfer to Naval Reserve Force ships. If in addition to sea pay, a reservist were given a $5.00 per drill bonus ($25.00 per weekend), would that be adequate to compensate for sea duty? If not, would $10.00 per drill ($50.00 per weekend) be reasonable? And if not $10.00 per drill, what about $15.00 per drill ($75.00 per weekend)? Clearly these are substantial increases. The questions concern how much is enough and, more basically, are economic incentives the answer.

Literature

The literature on recruitment and retention in large-scale organizations is volumnious, but current models of participation show a lack of consensus. Economists tend to view the Navy manpower system as a market and discuss issues in terms of supply and demand (Warner, 1981). Other social scientists stress the importance of social and psychological aspects of organizational life. Both economists and sociologists recognize that non-pecuniary motives are critical, but the difficult task of obtaining valid and reliable measures of psychological variables and the comparative ease of gaining economic aggregate statistics have guided much of the research. The disarray in the literature reflects both a disciplinary bias on the part of the investigators and a tendency to allow insufficient data to restrict the formulation of explanations involving non-pecuniary factors.

The Gates Commission, which was responsible for planning the active and reserve transition to an All Voluntary Force, assumed that raising pay would increase enlistments and reenlistments. Although varying considerably in technique, most economists are surprisingly consistent in finding that a change in the first-term reenlistment rate of active duty personnel can be predicted from a given percentage change in second-term pay (Warner, 1981, p. 17). On the other hand, sociologists have been quick to point out that raising pay without changing other influential factors may have undesirable side effects.

General pay raises are particularly inappropriate since they do not discriminate between occupational groups. The responsiveness to pay across occupational groups varies considerably. Economic incentives may result in the retention of either individuals who would have stayed anyway or the retention of those "aged" reservists who are no longer productive. Pay raises also have long term effects on the overall cost of military manpower such as dramatically increasing retirement compensation.

To avoid some of the problems associated with general pay raises, some researchers have recommended the payment of proficiency pay, sea pay, and bonuses. The payment of a bonus, for example, has the advantage of being targeted at the place where it is most needed. Proficiency pay encourages advancement and increases the status of the reservists. Sea pay provides compensation for hardships not experienced by reservists drilling ashore (Warner, 1981, p. 39).

Another problem may be that larger pay changes are required to effect a given change in first-term reenlistment among sailors who go to sea. Retention may be related positively to pay but it is inversely related to extended sea duty (Warner, December 1981, pp. 17, 18). Still, Warner argues that sea pay, proficiency pay and bonuses--especially bonuses paid in a lump sum instead of installments--will encourage personnel in sea-going ratings to go to sea and personnel already in sea billets to stay there. Bonuses should be paid in a lump sum, he argues, to avoid the effects of inflation and because people are inclined to forget about their compensation level.

In addition to direct economic considerations, the Center for Naval Analyses (CNA) has found that the national unemployment rate, the spouses's occupational status, and organizational policies have an effect on Navy recruitment and retention. Looking at recruitment, Goldberg found that it is cheaper to hire more recruiters and increase advertising than raise military pay. "Gaining more accessions by raising pay costs about five times more than gaining additional accessions via more recruiters and advertising" (Warner, December 1981 quoting Fernandez pp. 10, 11).

The preoccupation with economic models of man has long disturbed some social scientists. Sociologically oriented researchers like Maslow (1970), Herzberg (1966), and Argyris (1964) have stressed the importance of a "hierarchy of needs" usually beginning with basic physiological drives and progressing to more intrinsic rewards, such as self-actualization. The

organizational behavior literature has been concerned with the interlocking relationships among such concepts as job satisfaction, performance, and expectations.

It is clear that current sociological and organizational studies show a lack of consensus. Despite disagreement on the causal ordering of explanatory concepts, there is general agreement on the concepts which are germane to discussions of organizational participation.

It is important that we should be informed by the findings of economists, sociologists, and organizational theorists who study the activities of workers in the private sector and that we are knowledgeable about the studies of the active-duty military services of the Army, Navy, Air Force and Marines. However, the situation of individuals studied by these researchers is vastly different from that of those in a reserve component. The motivations of people in full-time employment occupations, whether public or private, may differ considerably from those of individuals who are participating in a voluntary association. The attitudes of a young Marine at Parris Island, an automobile worker in Detroit, and a Naval reservist in Philadelphia attending a weekend drill are quite different. The Naval Reserve is a hybrid organization, part volunteer, but a volunteer association which could very quickly be transformed into a full-time profession. Therefore, it is important to investigate empirically the attitudes and values of reservists.

Previous research on the Naval Reserve has shown that financial considerations may not be as important as in the active-duty military services (Boykin and Merritt, 1979; Boykin, Merritt, and Smith, 1980). Although pay is necessary for initial affiliation, it is not sufficient to retain reservists in a drilling unit. Job satisfaction, leadership styles, and the influence of relevant others have been shown to have greater predictive power. The decision to shift job assignments to a Naval Reserve Force ship from a Naval Reserve Center is more similar to recruitment that retention. Therefore, it is reasonable to believe that economic incentives in the form of sea pay or bonuses could be appropriate stimuli to encourage participation aboard NRF ships.

Approach

A series of studies from 1974 until the present focusing on the Naval Reserve have provided an extremely rich source of data. Although there has been no shortage of reports on military manpower, little of this attention has been devoted to the reserve components. Professor Louis A. Zurcher CDR, USNR, conducted a West Coast regional study in 1974 utilizing a 141 item questionnaire administered to 3,254 enlisted and officer personnel in San Francisco and Los Angeles, California (Zurcher, 1974). In 1979, a similar study was conducted of 1,834 Naval reservists in South Carolina, North Carolina and Georgia (Boykin and Merritt, 1979). Both of these were regional investigations, and a national study of the 87,000 members of the Naval Reserve was initiated and completed in 1980 (Boykin, Merritt, and Smith, 1980). This research was based on a random sample drawn from the Naval

Reserve Personnel Center records in New Orleans. The current investigation is a continuation of these empirical analytic studies. A preliminary report containing the present survey was provided to the Chief of Naval Reserve in November, 1982.

Sampling Procedures

The questions raised in this study are not amenable to a simple random sampling plan. Such a plan would require a representative sample of the 93,000 members of the Naval Reserve Community to ensure that each element in the population would have an equal chance of being included in the sample. This result could be obtained by selecting each case individually, using a random number table such as is found in most statistics texts. In practice, however, such an endeavor could become a lifetime occupation to list all the available cases and all the possible combinations of individual characteristics.

Because of these practical considerations, it was decided to modify the procedure by introducing a multi-stage systematic probability sampling technique. This procedure relaxes the strict necessity for random draws from the total theoretical population while maintaining the requirement that each case possessing the characteristics of interest has an equal probability of being selected. A comprehensive discussion of this technique can be found in Selltiz, et al. (1959) and Blalock (1972). Characteristically, the procedure moves through a series of stages from more inclusive to less inclusive population sectors until one arrives at the sector which encompasses only those elements of interest. This technique combines cluster sampling with both probability and nonprobability principles in one design.

In this instance, a nonprobability cluster was drawn containing only those Naval Reserve Units closely associated with the Naval Reserve Force ships and manned by male reservists with sea-going ratings. This identified the population sector of interest while maintaining the requirement that each case possessing characteristics of interest retain an equal probability of being selected in the final sample. From this population, 21 Naval Reserve Centers and 33 Naval Reseve Units containing 1,351 individuals were selected in a simple quota sample.

Several other factors must also be considered in the process of determining an appropriate sample size which is representative of the defined population. These include (1) the confidence level to be used, (2) the degree of accuracy desired in estimating population parameters, and (3) a reasonable estimate of the standard deviation of the parameters which are being collected (Blalock, 1972, p. 214). For example, this study wished to estimate the mean to within an accuracy of +.2 and to make use of a 95 percent confidence level.

This confidence level means that one is willing to be wrong five times in a hundred when generalizing to the population from the sample. An accuracy of +.2 indicates that the sample means (e.g., average age) will be within +.2 of the population means. By referring to the 1974 Zurcher study, the 1979 Boykin and Merritt study, and the 1980 Boykin, Merritt and Smith study, one can reasonably estimate that the standard deviation will be approximately 2 units.

Making use of the formula for computing sample size (Garson, 1971), one can substitute values and solve the following equation for Sample Size:

$$SS = (\sigma Z/T)^2$$

WHERE:
- T = Accuracy
- Z = Critical Region of the Normal Curve for .05 confidence interval (Two - tailed = 1.96 units)
- σ = Standard Deviation
- SS = Sample size

THIS YIELDS: $SS = [(2)(1.96)/.2]^2$

AND: SS = 384, the probability sample

In any survey, anticipated response rate must be taken into consideration. Many factors work against attaining a 100 percent response. These include: (1) absence of the respondent, (2) refusal of the respondent to participate, (3) failure of the respondent to follow instructions yielding bad data, and (4) failure to return the completed survey. Sampling theory is based upon the proposition that population characteristics are normally distributed in a representative sample. Similarly, the response errors noted here are posited to be randomly distributed. Increasing the sample size, widening the confidence interval, and reducing the accuracy are standard methods to overcome anticipated problems with response error.

This survey was executed in August, 1982, a time when low drill attendance was likely due to annual Active Duty for Training (ACDUTRA) periods and summer vacations. It was considered to be highly probable that many individuals and some entire units would not be available. (In fact, three units could not participate). Therefore, if only 384 individuals were identified as potential

respondents, it was highly probable that the number of responses would be too few to qualify as a representative sample. To overcome this anticipated difficulty, it was decided to survey the entire sub-population of 1351 individuals. Since response error is posited to be randomly distributed in sampling theory, a response rate in excess of 384 (the probability sample) would be representative. The final response rate of 735 valid responses is therefore representative.

Principal Concerns

The first problem was to determine the level of interest in drilling aboard Naval Reserve Force ships. Reservists were asked, "If you had a choice of being assigned to a Naval Reserve Force ship or Naval Reserve Center, which would you prefer?" Second, we were interested in factors associated with the desire to go to sea. Third, we were concerned with the effects of various economic incentives, such as sea pay and bonuses, in attracting those men to sea billets who might otherwise prefer to drill ashore. Reservists were asked, "If you were given sea pay from $25.00 to $50.00 per weekend, depending on rate, would that be sufficient to seek assignment on a Naval Reserve Force ship?" Response could range from "definitely yes" to "definite no" on a five-point scale.

To deal with the problems of the level of bonus payment that might be appropriate, the questionnaires were divided into three groups and designated Letter A, Letter B and Letter C. One-third of the respondents were administered questionnaire A, one-third questionnaire B, and one-third questionnaire C. Questionnaire A asked the following question, "If we were

able in addition to the Sea pay, to provide a BONUS of $5.00 per drill (25.00 per weekend), would that be sufficient to seek assignment on a NRF ship?" Questionnaire B asked the same for $10.00 per weekend, and Questionnaire C asked, "If we were able in addition to the sea pay, to provide a BONUS of $15.00 per drill ($75.00 per weekend), would that be sufficient to seek assignment on a NRF ship?" In this way we were able to determine what percentage of the respondents would be willing to accept a sea billet for an additional $5.00 per drill, $10.00 per drill or $15.00 per drill.

From previous research involving Naval Reserve personnel, it was learned that there are both pecuniary and non-pecuniary reasons for joining and continuing participation in the Naval Reserve. Money is important, but to ignore non-pecuniary motivations would be overlook some of the more important reasons why reservists value their association with the Naval Reserve. With this in mind, we attempted to answer the following questions:

1. What is the relationship between selected social variables such as longevity, race, martial status, number of dependents, rate and status; and a preference for drilling aboard a NRF ship?
2. What is the relationship between active-duty experiences and preference for drilling aboard a NRF ship?
3. Do the attitudes of "relevant others" such as family, employer and friends affect one's preference for drilling aboard a NRF ship?
4. What is the effect of economic incentives on (voluntarily) accepting an afloat billet?

In answering these questions, certain controls are necessary to filter the respondents who might bias the results. For example, we focused on male drillers in sea-going rates. Longevity, job satisfaction, rate and preference

for drill location were also used as controls as well as possible explanations for the attitudes toward afloat billets.

Analysis

Given the difficulty in manning the existing ships, a surprisingly large number of men expressed a willingness to accept an afloat billet. Forty-four percent of the Naval reservists questioned indicated a preference for drilling aboard a Naval Reserve Force ship, 37 percent preferred to drill at the Naval Reserve Center, and 19 percent were uncertain. When asked if they were to be assigned to a NRF ship, drawing the same pay and allowances as now, would they reenlist? 45 percent answered they "probably would", 24 percent were "uncertain," and 31 percent "probably would not" reenlist. It is possible that even though many reservists prefer to drill aboard ships and would continue to participate aboard a ship at the same compensation rate, serious obstacles may prevent them from doing what they prefer. Others may be placed in social circumstances that make it easier to accept voluntarily an afloat billet.

1. What is the relationship between selected social variables such as longevity, race, martial status, number of dependents, rate and status; and a preference for drilling abroad a NRF ship?

Social characteristics are of interest because people who share certain life experiences such as being single or being married are likely to respond to the world about them in similar ways. The 1980 Naval Reserve Study found that "members of the Naval Reserve are primarily male, white, Protestant, and married with one or more dependents. Reservists are mostly middle-class individuals with considerable education and a reasonably good job..."

(National Retention Study, 1980, p. 59). The question is: Do social characteristics and military status have an influence on whether men prefer to drill aboard ship or in a Naval Reserve Center?

Table I shows the relationship between selected social characteristics and a preference for drilling aboard NRF ships. One can see that among all reservists the percentage of those who desire to drill aboard ship increases with length of time in the Naval Reserve. Thirty-two percent of those with less than four years longevity, 40 percent with four to nine years, and 58 percent of those with ten years or more prefer to drill on a ship. This same pattern persists for every category. The longer one has been in the Naval Reserve, regardless of race, maritial status, or military rate, the more likely he will want to go to sea. The most likely explanation is that men who have been in the Navy longer are more committed to the service.

Looking at the subcategories, one finds that among racial groups, whites are more likely to prefer drilling aboard ship than blacks. The difference is most noticeable among the younger age groups. It decreases to an almost negligible percentage among reservists who have ten or more years service.

Martial status affects the preference for NRF ships in the reverse of what might be expected. Married reservists are more inclined to prefer sea duty than those who are single. This is much less true among the younger men than among those who have been reservists for ten years or more. The pattern among those who have dependents is mixed. Having several children, however, is not necessarily a deterrent to preferring sea duty.

TABLE I

RELATIONSHIP BETWEEN SELECTED SOCIAL VARIABLES AND PREFERENCE FOR DRILLING ABOARD NRF SHIPS

	Percentage Who Prefer to Drill Aboard NRF Ships			Total
	Less Than Four Years Longevity	Four-Nine Years Longevity	Ten or More Years Longevity	N
All Reservists	32%	40%	58%	100% (735)
Race				
Negro (Black)	19%	28%	52%	14% (104)
Caucasian (White)	36%	44%	59%	81% (598)
Other	22%	27%	25%	4% (28)
Martial Status				
Single (Never Married)	31%	31%	44%	29% (215)
Married	35%	46%	61%	62% (456)
Previously Married but Currently Single	17%	43%	45%	7% (49)
Dependents				
None	30%	34%	54%	35% (256)
One	29%	40%	65%	17% (123)
Two	37%	47%	55%	18% (134)
Three	27%	32%	57%	18% (129)
Four Plus	50%	70%	59%	12% (88)
Rate				
E-1, E-2	43%	9%	80%	2% (18)
E-3	24%	29%	40%	14% (101)
E-4	30%	42%	37%	23% (168)
E-5	35%	39%	58%	28% (203)
E-6	50%	50%	69%	19% (138)
E-7	60%	67%	79%	9% (65)
E-8	--	80%	73%	3% (25)
E-9	--	--	100%	1% (11)
Status				
Mandatory Driller	33%	--	--	21% (155)
Voluntary Driller	32%	--	--	78% (572)

Social status as measured by rate shows that as seniority increases, so does preference to drill abroad ship. Not only is this true for those who have been in the Naval Reserve for a number of years, but it is also true of those who have less than four years longevity. The largest percentages, however, are found among those with ten or more years of service and who are most senior in rate.

Looking at the mandatory driller's status, one finds only 1 percentage point difference between young mandatory drillers and young voluntary drillers in regard to their preference for afloat billets. Perhaps the mandatory drillers have acquired an underserved reputation in this respect. The mandatory drillers who have recently been released from the services are as interested in going back to sea as are the voluntary drillers.

2. What is the relationship between active-duty experiences and preference for drilling aboard a NRF Ship?

Common sense might indicate that those who like the Navy will remain in the service for a career and those who, for one reason or another, find the military life distasteful will get out and perhaps join the Naval Reserve. The main reason, it has been said, that so many sailors find active duty unpleasant is sea duty. If this is in fact true, one would expect that those reservists who have had tours of duty in an afloat command would not want to drill aboard NRF ships. It is also possible that although an individual would not want to go to sea as a career, he would be interested in steaming on the weekends.

Table II shows the relationship between active-duty experience and drill preference. The main watershed is between reservists with less than 10 years experience and those with more than 10 years experience. Sixty-one percent of those who had been on active duty over 10 years said that they would prefer drilling abroad NRF ships; whereas, approximately 43 percent with less that 10 years experiences would prefer a sea billet. It is encouraging that those with the most experience want to go to sea, but it is discouraging that junior enlisted personnel are less enthusiastic.

The men who were questioned in this study were those who had the potential of going to sea and were, for the most part, in sea-going ratings. It is not surprising that, while on active duty, 82 percent of them had been assigned to an afloat command. They have accumulated a wealth of naval experience. Among these men, 45 percent indicated they would prefer to drill aboard an NRF ship; whereas, among those who had never been to sea, 39 percent expressed a similar preference. The difference in percentage is small and actually in the wrong direction for those who believe that exposure to the sea tends to drive men ashore. Sailors who have experience in afloat commands are slightly more inclined to want to continue that experience than are those who have been denied that opportunity.

One of the best predictors of participation in all organizations is job satisfaction. If this logic is extended to the United States Navy, a reservist who had meaningful and worthwhile experiences while on active duty might want to repeat those experiences on the weekend. The information in Table II supports this hypothesis. Fifty-three percent of the reservists who

TABLE II

RELATIONSHIP BETWEEN ACTIVE DUTY EXPERIENCE AND DRILL PREFERENCE

	Percentage Who Prefer to Drill			
	Aboard NRF Ship	NAVRES Center	Uncertain	N
Number of Year on ACDU				
Never	63%	31%	5%	3% (19)
Less than 1 year	39%	44%	17%	5% (36)
1-3 years	41%	40%	20%	44% (321)
4-6 years	45%	36%	19%	37% (269)
7-9 years	42%	40%	18%	5% (38)
10 plus years	61%	25%	14%	7% (49)
Assigned to Afloat Command				
Yes	45%	36%	19%	82% (594)
No	39%	44%	17%	18% (127)
Level of Satisfaction with ACDU Experience				
Completely Satisfied	53%	33%	15%	25% (179)
Mostly Satisfied	49%	33%	18%	41% (294)
About Average	33%	40%	27%	24% (171)
Mostly Dissatisfied	31%	57%	12%	8% (58)
Completely Dissatisfied	29%	54%	17%	3% (24)
Level of Satisfaction with Reserve Drill Experience				
Completely Satisfied	57%	31%	12%	12% (84)
Mostly Satisfied	44%	41%	15%	38% (276)
About Average	41%	37%	23%	33% (244)
Mostly Dissatisfied	44%	34%	21%	13% (93)
Completely Dissatisfied	34%	37%	29%	5% (35)

were "completely satisfied" while on active duty expressed a preference for an afloat billet; whereas, only 29 percent of those who were "dissatisfied" preferred drilling aboard ship on the weekend.

It is also worth noting that only 11 percent of the reservists claimed that they had been dissatisfied on active duty. By far the majority (66 percent) indicated that they had enjoyed their active-duty experience. This undermines the notion that the Naval Reserve is made up of men who were not satisfied with the Navy.

Although one hears a good deal of complaining about the Naval Reserve drill in the passageways of the Naval Reserve Center, only 18 percent of the men said that they are "dissatisfied" with the Naval Reserve drill.

The question here is whether the least satisfied and perhaps poorer performers are the ones who want to change their circumstances for the better by drilling aboard a NRF ship. Table II shows that as the level of satisfaction increases, there is a greater tendency to prefer a NRF ship. Fifty-seven percent of those men who were "completely satisfied" with the Reserve drill experience and only 34 percent who were "completely dissatisfied" indicated a willingness to accept voluntarily an afloat billet. It is likely that reservists with a propensity to drill aboard NRF ships are those with more positive attitudes toward the service. Previous research indicates that high levels of job satisfaction are associated positively with good performance and high retention rates.

3. Do the attitudes of "relevant others" such as family, employer and friends affect one's preference for drilling aboard a NRF Ship?

It has long been accepted that man is by nature a social animal and is influenced by family, friends, and work associates in planning his life. Naval reservists accept a significant military role, but they also play primary roles in the civilian community. It is likely that if his primary roles intrude on those which are less prominent, he will take tne option to reduce his participation in the Naval Reserve. With this in mind, Naval reservists were asked about their perceptions of family, friends, and employers concerning their acceptance of an afloat billet. Essentially the questions focused on whether drilling aboard a NRF ship on the weekend would conflict with civilian interest.

Table III shows clearly that if the family objects and if reservists believe that drilling aboard a NRF ship would cause a job conflict, then most of these reservists would prefer to drill at the Naval Reserve Center. Among reservists who believe that their family objects, only 12 percent indicated an interest in accepting an afloat billet. Among reservists who said that drilling aboard a NRF ship would cause a job conflict with their civilian employment, only 11 percent preferred to go to sea on the weekends. A strong positive correlation exists between family attitudes, employment conditions, and the willingness to accept an afloat billet.

TABLE III

THE ATTITUDE OF RELEVANT OTHERS SUCH AS FAMILY, EMPLOYER AND FRIENDS TOWARD DRILLING ON NRF SHIPS

Question	NRF SHIP	PREFER NAVRES CENTER	UNCERTAIN	TOTAL N
Would your family object?				
Definitely	12%	75%	13%	9% (67)
Probably	24%	55%	21%	12% (85)
Uncertain	23%	44%	33%	17% (122)
Probably Not	52%	32%	16%	31% (227)
Definitely Not	66%	21%	13%	31% (227)
Would it cause a job conflict?				
Definitely	11%	72%	17%	14% (100)
Probably	28%	53%	20%	16% (120)
Uncertain	35%	35%	29%	22% (158)
Probably Not	57%	25%	18%	29% (214)
Definitely Not	72%	21%	7%	19% (140)
Would your friends be interested in drilling aboard an NRF ship?				
Definitely Yes	78%	12%	10%	15% (111)
Probably Yes	59%	23%	18%	26% (189)
Uncertain	33%	44%	23%	43% (318)
Probably Not	18%	66%	16%	9% (68)
Definitely Not	18%	71%	11%	6% (44)

It is reassuring to Navy manpower managers that only 9 percent of the reservists said that, in their opinion, their family would "definitely" object, and only 14 percent said that it would "definitely" cause a job conflict. Family and employment difficulties probably cannot be overcome without rather large financial incentives; however, most reservists are not faced with family objections or job conflicts.

If family and employers pose a possible obstacle to block participation aboard ships, what are some of the conditions that may serve to stimulate interest? One of the most important is the attitude of a reservist's friends. The National Reserve Retention Study found that interpersonal relationships within the reserve unit were more important than outside social influences in affecting the decision to reenlist in the Naval Reserve.

Peer pressure is an important determinant of benavior. When reservists were asked if they had friends that would be interested in drilling aboard a NRF ship, 15 percent answered "definitely yes," 26 percent "probably yes," 23 percent "uncertain," 9 percent "probably not," and 6 percent "definitely not." In the opinion of the reservists, most of their friends think positively about going to sea. When this variable is cross-tabulated with the individual reservist's preference for a drill site, one finds that 78 percent of those who had friends who were interested in drilling aboard a NRF ship were also interested in an afloat billet themselves.

4. What is the effect of economic incentives on accepting voluntarily an afloat billet?

a. Sea pay and bonuses

Now we come to the most important part of the study. Looking at Table IV, one sees that 735 men were asked a question regarding the effects of sea pay on accepting an afloat billet. This population was then subdivided into three separate groups. The first group of 245 reservists was asked, "If we were able in addition to the sea pay, to provide a BONUS of $5.00 per drill ($25.00 per weekend), would that be sufficient to seek assignment on a NRF ship?" The second group of 230 reservists was asked "If we were able in addition to sea pay, to provide a BONUS of $10.00 per drill ($50.00 per weekend), would that be sufficient to seek assignment on a NRF ship? The third group of 244 reservists was asked "If we were in addition to the sea pay, to provide a BONUS OF $15.00 per drill ($75.00 per weekend), would that be sufficient to seek assignment on a NRF ship?" It should be emphasized that three different groups of naval reservists were asked the bonus questions.

It was found that 27 percent of the 735 Naval reservists who were surveyed indicated that they "definitely" would accept an afloat billet if given sea pay from $25.00 to $50.00 per weekend; 25 percent said they would seek a billet aboard ship for sea pay plus $5.00 more per drill; 39 percent would seek a billet aboard ship for sea pay plus $10.00 more per drill; and 36 percent would seek a billet aboard ship for sea pay plus $15.00 more per drill. If the categories are collapsed to combine those who answered "definitely yes" and "probably yes" to each of these question, one finds that 57 percent would go to sea for sea pay only, 56 percent for an additional $5.00 bonus, 68 percent for an additional $10.00 bonus, and 67 percent for an additional $15.00 bonus.

TABLE IV

THE EFFECTS OF SEA PAY AND BONUSES ON THE DECISION TO DRILL ABOARD NRF SHIPS

Would you seek a billet aboard a NRF ship?	Sea Pay	Sea pay plus $5.00 more per drill	Sea pay plus $10.00 more per drill	Sea pay plus $15.00 more per drill
Definitely Yes	27%	25%	39%	36%
Probably Yes	30%	31%	29%	31%
Maybe	23%	22%	20%	20%
Probably Not	10%	9%	6%	7%
Definitely Not	9%	12%	6%	7%
	N= 735	N= 245	N= 230	N= 244

* Note: Columns which do not add to 100% is due to rounding errors of Missing Data. (MD=16).

Paying a bonus of $5.00 produces no appreciable increase over simply providing the incentives of sea pay. An additional bonus of $10.00 does raise the percentage of those willing to go to sea by 12 percentage points. An even greater bonus of $15.00 per drill has no apparent impact over paying the smaller bonus of $10.00 per drill. The conclusion one might draw from this analysis is that if one pays Naval reservists sea pay, one is likely to attract approximately 57 percent of them to billets aboard ships. If in addition to this, one adds a bonus of $10.00 per drill, one could expect to attract 68 percent. These findings should be moderated by the fact that 44 percent of all Naval reservists surveyed said that they would prefer to drill aboard a Naval Reserve Force ship rather than at a Naval Reserve Center. It therefore seems reasonable to posit that a potential improvement in shipboard manning brought about by giving economic incentives is on the order of about 12 percentage points for sea pay and an additional 12 percentage points for a bonus.

b. Sailors who reject sea pay as inadequate

Table V shows the relationship between incremental increases in bonuses for those Naval reservists who would reject sea pay alone as an incentive for accepting voluntarily an afloat billet. Essentially these men are saying, "*no*" I *am not* willing to go to sea for a raise in pay of from $25.00 to $50.00 per month. The question then becomes, what is a sufficient amount to attract these particular sailors to sea?

Table V illistrates that extremely small percentages (2% for a bonus of $5.00, 3% for a bonus of $10.00 and 4% for a bonus of $15.00) would answer

TABLE V

THE EFFECTS OF BONUSES ON THE DECISION TO DRILL ABOARD NRF SHIPS FOR NAVAL RESERVISTS WHO BELIEVE THAT SEA PAY IS INSUFFICIENT

Would you seek a billet aboard a NRF ship?	Sea pay plus $5.00 more per drill	Sea pay plus $10.00 more per drill	Sea pay plus $15.00 more per drill
Definitely Yes	2%	3%	4%
Probably Yes	21%	21%	23%
Maybe	35%	43%	41%
Probably Not	18%	16%	16%
Definitely Not	25%	17%	16%
Total N = 307	N= 245	N= 230	N= 244

"definitely yes" when offered a bonus of any size. However, among those who indicate they probably would accept an afloat billet, we see that 21 percent would go to sea for an additional $5.00 per month, 21 percent for an additional $10.00 per month, and 23 percent for an additional $15.00 per month. (Remember, we are surveying three different groups.) Approximately one fifth of the sailors who are not attracted by sea pay alone would probably cross the line for a bonus.

c. Variations by rate

Although all rates are important aboard ship, some specialities are more difficult to fill than are others. This is particularly true with the technical jobs that are in demand in the civilian economy. Even if a large number of Naval reservists are willing to drill aboard NRF ships, it would make little difference unless they can be distributed in such a way as to fill the critical billets. Table VI shows selected rates indicating their response to the question, "If you were given sea pay from $25.00 to $50.00 per weekend would that be sufficient to seek an afloat billet?" The rates are ranked in accordance to the percentage who responded "yes." There is some variation between rates but the differences in percentage are not great. The range among rated personnel is from a high of 78 percent among SM's, to a low of 43 percent among IC's. The lowest percentage was among SN's with 41 percent agreeing to accept an afloat billet. Given the small number of men in some of these categories, these percentages must be evaluated with caution. However, in most of the rate groups, one finds about 55 percent who are willing to accept an afloat billet, 25 percent who answer "maybe" and the remainder who say "no."

TABLE VI

RELATIONSHIP BETWEEN RATE AND EFFECTS OF SEA PAY ON VOLUNTARILY ACCEPTING AN AFLOAT BILLET ABOARD AN NRF SHIP

RATE	Percentage			
	If you were given sea pay from $25.00 to $50.00 per weekend, would that be sufficient to seek an afloat billet?			
	Yes	Maybe	No	N
SM	78%	22%	00%	9
MN	73%	4%	23%	26
FT	67%	20%	13%	15
GMG	63%	19%	19%	16
EM	62%	30%	8%	37
MM	61%	17%	20%	70
HT	59%	19%	22%	66
BT	59%	22%	19%	32
SK	58%	25%	17%	12
STG	56%	33%	11%	9
TM	56%	31%	13%	16
ET	56%	22%	22%	33
BM	55%	29%	16%	31
YN	54%	31%	15%	13
RM	54%	19%	23%	29
EN	52%	31%	17%	30
OS	52%	27%	18%	33
QM	46%	39%	15%	14
IC	43%	50%	7%	14
SN	41%	29%	29%	18
PN	39%	15%	42%	13

Note: Only rates which had at least 9 respondents in that category were used.

d. Non-pecuniary incentives as a conditions for accepting sea pay and bonuses

We have seen that longevity is positively related to preference for sea duty, and it is generally agreed that persuading young sailors to enjoy sea duty is difficult. Since these are men with the most current experience, this represents an important problem in manning the NRF ships.

Table VII provides information concerning the attitudes of reservists who would accept an afloat billet and who have less than three years of Reserve experience. The responsiveness to the economic incentives of sea pay and bonuses is conditioned to a substantial degree by a reservist's preference of drill location. Naval reservists who prefer to drill aboard ships are far more willing to accept the economic stimulus to change their billets than are those who do not like the idea of going to sea.

Although this is consistent with common sense, the differences in percentage are impressive. Among those who prefer drilling at the Naval Reserve Center, one finds that 36 percent would be willing to go to sea for pay; however, among those who prefer drilling aboard Naval Reserve Force ships, 79 percent would accept sea pay as sufficient to change their drill location -- a difference in percentage of 43 points. Remembering that the bonus questions were asked to three different groups of sailors, one sees a similar pattern for each subsample.

TABLE VII

THE EFFECTS OF SEA PAY AND BONUSES ON THE DECISION TO DRILL ABOARD NRF SHIPS CONTROLLING ON PREFERENCE OF DRILL LOCATION AND LONGEVITY

	Percentage of Reservists with Less than Three Years Reserve Experience Who Would Accept An Afloat Billet	
	Prefer Naval Reserve Center Drill	Prefer Naval Reserve Force Ship Drill
Sea Pay	36%	79%
$5.00 Bonus	38%	58%
$10.00 Bonus	67%	94%
$15.00 Bonus	53%	83%

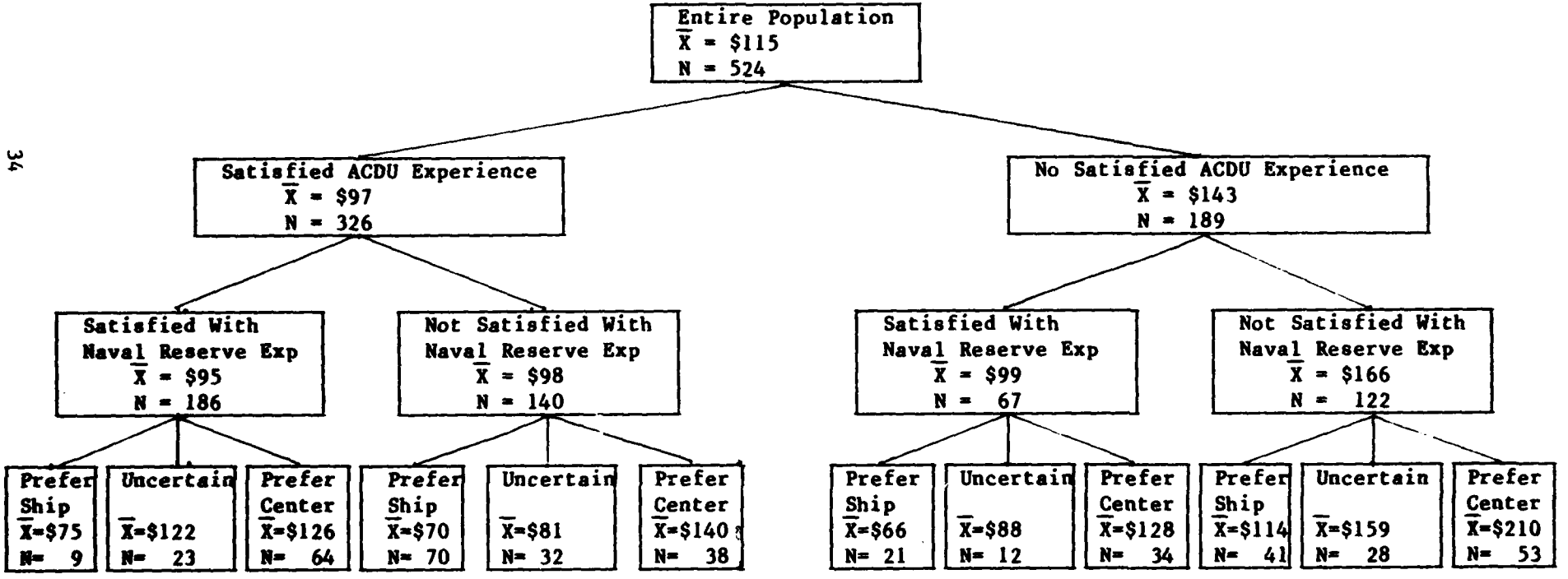
Note: The categories "Definitely Would Accept" and "Probably Would Accept" an Afloat billet were collapsed. The percentage figures are based on the number of Naval reservists who have less than three years Naval Reserve experience and who expressed a preference for drilling location within each of the sub groups in the population surveyed.

Pursuing the notion that non-pecuniary incentives are important conditioners for accepting pecuniary rewards, a breakdown by "Satisfaction with Active Duty," "Satisfaction with Reserve Experience," and Preference for Drill Location" is helpful. An open-ended question was asked of the entire population regarding the amount of additional pay per month it would take to make it worth while to drill aboard a NRF ship. Unfortunately, a rather large number of reservists (200) did not answer this question. A probable reason for not answering was that the item was on the reverse side of the answer sheet and may have been overlooked. There were several encouraging responses indicating that some of the reservists resented being asked such a question. These men said they were in the Naval Reserve not for pay but for patriotism. However, given the assumption that response error is randomly distributed and the fact that the total of respondents exceeds the minimum sample size, the results are posited to be representative.

As Table VIII indicates, there were 524 Naval reservists who did answer the question and who indicated that it would take an average increase of $115.00 per month to make it worth their while to drill aboard an NRF ship. This represents the mean score of all the responses. The most frequent or modal response was $100 and the median amount was $75.00. A further breakdown by "Satisfaction with Active-duty Experiences" shows that among those who were satisfied on active duty, an average of $97.00 additional pay would be sufficient; but among those who were dissatisfied on active duty, an average of $143.00 would be necessary for them to return to an afloat billet. It will cost more to attract the dissatisfied than the satisfied.

TABLE VIII

BREAKDDOWN BY SATISFACTION WITH ACTIVE DUTY, SATISFACTION WITH RESERVE EXPERIENCE, AND PREFERENCE FOR DRILL LOCATION COMPARING THE AVERAGE AMOUNTS OF ADDITIONAL PAY REQUIRED TO ACCEPT AN AFLOAT BILLET



Note: Strongly Agree and Agree Categories were collapsed to form the Satisfaction group.

If one also controls on "Satisfaction with the Naval Reserve Drill Experience," one finds in Table VIII that among reservists who were satisfied with their active duty experience and satisfied with their Naval Reserve drill experience, it would require an average increase in monthly income of $95.00; whereas, among those who were dissatisfied with both of these Naval experiences, it would require $166.00 to attract them to an afloat billet. Again it is demonstrated that job satisfaction is a major conditioner of how receptive reservists will be to economic incentives.

A third control on "Preference for Drilling Location" reinforces this conclusion. It will require an additional monthly income of $75.00 for those reservists who were satisfied on active duty, who like their Naval Reserve drill experience, and who prefer drilling aboard NRF ships; compared to $210 for those reservists who did not like active duty, who do not like the Naval Reserve drill and who prefer the Naval Reserve Center. Table VIII is interesting in that it permits an analysis of how these variables work together to influence a reservist's expectations of how much additional pay is required before he would consider changing his billet voluntarily.

Retention Considerations

The population of interest can be divided into three categories: (1) people who would prefer to drill aboard NRF ships, (2) people who would prefer to drill aboard Reserve Centers but who would change for financial incentives, and (3) people who would prefer to drill aboard reserve centers and who would not change for financial incentives. Previous sections of the report have suggested that, across categories, 57 percent of the total population would

overcome personal inconvenience and seek an afloat billet for sea pay alone, and an additional 12 percent would do the same for sea pay plus a $10.00 per drill bonus. Taking into consideration the fact that 44 percent indicated a preference for sea duty before they were apprised of the various financial incentive options, the net manpower increase for sea pay plus a bonus appears to be approximately 24 percent.

It is very important to examine the relationship between the above finding and the intention to reenlist. Previous research has indicated that, while financial incentives are critical to recruiting, the amount of current pay (salary and bonuses) is only weakly related to long term retention in the Naval Reserve (Boykin and Merritt, 1979; Boykin, Merritt and Smith, 1980; Merritt, 1982).

A recent study conducted by the Air Force Manpower and Personnel Center investigated the effects of the Selected Reenlistment Bonus (SRB) program on first term retention of active duty Air Force personnel. The major finding was that the payment of SRBs has a dramatic effect on retention. The retention rates for SRB 1979 and SRB 1980 groups who received a bonus were well above those who did not (Polk, January 1982). Although the training of replacements was in some cases less expensive than paying bonuses, overall it was cheaper to pay bonuses.

Data from the period FY 78 and FY 80 confirm the positive effect of reenlistment bonuses on Active Duty Navy reenlisted retention. "A one-level increase in bonus multiples will induce almost 3 additional reenlistments out

of a cohort of 100 eligibles." (L. Goldberg, May 1981). Between 1978 and 1979, fifty-three Navy ratings suffered a reduction in reenlistment bonuses, while no rating experienced an increase. During this period reenlistment rates fell by 4.5 percent more in those ratings experiencing a bonus reduction than in those ratings experiencing no change. (Warner and Goldberg, December 1981, p. 19).

Although first-term bonuses have a positive effect on active-duty Navy reenlistment, they may have a negative effect on second-term retention. The reason for this is that "bonus-induced first-term reenlistees will have, on the average, a lower 'taste for service' than non-bonus induced reenlistees and will be less likely to reenlist after a second-term." (Warner, August 1981, p.3). This could mean that to authorize a bonus to attract Naval reservists to drill aboard NRF ships without some consideration for the second-term reenlistment would be short sighted.

Three retention questions were asked to determine the respondents' career decisions: (1) "I plan to reenlist in the Naval Reserve." (Definitely no to definitely yes), (2)" At this time, do you plan to remain in the Naval Reserve long enough to be eligible for retirement?" (yes-no), and (3) "If you were assigned to a NRF ship drawing the same pay and allowances as you are now, would you reenlist?" (Definitely no to definitely yes). In response to the first question, 454 (61.8%) reservists indicated that they intend to reenlist at the end of their current contract. Five hundred twenty-three (71.2%)

indicated an intention to remain in the Naval Reserve until retirement. The second figure (523) is larger than the first (454) becuase it includes those who plan to retire at the end of their present enlistment.

The third question elicited an enlightening response pattern. Only 329 (44.8%) indicated that they would reenlist if they were reassigned to a ship without an increase in compensation. This bears a striking similarity to the finding that 44 percent of the respondents previously indicated a preference for drilling aboard ship. Are these the same people? Table IX illustrates that 70 percent of those who prefer shipboard duty definitely or probably would reenlist in the event of reassignment without increased pay, while only 23 percent of those who prefer to drill at a reserve center would do the same.

Is this radical dichotomy due to the potential reassignment, the lack of financial incentives, or the possibility that those who prefer to drill aboard reserve centers are poor candidates for reenlistment regardless of change factors? To answer these questions, each of the population categories described in the first paragraph of this section must be analyzed in relation to the three retention questions.

TABLE IX

RELATIONSHIP BETWEEN DRILL SITE PREFERENCE AND REENLISTMENT INTENTION IN THE EVENT OF REASSIGMENT TO A SHIP WITHOUT INCREASED COMPENSATION

Would you reenlist at the same pay?	Prefer Ship	Prefer Center	Uncertain
Definitely Yes	34%	7%	6%
Probably Yes	36%	16%	24%
Maybe	16%	26%	37%
Probably Not	8%	24%	18%
Definitely Not	6%	27%	15%
Total N = 732	N = 322	N = 274	N = 135

Table X presents reenlistment intentions controlled for drill location preference. This is a measure of the next reenlistment decision, and does not necessary reflect long term retention. It describes the population without regard to the impact of potential incentives and provides a retention base line from which to judge change. The Table indicates that individuals who prefer ships intend to reenlist in significantly larger numbers than do those who prefer centers. To a lesser extent, the same is true for those who are undecided concerning drill preference. This is consistent with the findings concerning satisfaction with the active duty experience and satisfaction with the reserve experience. Both reenlistment intention and job satisfaction are much stronger in those who prefer ships.

Table XI illustrates the intention to remain in the Naval Reserve until retirement. This differs from Table X in that it provides a measure of second and third term retention. The Table indicates that the relationships in Table X continue to hold. Those who prefer ships plan to remain in the Naval Reserve for the long term in much greater numbers than do those who prefer centers or who are uncertain. However, it should be noted that a majority of those who prefer centers do consider themselves career Naval Reservists.

TABLE X

THE RELATIONSHIP BETWEEN REENLISTMENT INTENTION AND DRILL SITE PREFERENCE

Do you intend to reenlist?	Prefer Ship	Prefer Center	Uncertain
Definitely yes	61.6%	43.0%	37.8%
Probably yes	12.2%	10.3%	15.6%
Maybe	14.4%	19.5%	23.7%
Definitely not	8.4%	21.0%	15.5%
Total N = 727	N = 320	N = 272	N = 135

Eta = .23 Gamma = .26

TABLE XI

RELATIONSHIP BETWEEN RETIREMENT INTENTIONS AND DRILL SITE PREFERENCE

Do you plan to remain in the Naval Reserve until retirement?	Prefer Ship	Prefer Center	Uncertain
Yes	80.9%	65.2%	65.2%
No	19.1%	34.8%	34.8
Total N = 716	N = 344	N = 249	N = 123

These Tables provide a basis for testing Warner's (1981) proposition that bonus-induced reenlistees are less likely to reenlist after a second term. The population group of interest consists of those individuals who prefer to drill aboard centers or are uncertain but would accept a transfer to shipboard duty for sea pay (with or without a bonus). Table XII illustrates this group's short term reenlistment intentions. Of those who would definitely change, approximately 57 percent either definitely or probably would reenlist at the next decision point and 62 percent of those who would probably change would definitely or probably reenlist. This compares favorably to the 23 percent who would reenlist if they were reassigned without financial incentives.

Table XIII indicates that the increases in reenlistment intention for the short term are also present in second and third term reenlistment intentions. This calls Warner's conclusions into question. It appears that sea pay would benefit both retention and shipboard service.

Tables XIV and XV reflect similar findings for the use of both sea pay and a bonus as incentives to seek shipboard drills. The addition of a bonus, in fact, serves to strengthen long term reenlistment intention.

TABLE XII

IMPACT ON SHORT TERM RETENTION OF SEA PAY AS AN INDUCEMENT TO CHANGE DRILL PREFERENCE FROM CENTERS OR UNCERTAINTY TO SHIPS

Do you intend to reenlist?	Would you drill on board a ship for sea pay only?				
	Definitely Yes	Probably Yes	Maybe	Probably Not	Definitely Not
Definitely Yes	50.0%	48.2%	35.1%	35.2%	36.0%
Probably Yes	6.9%	13.6%	16.0%	13.0%	4.0%
Maybe	12.1%	23.6%	26.7%	14.8%	14.0%
Probably Not	6.9%	2.7%	5.3%	16.7%	8.0%
Definitely Not	24.1%	11.8%	16.0%	20.4%	38.0%
Total N = 403	N = 58	N = 110	N = 131	N = 54	N = 50

Eta = .54

TABLE XIII

IMPACT ON LONG-TERM RETENTION OF SEA PAY AS AN INDUCEMENT TO CHANGE DRILL PREFERENCE FROM CENTERS OR UNCERTAINTY TO SHIPS

Do you plan to remain in the Naval Reserve until retirement?	Would you drill on board a ship for sea pay only?				
	Definitely Yes	Probably Yes	Maybe	Probably Not	Definitely Not
Yes	63.8%	77.3%	64.6%	57.4%	51.0%
No	26.2%	22.7	35.4%	42.6%	49.0%
Total N = 401	N = 58	N = 110	N = 130	N = 54	N = 49

Eta = .39

TABLE XIV

IMPACT ON SHORT TERM RETENTION OF SEA PAY AND BONUS PAY AS AN INDUCEMENT TO CHANGE DRILL PREFERENCE FROM CENTERS OR UNCERTAINTY TO SHIPS

Do you intend to reenlist?	Would you drill on board a ship for sea pay plus bonus pay?				
	Definitely Yes	Probably Yes	Maybe	Probably Not	Definitely Not
Definitely Yes	50.6%	46.2%	32.1%	37.2%	34.1%
Probably Yes	7.8%	10.8%	19.6%	9.3%	7.3%
Maybe	15.6%	23.1%	25.9%	16.3%	12.2%
Probably Not	5.2%	9.2%	2.7%	9.3%	9.6%
Definitely Not	20.8%	10.8%	18.8%	25.6%	36.6%
Total N = 403	N = 77	N = 130	N = 112	N = 43	N = 41

Eta = .13

TABLE XV

IMPACT ON LONG-TERM RETENTION OF SEA PAY AND BONUS PAY AS AN INDUCEMENT TO CHANGE DRILL PREFERENCE FROM CENTERS OR UNCERTAINTY TO SHIPS

Do you plan to remain in the Naval Reserve until retirement?	Would you drill on board a ship for sea pay plus a bonus?				
	Definitely Yes	Probably Yes	Maybe	Probably Not	Definitely Not
Yes	63.8%	74.4%	65.2%	51.2%	45.0%
No	21.2%	25.5%	34.8%	48.8%	55.0%
Total N = 401	N = 77	N = 129	N = 112	N = 43	N = 40

Eta = .18

One must take care in interpreting these findings. A conclusion that reservists are primarily motivated by money to serve and to reenlist would be hasty and quite possibly false. Three major studies of the motivational determinants of service in the Naval Reserve (Boykin and Merritt, 1979; Boykin, Merritt and Smith, 1980; Merritt, 1982) have provided substantial evidence that non-pecuniary factors are more important than financial incentives for productive and dedicated service. These factors included participative leadership, job satisfaction, organizational cathexis (a reciprocal caring relationship between the individual and the organization) and the influences of relevent others (friends, family, exployer).

As demonstrated in these previous studies, pay is a necessary but not sufficient condition for performance and retention. Pay in the Naval Reserve is different than in the regular Navy because the Naval Reserve is not the individual's full-time occupation. Rather, it is viewed as part-time income which augments full-time civilian employment. Therefore, pay levels beyond a certain acceptable baseline may not significantly contribute to increased levels of participation. This is in agreement with the widely accepted view of Frederick Herzberg (1966) that pay is a dissatisfier which operates in an increasingly negative direction commencing from an initial position of indifference. Increasing pay will decrease dissatisfaction until the indifference position is reached, but further increases in pay will not cross this '0' position to become positive motivators.

This proposition is supported herein as evidenced by the finding that increasing the proposed bonus from $10.00 per drill to $15.00 per drill does not result in an increase in the willingness to drill aboard a ship. Rather, sea pay plus a $10.00 per drill bonus defines the indifference point at which the individual is adequately compensated for the increased personal inconvenience caused by shipboard drilling. As in other areas of human endeavor, a fair wage for a decent day's work is a necessity.

Once the pay baseline is crossed, other factors drive the participation decision. These other factors are presented in Table XVI and Table XVII. The reader is referred to the aforementioned previous Naval Reserve studies for a comprehensive discussion of the factors and a detailed development of the causal model used here. While Table XVI illustrates the total theoretical relationship of all the variables, the causal model in Table XVII presents the independent influences of each variable on retention and the causal relationships among them. Since leadership and cathexis operate indirectly through job satisfaction as well as directly on retention, a decomposition to determine total impact is necessary. This decomposition is as follows:

TABLE XVI

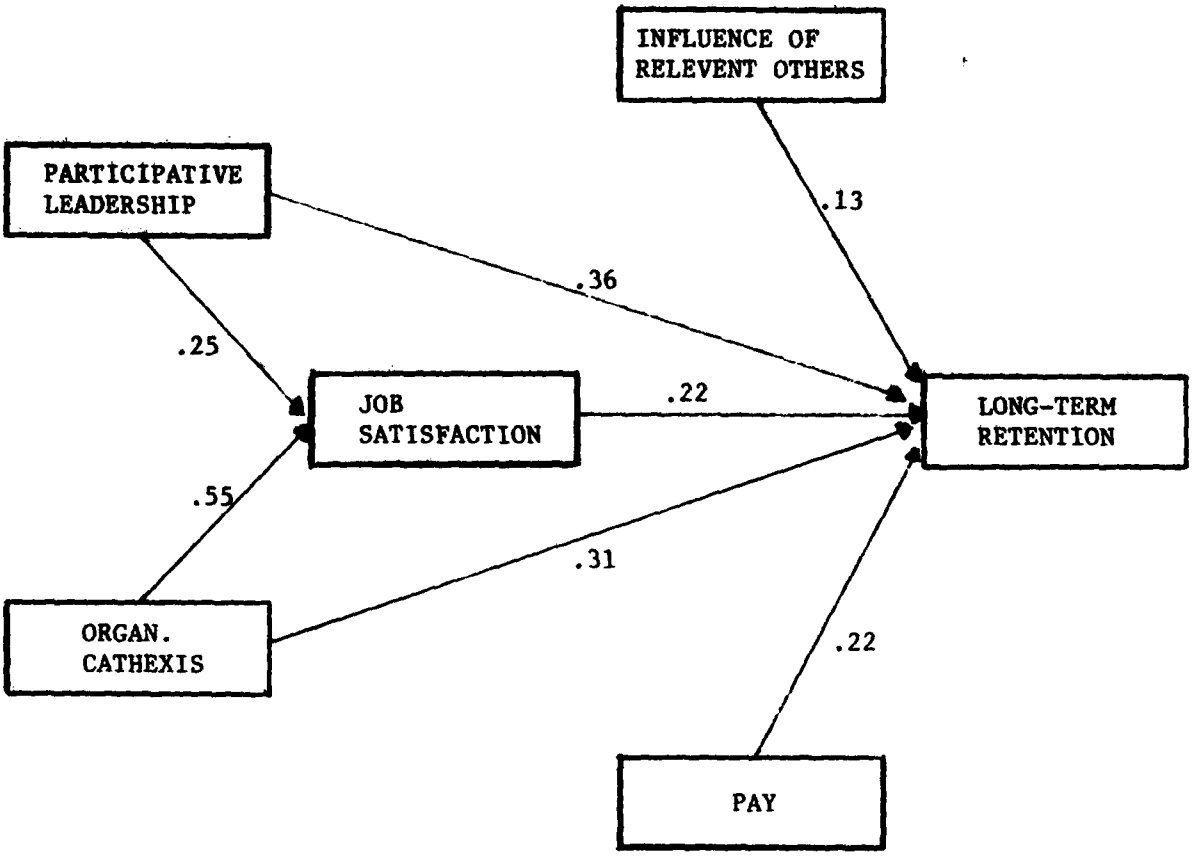
MEASURES OF ASSOCIATION* AMONG FACTORS RELATING TO LONG-TERM RETENTION OF INDIVIDUALS WHO WOULD CHANGE DRILL PREFERENCE TO SHIPS FOR SEA PAY AND A BONUS

	Lead.	Job Satis.	Org. Cathexis	Infl. others	Pay	Retention
Participative Leadership	1.00					
Job Satisfaction	.19	1.00				
Organizational Cathexis	.81	.34	1.00			
Influence of Relevent Others	.10	.24	.13	1.00		
Pay	.61	.08	.58	.06	1.00	
Retention	.19	.27	.02	.20	.25	1.00

*Pearson correlation coefficients

TABLE XVII

CAUSAL MODEL* OF FACTORS RELATING TO LONG-TERM RETENTION
OF INDIVIDUALS WHO WOULD CHANGE DRILL PREFERENCE
TO NRF SHIPS FOR SEA PAY AND A BONUS



*Utilizing standardized regression coefficients (BETA weights). A complete discussion of the theoretical basis for this model is presented in Merritt (1982).

Variable	Impact	Standard Error	Significance Level
Infl. of Rel. Others	.13	.01	.05
Participative Leadership	.42	.01	.05
Job Satisfaction	.22	.04	.05
Organ. Cathexis	.43	.01	.05
Pay	.22	.01	.05

These findings reinforce the conclusions of the previously cited research, i.e., participative rather than authoritarian leadership styles and a demonstrated concern by the organization for its members are decisive for retention. Adequate compensation is absolutely essential for the recruitment process, both initially and in reference to changing to a more arduous drill site; however, drilling reservists are motivated to maintain their affiliation primarily through sound leadership and management within the reserve unit.

SUMMARY OF FINDINGS

1. Of the sailors having a preference, 44 percent indicate a preference for drilling aboard an NRF ship rather than at the Naval Reserve Center. Forty-five percent say they would reenlist even if assigned to an NRF ship with the same pay and allowances.

2. Approximately 57 percent of the reservists indicated tnat they would be willing to voluntarily accept an afloat billet aboard a NRF ship for sea pay.

3. A bonus of $5.00 per drill in addition to sea does not increase the percentage of those who would accept an afloat billet over those who would accept a change of assignment for sea pay alone.

4. A bonus of $10.00 per drill in addition to sea pay does raise the percentage figure of those who would voluntarily accept a billet aboard an NRF ship to approximately 68 percent--an increase of 12 percentage points.

5. A bonus of $15.00 per drill in addition to sea pay does not increase the percentages above what one could expect from a bonus of only $10.00 per drill.

6. The preferred transportation for those who must commute to the ship is commercial air (70 percent) as opposed to a government DC - 9.

7. A reservist's sociological condition is related to his attitude toward drilling aboard NRF ships. Length of service, seniority, marital status and race are associated with a preference for an afloat billet.

8. Voluntary drillers are no more likely to prefer an afloat billet then are mandatory drillers.

9. Job satisfaction is positively related to a preference for an NRF ship. Reservists who remember their active-duty experience positively and who find

their Reserve drill satisfying are those most likely to prefer an NRF ship assignment.

10. The "attitudes of relevant others" is statistically significant. Reservists whose families object to shipboard duty and reservists who believe that a job conflict would result from a change of drilling location do not wish to drill aboard NRF ships; however, the number of reservists in these categories is quite small.

11. Reservists who have friends who might like to drill aboard a NRF ship are far more likely to accept an afloat billet than are those whose associates would not be interested.

12. Economic incentives are effective in persuading reservists to drill aboard NRF ships; however, the degree of responsiveness to these incentives is conditioned to a large extent by the attitude of the reservist to the Navy. It costs far more to convice a dissatisfied than a satisfied reservist to accept an afloat billet.

13. Sea pay plus a $10.00 per drill bonus is adequate compensation for the relatively more arduous drill requirements of being assigned to a NRF ship. However, this compensation is a necessary but not sufficient condition for long term retention. Reservists are not primarily motivated by money, provided that an equitable compensation level is achieved. Rather, drilling reservists are motivated to maintain their affiliation primarily through sound leadership and management within the reserve unit.

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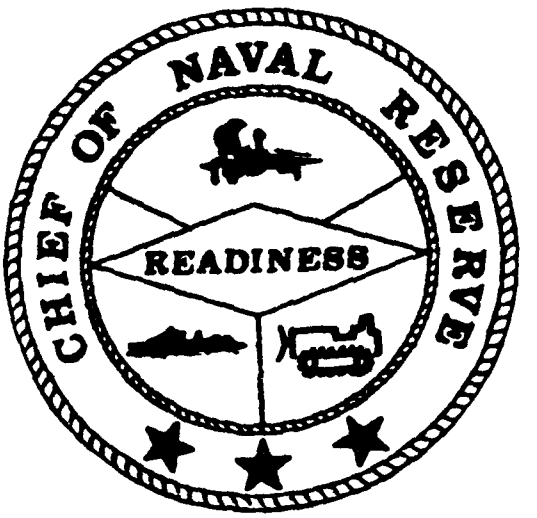
APPENDIX A

NRF SHIP
MANPOWER QUESTIONNAIRE

SURVEY OF THE
U.S. NAVAL RESERVE

EAST COAST
NAVAL RESERVE FORCE
MANPOWER STUDY



CHIEF OF NAVAL RESERVE
NEW ORLEANS, LA 70146

SUMMER, 1982

THE CITADEL
THE MILITARY COLLEGE OF SOUTH CAROLINA
CHARLESTON, S. C. 29409

21 July 1982

TO: Commanding Officers, Naval Reserve Centers and Commanding Officers of Naval Reserve Units

FROM: Captain Milton Lee Boykin USNR, The Citadel, Charleston, SC 29409

SUBJ: Naval Reserve Force Manpower Study, 1982

REF: (a) Chief of Naval Reserve ltr Ser 21/5662 dtd 19 July 1982

ENCL: (1) Survey Questionnaires
(2) List of Units to be Surveyed
(3) Self-Addressed Envelopes for Return of Answer Sheets

1. In accordance with reference (a) the Chief of Naval Reserve has authorized a study of Naval Reserve personnel to determine appropriate incentives for encouraging transfers of qualified individuals to Naval Reserve Force Ships.

2. Your cooperation in essential in collecting this information. Enclosure (1) is the questionnaire booklets. These may be mailed in several packages but you should have one questionnaire for each of the individuals in the units listed under your command in Enclosure (2). These questionnaires must be administered at the first drill after receipt by the Naval Reserve Center.

3. You are requested to designate a proctor, who should be an Active Duty Support Person, to supervise the administration of the questionnaire. Specific instructions to the proctors are contained on page iii of the Questionnaire booklet. Note that the answer sheets should be detached from the Questionnaire booklets by each reservist, collected at the end of the period by the proctor and returned to the Commanding Officer of the Naval Reserve Center. Do not wait until all members of the unit have been surveyed, since some reservists will undoubtedly be absent from drill that day, but return those answer sheets that have been completed in the Self Addressed Envelopes provided as Enclosure (3).

4. Having been the Commanding Officer of two Naval Reserve Units, I appreciate the inconvenience of interrupting your training schedule at the last minute but if this study is to have an impact on the formulation of policy for next year, it must be completed by early September 1982. Your cooperation is greatly appreciated. If you have any questions please call me at my office (803 792 6884) or leave a message with the secretary of Naval Reserve Readiness Command Region SEVEN (FTS 679 4912 or AUTOVON 794 4912) and I will return your call.

Milton Lee Boykin, Ph.D.
Captain USNR

CHIEF OF NAVAL RESERVE
NEW ORLEANS, LA 70146

20 July 1982

Dear Naval Reservist:

An important research project is being conducted in certain areas of the country and I am writing you to request your participation in this study.

The object of this research is to help all of us better understand some of the strengths and weaknesses of the Naval Reserve Force Ships (NRF).

The main purpose of the Naval Reserve is to provide personnel to man the ships of the United Sates Navy during time of national emergency. Sailors must go aboard ships in time of peace in order to learn those skills so necessary during time of war. One of the most difficult manning problems in the Naval Reserve is the requirement to fill the billets on ships of the United States Naval Reserve Force.

No one is in a better position to know what is necessary to solve this problem than you. A questionnaire has been developed so that you can have an opportunity to express your attitudes, opinions and beliefs about your role in this organization.

I can assure you that your help is greatly appreciated and that your observations will be taken seriously. Thank you for taking the time to answer these questions.

Sincerely,

Milton L. Boykin
Captain USNR
Research Director

PART 1: STANDARD BACKGROUND ITEMS

The following questions relate to your naval and personal background. Your answers are confidential and will be used only in statistical summaries.

Please answer each of the following by selecting an answer listed below the question. Circle the appropriate answer on the answer sheet provided.

Numbers(N)	Questions
	1. What is your Questionnaire Letter?
249	1. Letter A
234	2. Letter B
245	3. Letter C
	2. What is your Race?
104	1. Negro (Black)
598	2. Caucasian (White)
28	3. Other
	3. Martial status?
215	1. Single (Never married)
456	2. Married
49	3. Previously married but currently single
12	4. Other
	4. How many dependents for tax purposes do you have other than yourself?
256	1. None
123	2. 1 One
134	3. 2 Two
129	4. 3 Three
88	5. 4 or more
	5. What is your present rate?
18	1. SA,SR E-2, E-1
101	2. SN E-3
168	3. PO3 E-4
203	4. PO2 E-5
138	5. PO1 E-6
65	6. CPO E-7
25	7. SCPO E-8
11	8. MCPO E-9
	6. Which of the following categories best fit you?
155	1. Mandatory driller
572	2. Voluntary driller

Numbers(N)	Questions
	7. How many years were you on Active Duty?
19	1. Never on Active Duty
36	2. Less than 1 year
321	3. 1-3 years
269	4. 4-6 years
38	5. 7-9 years
49	6. 10+ years
	8. While on Active Duty were you assigned to an AFLOAT Command?
594	1. Yes
127	2. No
	9. In general were you satisfied with you Active-Duty experience.
179	1. Completely Satisfied
294	2. Mostly Satisfied
171	3. About Average
58	4. Mostly Unsatisfied
24	5. Completely Unsatisfied
	10. How many years have you been a drilling member of the Naval Reserve?
170	1. Less than 1 year
238	2. 1-3 years
85	3. 4-6 years
49	4. 7-9 years
189	5. 10+ years
	11. Do you consider the Naval Reserve to be basically a part-time job?
471	1. Yes
258	2. No
	12. In general are you satisfied with your Naval Reserve Drilling Experience
84	1. Completely Satisfied
276	2. Mostly Satisfied
244	3. About Average
93	4. Mostly Unsatisfied
35	5. Completely Unsatisfied
	13. If you had a choice of being assigned to a Naval Reserve Ship or Naval Reserve Center, which would you prefer?
323	1. Naval Reserve Ship
273	2. Naval Reserve Center
136	3. Uncertain

Numbers(N)	Questions
	14. Would your family object to your drilling aboard a Naval Reserve Force (NRF) ship?
67	1. Definitely object
85	2. Probably object
122	3. Uncertain
227	4. Probably not object
227	5. Definitely not object
	15. Do you think drilling aboard a NRF ship would cause a job conflict with your civilian employment?
100	1. Definitely cause a conflict
120	2. Probably cause a conflict
158	3. Uncertain
214	4. Probably not cause a conflict
140	5. Definitely not cause a conflict
	16. Do you have friends in you unit or other units that might be interested in drilling aboard NRF ships?
111	1. Definitely yes
189	2. Probably yes
318	3. Uncertain
68	4. Probably not
44	5. Definitely not
	17. If you were assigned to a NRF ship drawing the same pay and allowances as you are now, would you reenlist?
137	1. I definitely would reenlist
192	2. I probably would reenlist
172	3. I am not certain
115	4. I may reenlist but it would be unlikely
115	5. I definitely would not reenlist.
	18. If you were assigned to a Naval Reserve Force (NRF) Ship what would you prefer in terms of transportation to the ship?
510	1. A commercial airline ticket
213	2. Government DC-9 aircraft timed to the ships schedule (Assuming 95% reliability)

Numbers(N)	Questions
	19. How would you grade your performance in your current unit? (Putting out at 100 percent? 50 percent? 10 percent?)
28	1. 10% or less
12	2. 20%
11	3. 30%
22	4. 40%
75	5. 50%
32	6. 60%
55	7. 70%
142	8. 80%
159	9. 90%
193	10. 100%

INSTRUCTIONS: On a scale of one (1) to ten (10) indicate the extent to which you AGREE or DISAGREE with each of the following statements:

STATEMENT	DISAGREE (-)							AGREE (+)		
	1	2	3	4	5	6	7	8	9	10

Numbers(N)	Questions
	20. The CO of my unit take a personal interest in my Naval Reserve Career.
49	1
28	2
25	3
31	4
92	5
53	6
68	7
109	8
71	9
202	10
	21. My immediate supervisor act without consulting the members of the unit.
169	1
87	2
89	3
51	4
116	5
40	6
54	7
49	8
21	9
48	10
	22. I would expect that is I were assigned to a Naval Reserve Ship, the CO would be too busy to be concerned with my Naval Reserve Career.
103	1
55	2
93	3
48	4
120	5
43	6
71	7
77	8
26	9
91	10

INSTRUCTIONS: On a scale of one (1) to ten (10) indicate the extent to which you **AGREE** or **DISAGREE** with each of the following statements:

STATEMENT	DISAGREE (-)							AGREE (+)		
	1	2	3	4	5	6	7	8	9	10

Numbers(N)	Questions
	23. I would expect that if I were assigned to a Naval Reserve Ship, my immediate supervisor would be highly interested in my performance.
39	1
19	2
21	3
36	4
81	5
50	6
73	7
126	8
115	9
170	10
	24. I like things that are generally thought of as typically Navy.
77	1
26	2
40	3
44	4
131	5
76	6
70	7
72	8
60	9
131	10
	25. It is important to remind ourselves that being in the Navy is like being part of a big family.
79	1
16	2
38	3
35	4
93	5
41	6
78	7
112	8
61	9
175	10

INSTRUCTIONS: On a scale of one (1) to ten (10) indicate the extent to which you AGREE or DISAGREE with each of the following statements:

STATEMENT	DISAGREE (-)							AGREE (+)		
	1	2	3	4	5	6	7	8	9	10

Numbers(N)	Questions
	26. The Naval Reserve drill is a place where I feel like I am working to the best of my abilities.
108	1
47	2
64	3
58	4
85	5
56	6
64	7
94	8
55	9
97	10
	27. To me personally the most important benefit of working in any organization is the opportunity for stimulating work.
27	1
14	2
17	3
25	4
57	5
55	6
75	7
120	8
104	9
234	10
	28. Drill pay is the most important reason for my continued participation in the Naval Reserve.
93	1
23	2
43	3
57	4
100	5
46	6
68	7
97	8
61	9
141	10

INSTRUCTIONS: On a scale of one (1) to ten (10) indicate the extent to which you AGREE or DISAGREE with each of the following statements:

STATEMENT	DISAGREE (-)							AGREE (+)		
	1	2	3	4	5	6	7	8	9	10

Numbers(N)	Questions
	29. Retirement benefits are a relatively minor reason for my continued participation in the Naval Reserve.
192	1
73	2
67	3
59	4
72	5
34	6
31	7
52	8
49	9
99	10
	30. I plan to reenlist in the Naval Reserve.
92	1
13	2
17	3
21	4
89	5
42	6
30	7
59	8
60	9
305	10
	31. If you were given Sea Pay from $25.00 per weekend, depending on rate would that be sufficient to seek assignment on a Naval Reserve Force (NRF) Ship?
194	1. Definitely yes
226	2. Probably yes
170	3. Maybe
71	4. Probably not
66	5. Definitely not

Numbers(N)	Questions
	32. If we were able in addition to the Sea Pay, to provide a BONUS of $5.00 per drill, or $10.00 per drill, or $15.00 per drill would that be sufficient to seek assignments on a NRF Ship?
	32A $5.00
62	1. Definitely yes
76	2. Probably yes
55	3. Maybe
22	4. Probably not
30	5. Definitely not
245 = Total	
	32B $10.00
89	1. Definitely yes
67	2. Probably yes
45	3. Maybe
14	4. Probably not
15	5. Definitely not
230 = Total	
	32C $15.00
87	1. Definitely yes
75	2. Probably yes
48	3. Maybe
18	4. Probably not
16	5. Definitely not
244 = Total	
	33. Now I would like to ask you a question regarding your employer's policy when you go on two-weeks Active Duty For Training (ACDUTRA). Which of the following alternatives applies to your situation?
177	1. I receive full pay from my employer while on ACDUTRA.
187	2. My employer makes up the difference between the Naval Reserve Pay and my normal civilian pay I would receive this period.
233	3. My employer gives me a two-week leave without pay.
39	4. My employer makes me take vacation time to go on ACDUTRA.
89	5. Other

Numbers(N)	Questions
	34. At this time do you plan to remain in the Naval Reserve long enough to be eligible for retirement?
523	1. Yes
144	2. No
	35. Which of the following best describes your preferences?
	1. Increase Reserve retirement pay by 20 percent but decrease current Reserve drill pay by 5 percent.
	2. Decrease Reserve retirement pay by 20 percent but increase Reserve drill pay by 5 percent.
	3. Uncertain
	36. (See p. 49)
	37. How much would it take in additional pay per month to make it worth your while to drill aboard a NRF ship?
	Mode= $150 Mean= $114 Median= $75
	38. List several reasons why you would like to drill aboard a NRF ship:
	39. List several reasons why you would not like to drill aboard a NRF ship:

_____36. What is your current rate? Select from the list on the last page of the questionnaire. In the blank opposite this question, indicate the four-digit number which is to the left of your rating.

RATING LIST

		N			N			N
0020	ABE	2	0220	DK	1	0470	MN	0
0021	ABF	3	0230	DM	1	0480	MS	26
0023	ABH	2	0240	DP	2	0490	MT	0
0030	AD	1	0250	DS	1	0500	MU	0
0031	ADR	1	0260	DT	0	0510	NC	0
0040	AE	2	0270	EA	0	0520	OM	1
0050	AF	1	0280	EM	37	0530	OS	33
0060	AG	0	0290	EN	30	0540	OT	0
0070	AK	0	0300	EO	0	0550	PC	2
0080	AME	0	0310	EQ	1	0560	PI	0
0081	AMH	1	0320	ET	33	0570	PH	0
0082	AMS	2	0321	ETN	2	0580	PM	2
0090	AO	1	0322	ETR	4	0590	PN	13
0100	AQ	0	0330	EW	2	0600	PR	0
0110	AS	1	0340	FT	4	0610	QM	14
0111	ASE	0	0341	FTB	0	0620	RM	26
0112	ASH	0	0342	FTG	15	0630	SK	12
0113	ASM	0	0343	FTM	9	0640	SM	9
0120	AW	1	0350	GM	0	0650	SH	2
0130	AT	5	0351	GMG	16	0660	ST	0
0140	AX	1	0352	GMM	6	0661	STG	9
0150	AZ	1	0353	GMT	6	0662	STS	2
0160	BM	31	0360	HM	2	0670	SW	0
0170	BT	32	0370	HT	66	0680	TD	0
0180	BU	0	0380	IC	14	0690	TM	16
0190	CE	0	0390	IM	4	0700	UT	0
0200	CM	1	0400	IS	1	0710	YN	13
0210	CTA	0	0410	JO	0	0720	AN	7
0211	CTI	0	0420	LI	4	0730	FN	0
0212	CTM	0	0430	LN	0	0740	CN	0
0213	CTO	0	0440	MA	2	0750	DN	0
0214	CTR	0	0450	ML	2	0760	SN	18
0215	CTT	0	0460	MM	70	0770	Other	22
						Missing		2
						Total =		735

ANSWER SHEET

EAST COAST
NAVAL RESERVE FORCE
MANPOWER STUDY

INSTRUCTIONS: Please CIRCLE the appropriate number:

---

1. 1 2 3 4 5 6 7 8 9 10
2. 1 2 3 4 5 6 7 8 9 10
3. 1 2 3 4 5 6 7 8 9 10
4. 1 2 3 4 5 6 7 8 9 10
5. 1 2 3 4 5 6 7 8 9 10
6. 1 2 3 4 5 6 7 8 9 10
7. 1 2 3 4 5 6 7 8 9 10
8. 1 2 3 4 5 6 7 8 9 10
9. 1 2 3 4 5 6 7 8 9 10
10. 1 2 3 4 5 6 7 8 9 10
11. 1 2 3 4 5 6 7 8 9 10
12. 1 2 3 4 5 6 7 8 9 10
13. 1 2 3 4 5 6 7 8 9 10
14. 1 2 3 4 5 6 7 8 9 10
15. 1 2 3 4 5 6 7 8 9 10
16. 1 2 3 4 5 6 7 8 9 10
17. 1 2 3 4 5 6 7 8 9 10
18. 1 2 3 4 5 6 7 8 9 10
19. 1 2 3 4 5 6 7 8 9 10
20. 1 2 3 4 5 6 7 8 9 10
21. 1 2 3 4 5 6 7 8 9 10
22 1 2 3 4 5 6 7 8 9 10
23. 1 2 3 4 5 6 7 8 9 10
24. 1 2 3 4 5 6 7 8 9 10
25. 1 2 3 4 5 6 7 8 9 10
26. 1 2 3 4 5 6 7 8 9 10
27. 1 2 3 4 5 6 7 8 9 10
28. 1 2 3 4 5 6 7 8 9 10
29. 1 2 3 4 5 6 7 8 9 10
30. 1 2 3 4 5 6 7 8 9 10
31. 1 2 3 4 5 6 7 8 9 10
32. 1 2 3 4 5 6 7 8 9 10
33. 1 2 3 4 5 6 7 8 9 10
34. 1 2 3 4 5 6 7 8 9 10
35. 1 2 3 4 5 6 7 8 9 10

Please turn the page and answer the questions on the back.

NAVAL RESERVE CENTERS AND UNITS SURVEYED

Serial NR	Naval Reserve Center/Units	Number Forwarded	Number Received
010	NRC Adelphi MD		
010	NR FF-1084 McCandless 8406	61	42
020	N&MRC Albany NY		
021	NR DDG-46 Preble 4602	65	38*
030	N&MCRC Atlanta GA		
031	NR DDG-44 WV Pratt Det 208	19	13
040	NRC Baltimore MD		
041	NR AE-23 NITRO 2306	28	11
042	SR BMU-2 Det 206	56	--
050	NRC Charleston SC		
051	NR STG SAN DIEGO DET 107	15	15
060	N&MCRC Charlotte NC		
061	NR DDG-2 CF Adams 207	66	49
062	NR DD-938 Ingram 3807	33	31
070	N&MRRC Chattanooga TN		
071	NR FF-1072 Blakely 7208	30	28
080	N&MCRC Greensboro NC		
081	NR DDG-44 WV Pratt Det 107	23	23
082	NR DDG-45 Dewey 4507	28	--
083	NR FTG San Diego	16	16
	**NR AS 39 Land Det 407	28	28
090	N&MCRC Huntington LI NY		
091	NR ARS-40 Hoist 4002	31	12
092	NR FF-1061 Patterson 6102	57	56
100	N&MCRC Jacksonville FL		
101	MOBDIVSALV Unit 2 Det 608	11	6
102	NR FTG San Diego 208	8	7
200	NRC New Bedford MA		
201	MOBDIVSALV Unit 2 Det 201	19	15
202	FTG SD det 101	23	19
300	N&MCRC Bronx NY		
301	NR ASR-22 Ortolan 2202	34	--
302	NR AD-38 Puget Sound Det 602	33	26

* Received too late to be included in the initial report.

** Substituted for the DD-45 Dewey which was on a WET.

Serial NR	Naval Reserve Center/Units	Number Forwarded	Number Received
400	N&MC Reserve Center Orlando FL		
401	NR MSO-443 Fidelity 4308	21	12
402	NR FF-1043 McDonnell 4308	114	67
403	NR FTC Mayport Florida 108	36	11
500	NRC Philadelphia PA		
501	NR COMSERVGRU-2 det 104	34	17
502	NR FTG SD det 104	22	--
600	N&MCRC Providence RI		
601	NR AS-11 Fulton Det 101	35	29
	NR NLON Drydocks Det 101	12	10
700	N&MCRC Richmond VA		
701	NR DDG-23 Byrd 2306	31	30
800	NRC St. Peterburg FL		
801	NR DDG-3 John King 308	66	--
802	NR AO-41 Yellow Stone 508	41	37
900	NRC Tampa FL		
901	NR CGN-40 Mississippi 4008	34	20
902	NR AD-41 Yellow Stone 4008	37	12
1000	NRC Staten Island NY		
1001	NR FUBFUFAC NLON Det 102	48	36
1002	NR AD-38 Puget Sound Det 102	39	29
2000	N&MCRC Washington DC		
2001	NR DG-37 Farragut 3706	74	--
3000	N&MCRC Wilmington DE		
3001	NR AD-38 Puget Sound Det 404	51	26
		N= 1351	N= 771

57% Response Rate

735 Valid Questionnaires used in this study

APPENDIX B

CHIEF OF NAVAL RESERVE
LETTER OF REQUEST

DEPARTMENT OF THE NAVY
CHIEF OF NAVAL RESERVE
NEW ORLEANS, LOUISIANA 70146

IN REPLY REFER TO

Code 42
3060
Ser 00844
04 OCT 1982

From: Chief of Naval Reserve
To: President, National Defense University, Washington, DC 20319

Subj: Research Support for Naval Reserve Mobilization requirements and Training

Ref: (a) FONECON btwn MCDC (CDR Merritt) and CNAVRES (CDR Forrester) of 18 Aug 82

Encl: (1) Proposed National Defense University Research Project
(2) Proposed ICAF Research Project

1. The Chief of Naval Reserve is very pleased to learn by reference (a) of the Mobilization Research initiatives recently undertaken by the National Defense University through the formation of the Mobilization Concepts Development Center (MCDC). There are several mobilization topics of central importance to the Navy which would benefit from the attention of the MCDC. Several of these topics may be suitable as possible agenda items for the Center.

2. The Chief of Naval Reserve has commissioned an analysis of the effect of sea pay and additional pay on the manning of Naval Reserve Force (NRF) ASW Frigates. These modern ships are essential mobilization assets and 100% manning is vital. Any assistance that could be provided in this study would greatly benefit our efforts to improve force readiness. Captain Milton L. Boykin is the principal investigator. Commander Hardy L. Merritt (MCDC staff) has worked extensively with Captain Boykin in the past in the area of manpower analysis, and is suggested as a possible point of interaction for MCDC.

3. An additional topic of strong interest is determining the future composition of the Naval Reserve and the geographical location of Naval Reserve members in the years 1988, 1993, 1998 and 2003 by projecting Naval Reserve demographics for these years. Enclosure (1) is a proposed research project to accomplish this.

4. The Chief of Naval Reserve understands that students in the Mobilization Studies Program of the Industrial College of the Armed Forces (ICAF) (MSP Topic no. 43) are undertaking an analysis of the training base necessary to bring the FFG-7 Frigates and LAMPS MK-1 Helicopters on line as fully ready mobilization assets. The CNAVRES Staff strongly supports this effort and enclosure (2) contains several recommendations relating to the study.

Code 42
3060
04 OCT 1982

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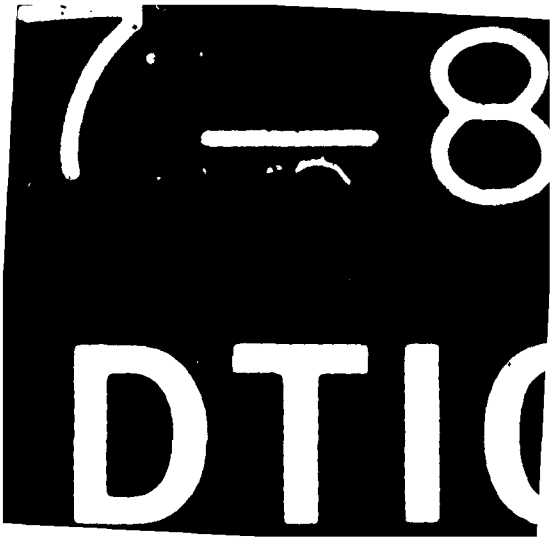
5. The formation of a center such as the MCDC for the study of mobilization problems promises to be a major asset in our continued efforts to achieve maximum preparedness. The Chief of Naval Reserve is looking forward to working with the MCDC to achieve our common goals.

W. D. Daniels
Deputy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