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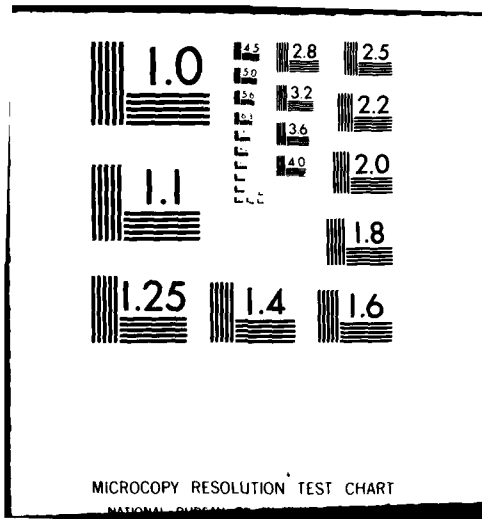
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**MALE AND FEMALE PERFORMANCE IN TEN TRADITIONALLY
MALE NAVY RATINGS**

Louis T. Pope

Reviewed by
J. J. McGrath



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FOREWORD

This research was conducted as part of exploratory development task area ZF57-525-023-03.03 (Comparative Performance Evaluations) under the sponsorship of the Chief of Naval Operations (OP-01 and OP-98). The work was undertaken in October 1978 to provide Navy manpower planners with the knowledge they need to make better use of the Navy's limited human resources.

This report contains information useful to researchers studying female performance capabilities and to individuals having responsibility for the placement, training, and management of women in the Navy.

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SUMMARY

Problem

To make the best use of its limited human resources, the Navy needs more information about the comparative performances of men and women assigned to jobs traditionally held by men.

Objectives

The initial objective of this effort was to compare the performances of enlisted men and women working in 10 traditionally male ratings. A second objective was to determine the attitudes of women toward their jobs and the attitudes of all subjects toward work groups containing both men and women. Since the subject population included both blacks and whites, the study was expanded to include a comparison of black and white performance.

Approach

The subject population consisted of 802 men and 177 women in 10 Navy ratings, pay grades E-3 through E-5. A sex-race bias test was developed as a means of detecting and controlling effects caused by the biases of the raters. Each subject was asked to take the sex-race bias test, to rate each member of his or her work group, and to complete attitude and opinion questionnaires. Average peer ratings, supervisor scores from personnel records, and answers to questionnaire items were statistically compared.

Results

1. Peer ratings showed that the overall performance of women was not significantly different from that of men. When pay grade and rating were considered, the performance of blacks was not substantially different from that of whites.
2. Significantly more men than women felt that women did not perform as well as men. Those subjects who felt that men performed certain jobs better than women often indicated that the physical requirements of the jobs exceeded female capabilities.

Recommendations

1. Restrictions on entry into Navy jobs should be based upon the physical requirements of the jobs and not on the gender of the applicant.
2. Physically demanding jobs should be analyzed to determine the strength and endurance required for their proper performance. The possibility of reducing the physical requirements through job redesign and use of job aids should be investigated.

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INTRODUCTION

Problem

Both men and women must be well matched to their jobs if the Navy is to make the best use of its limited human resources. To meet this objective, the Navy needs to know how women are performing, relative to men, in ratings (enlisted job classifications) traditionally filled by men.

Objectives

The initial objective of this effort was to compare the performance of enlisted men and women working in 10 traditionally male ratings. A second objective was to determine the attitudes of women toward their jobs and the attitudes of both male and female workers toward work groups containing both men and women. Since the test group included a large number of black men and women, the study was expanded to include comparison of blacks and whites performing identical jobs.

Background

In keeping with the current national trend toward ensuring equal opportunities for women throughout the work force and because of the difficulty of recruiting and retaining qualified males (Koehler, 1979), the Navy has stepped up its recruitment of women. The number of women in the Navy is expected to double between 1978 and 1983 and each year a larger percentage of women will enter previously male domains in maintenance shops and aboard ships.¹ This is especially true now that many ratings previously closed to women have been opened to them by an amendment to Section 6015 of the U.S. Code. Under this amendment, women can be assigned to temporary duty on any ship not anticipated to be in combat or to have a combat role during the period of temporary duty.

When considering this trend, the question arises as to how well women are currently performing in these ratings. Although a few women have been working in traditionally male jobs for so long that use of the term "traditionally male job" is questionable, little is known about the extent to which physiological and psychological differences affect their performance. Almost no data can be found that compare male and female performance in traditionally male jobs, and very little information is available about male-female relationships in predominately male work environments.

Although a few American women were doing work usually thought of as masculine even before World War I, no data were collected on their performance. During World War II, "Rosie the Riveter" symbolized the thousands of women working in jobs that were then considered male occupations: aircraft assembler, sheet metal worker, truck driver, machine operator, mechanic, etc. Although it was recognized that the total female work effort was a valuable aid to national defense, no data were collected as to how females compared with male performers on these jobs. The situation has remained largely the same until now. Polit, Nuttal, and King (1979, p. 39) state that, "Despite the great interest that administrators might be expected to express in learning about sex differences in job performance, there is surprisingly little information on this topic in the literature--the information that is available is too sporadic and subjective to warrant

¹Department of Defense. The Navy plans to double the number of enlisted women from the end of FY76 to the end of FY83. Department of Defense, Annual Report, Fiscal Year 1979, 2 February 1978.

even tentative conclusions." Roby (1976), in suggesting five areas of needed research on women in blue collar jobs, failed to mention women's performance.

Cobb, Matthews, and Lay (1973) studied comparative performance of men and women in a traffic controller training course and found no significant difference in performance (the performance measured was not actual job performance). The proportion of men and women subjects in this study--3760 to 83--is indicative of the small number of women found in some traditionally male jobs.

Rogers (1976) compared the performance of men and women driving a Greyhound MC-7 bus. A group of 60 women and 20 men who had never driven buses or heavy trucks were trained for 16 hours and then given a 4-hour test covering problems found in everyday bus operations. The subjects were scored on time to complete the problems, accuracy of vehicle positioning, and errors in operation. Results indicated that male trainees performed consistently and significantly better than females. The author reasoned that differences in strength, motor skill development, and nervous response to the testing might account for the performance differences found. If this is true, additional training could eliminate some of the difference.

Meyer and Lee (1978) investigated the experience of ten public utility companies with women in nontraditional jobs such as truck driver, mechanic, repairman, and power-plant operator and in middle management jobs. The study focused on the performance of 164 women in such jobs and on supervisor, peer, and subordinate attitudes toward the women's performance. Of the 164 women studied, only 73 were in nontraditional jobs. The authors reported that "the great majority of the women were seen by their managers, peers, and subordinates as performing well" (p. 12). In comparing female with male performance, Meyer and Lee reported that, "with blue collar women, 75 percent of the peers rated the performance of the women as at least equal to that of the average man . . ." (p. 93). None of the women were rated as doing an excellent job.

Although not directly comparing male and female performance, Vail (1979, p. 208) analyzed interview and questionnaire results from 317 Navy enlisted men and women and concluded that work groups that included women in nontraditional jobs were significantly less effective than were all-male groups or male-female groups in traditional jobs. Criteria for determining effectiveness, which were similar to those proposed by Likert (1961, p. 103) for manager effectiveness, were based on whether workers had favorable or unfavorable attitudes toward their work, the organization, their supervisors, and their fellow workers, and to what extent they perceived supervisory behavior was supportive. Vail also found that women in traditionally male jobs displayed significantly more anxiety than did women in jobs traditionally held by women.

Many studies have reported on sex differences that might effect human performance. Anthropometric differences between male and female workers are listed by Ducharme (1978), Garrett (1971), and Roberts (1960). Differences in strength were investigated by Clement (1974), Laubach (1976), and Snook and Ciriello (1974). For work involving strenuous exercise, Methany, Brouko, Johnson, and Forbes et al., (1942) found that women performed only half as much work before becoming exhausted. Bibliographies by Billingsley and Hudgens (1978) and by Ayoub, Grasley, and Bethea (1978) cover anthropometrical, biomechanical, physiological, and behavioral differences between males and females. Little is known, however, about how these differences affect performance of women in various jobs.

APPROACH

The approach was based upon the use of peer ratings to evaluate the performance of men and women working in ten Navy ratings. Several methods of evaluating performance were considered before this approach was selected. The most accurate way of measuring worker performance is to use objective indices such as the number of items produced on an assembly line in a specific time period. However, few Navy jobs lend themselves to such objective measurement, because there is seldom a discrete or easily evaluated output.

Supervisor ratings are subject to the limitations described by Tiffin and McCormick (1965) and others for appraisals made with conventional rating scales: halo effect, constant rater error, and various biases. Furthermore, since supervisor ratings were available for only 83 percent of the subjects in this research, such ratings were used only to test the validity of the peer rating data. Finally, the use of expert evaluators would have required the Navy to put a large number of senior personnel at the disposal of the researchers for a considerable time. The presence of these experts during shop operations would have been too obtrusive.

The use of peer ratings in evaluation has been the subject of many research studies (e.g., Hollander, 1964; Roadman, 1964; Wahlberg, Boyles, & Boyd, 1971; Downey & Duffy, 1978; Gilbert & Downey, 1978; Lammlein & Borman, 1979; and Kissler & Nebeker, 1979). Almost all of the research investigated the use of peer ratings for predicting success after training; however, Downey and Duffy (1978, p. 6) report "a limited, but growing, amount of evidence of the utility of peer evaluations in other than the training environment." Some examples are studies by Meyer and Lee (1978) of female performance in nontraditional jobs in public utility companies, and the Kissler and Nebeker (1979) study using ratings by a peer panel to evaluate the performance of research scientists.

Selection of the Ratings Studied

Navy petty officers were interviewed to determine which ratings should be included in the study. These interviews attempted to determine (1) how nontraditional the various ratings were, (2) whether they involved enough group activity to enable the workers to evaluate their co-workers, and (3) whether women in these ratings were expected to perform the same job as men. The following ten traditionally male ratings were eventually selected:

1. Air Traffic Controller (AC)
2. Aviation Machinist's Mate (AD)
3. Aerographer's Mate (AG)
4. Aviation Structural Mechanic (AM)
5. Aviation Support Equipment Technician (AS)
6. Aviation Electronics Technician (AT)
7. Aviation Antisubmarine Warfare Technician (AX)
8. Electronics Technician (ET)
9. Ocean Systems Technician (OT)
10. Radioman (RM)

These ratings were selected because they included enough women to provide a reasonable sample size, and because many of the women in these ratings were located within feasible travel limits. Because of the similarity of the AD and AS ratings and of the AT and AX ratings, they are treated as two ratings throughout this report.

The study was limited to men and women in pay grades E-3, E-4, and E-5. Personnel in pay grades E-1 and E-2 were excluded because most of them were in school, not yet working in their specialties; and those in pay grades E-6 through E-9, because few women have worked in the selected ratings long enough to reach these pay grades.

Data Collection Instruments

1. Sex-Race Bias Test. Considerable research has shown that bias against women is likely to exist in peer ratings made by men (e.g., Quinn & Shepard, 1974; O'Connor, 1978; Deux & Taynor, 1973; Bigoness, 1976). Since more than 80 percent of the personnel in the ratings to be studied were men, and since many work groups in some of these ratings were, until recently, all-male, it seemed certain that peer evaluations would be contaminated by bias against women. It was hypothesized that any rating differences resulting from sex or race biases would be reduced if the biased raters were eliminated from the rating pool. On the assumption that such sex-race bias (SRB) may exist, a bias test was developed to eliminate peer ratings by biased individuals from the pool of peer ratings. Since several studies (O'Connor, 1978; Schmidt & Johnson, 1973; Outtz, 1977) indicated that there were also problems with racial biases in peer evaluations, the bias test was designed to detect racial (black/white) as well as sexual bias. The test is similar to a test developed by Hammer, Bigoness, Kim, and Baird (1974), which used a film showing task performances by eight people--two white males, two white females, two black males, and two black females. Subjects played the role of applicant for a stock clerk job; the film showed each ratee stacking cans in a grocery store. Two levels of performance were depicted--low and high, the difference between these levels being the number of cans stacked. The task of the raters (in this case, business students) was to play the part of a grocery store manager and rate the performance of each "applicant." The assumption was that an individual's biases should be detectable by the extent to which he or she overrated or underrated women or blacks in the test.

The SRB test developed for this study used a film depicting 12 Navy recruits, in uniform, performing what appears to be a fire-control tracking task. The filmed subjects pretended to keep a cursor centered on a pip moving erratically on a CRT screen at varying speeds. The actors had no real effect on the CRT display, however, because cursor movement was controlled by a computer program that simulated three levels of "time on target" (60%, 75%, and 90%). The film showed three white females, three white males, three black females, and three black males so that one individual from each of the four sex-race groups could be shown at each performance level. Raters were to measure five aspects of tracking performance--time on target, consistency, effort, accuracy, and overall performance--using a 6-point scale: superior, outstanding, excellent, good, fair, and poor. No further effort was made to define these aspects because biases--if they existed--would manifest themselves more readily when the task definition was fuzzy.

2. Rating Scales for Performance Evaluation. A "Rating Scale for Performance Evaluation" form was developed for use by subjects in rating their co-workers. The form has spaces for rating 10 individuals on a 7-point scale where 0 = completely inadequate and 6 = outstanding. The number of ratees was restricted to 10, since it was assumed that raters would have trouble keeping in mind the characteristics of more than 10 of their co-workers.

3. Evaluation of Job Conditions Form. It was considered possible that men and women would have different reactions to job characteristics, so an "Evaluation of Job Conditions" form was developed to determine the attitudes of men and women about unpleasant job characteristics. The form lists 12 job characteristics (e.g., dirty and

messy); respondents were to rate them on a 5-point scale, where 1 = unacceptable and 5 = O.K.

4. Job Satisfaction Questionnaire. A "Job Satisfaction Questionnaire" was developed so that the attitudes of men and women about co-workers, supervisors, and other specific areas could be compared.

Preliminary forms of all instructions, tests, and procedures were pretested at the Miramar Naval Air Station, and minor changes were made. Copies of the latter three data collection instruments described above are provided in the appendix.

Sample

Subjects were tested at 18 Navy installations located in California, Florida, Hawaii, Texas, Virginia, and Guam. These included naval air stations, communications stations, weather centers, oceanographic facilities, and a submarine base. Test locations were chosen on the basis of the concentrations of women working in the ratings selected for study. No ships were included because women were not allowed to serve aboard ships at the time the study was conducted.

A total of 979 persons--802 men and 177 women--in pay grades E-3--E-5 in the ten ratings studied were tested. A large sample was needed since it was important to make performance comparisons within each rating and pay grade as well as within the sample as a whole. Table 1 provides a distribution of male and female subjects by installation and by rating; and Table 2, by pay grade.

Only a small percent of the women working in the selected ratings could be tested for the following reasons:

1. Funding would not allow extensive travel and Navy enlisted women are scattered widely throughout the United States and overseas.
2. Not all of the women at any test location were available for testing because of work scheduling. Also, those with less than 2 months of experience in their work group were excluded.
3. Many women were not working in their rating, or they were not performing the same tasks as the men in their ratings.
4. Many women in the selected ratings and pay grades were in school, on leave, changing ratings, or in the process of transferring to other sites.

The samples of men, women, blacks, and whites within each rating are considered representative of that rating's population assigned to work centers that include women. Portions of each sample came from several geographic locations and from several types of Navy organizations. In most cases, all work groups containing women in the selected ratings and organizations were tested. Although the proportion of the population tested was less for some ratings than for others, all available women in those ratings were tested. The sample is compared to the Navy population race and by rating in Tables 3 and 4 respectively.

Table 1

Distribution of Male and Female Subjects by Navy Installation and Rating

Installation	AC		AD/AS		AG		AM		AT/AX		ET		OT		RM		Totals	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
NAS Jacksonville (FL)	9	2	18	2	--	--	--	--	32	3	9	2	--	--	6	2	74	11
NAS Pensacola (FL)	21	4	53	8	--	--	10	0	20	1	--	--	--	--	--	--	104	13
NAS Whiting Field (FL)	16	4	26	4	--	--	26	2	7	1	--	--	--	--	--	--	75	11
NAS Norfolk (VA)	16	3	20	4	--	--	18	2	8	2	--	--	--	--	--	--	62	11
NAS Corpus Christi (TX)	20	2	32	5	--	--	25	2	5	2	--	--	--	--	--	--	82	11
NAS Barbers Point (HI)	2	6	27	2	--	--	9	1	10	0	--	--	--	--	--	--	48	9
NWSED Lemoore (CA)	--	--	--	--	6	6	--	--	--	--	--	--	--	--	--	--	6	6
FLTWEACEN Pearl Harbor (HI)	--	--	--	--	22	19	--	--	--	--	--	--	--	--	--	--	22	19
FLTWEACEN Guam	--	--	--	--	34	16	--	--	--	--	--	--	--	--	--	--	34	16
NAS Miramar (CA)	--	--	--	--	--	--	31	6	--	--	--	--	--	--	--	--	31	6
NAS North Island (CA)	--	--	--	--	--	--	19	7	16	3	--	--	--	--	--	--	35	10
NAS Lemoore (CA)	--	--	--	--	--	--	38	0	--	--	32	2	--	--	10	0	80	2
NCAMS Wahiawa (HI)	--	--	--	--	--	--	--	--	--	--	11	3	--	--	12	9	23	12
NCAMS Guam	--	--	--	--	--	--	--	--	--	--	30	7	--	--	24	6	54	13
Sub Base Pearl Harbor (HI)	--	--	--	--	--	--	--	--	--	--	25	7	--	--	--	--	25	7
NAVFAC Centerville Beach (CA)	--	--	--	--	--	--	--	--	--	--	--	--	15	7	--	--	15	7
NAVFAC Barbers Point (HI)	--	--	--	--	--	--	--	--	--	--	--	--	18	9	--	--	18	9
NAVFAC Guam	--	--	--	--	--	--	--	--	--	--	--	--	14	4	--	--	14	4
	84	21	176	25	62	41	176	20	98	12	107	21	47	20	52	17	802	177

Legend: NAS--Naval Air Station

NCAMS--Naval Communication Area Master Station

NAVFAC--U.S. Naval Facility

FLTWEACEN--Fleet Weather Central

NWSED--Naval Weather Service Environmental Detachment

SUB BASE--Naval Submarine Base

Table 2
Distribution of Subjects by Pay Grade

Rating	Female			Male			Women %	Men %
	E-3 %	E-4 %	E-5 %	E-3 %	E-4 %	E-5 %		
AC	44	12	44	28	28	44	20.0	80.0
AD/AS	16	58	16	33	41	26	12.4	87.0
AG	27	28	45	20	45	35	40.0	60.0
AM	67	28	5	27	37	36	10.2	89.8
AT/AX	11	45	44	17	33	50	11.1	88.9
ET	0	44	56	11	44	45	16.4	83.6
OT	30	50	20	21	34	45	29.8	70.2
RM	31	31	38	14	47	39	24.6	75.4
Total	31	36	33	23	38	39	18.1	81.9

Table 3
Sample Compared with Population by Race

Race	Women			Men			Total Sample
	N	% of Sample	% of Female Population	N	% of Sample	% of Male Population	
Black	17	1.7	0.55	75	7.7	0.17	92
White	160	16.3	5.2	727	74.3	1.6	887
Total	177	18.1	5.7	802	81.9	1.8	979
Per- cent of Sample	9.4			90.6			

Note. The population consisted of 3,087 women and 45,264 men in the ten ratings studied.

Table 4
Sample Compared with Population by Rating

Navy Rating	Females			Males			Totals		
	N in Sample	N in Pop.	% of Pop.	N	N in Pop.	% of Pop.	N	N in Pop.	% of Pop.
AC	21	282	7.4	84	978	8.6	105	1260	8.3
AD/AS	25	333	7.5	176	7221	2.4	201	7554	2.7
AG	41	195	21.0	62	723	8.6	103	918	11.2
AM	20	138	14.5	176	8792	2.0	196	8930	2.2
AT/AX	12	275	4.4	98	7140	1.4	110	7415	1.5
ET	21	195	10.8	107	11265	0.9	128	11460	1.1
OT	20	184	10.9	47	638	7.4	67	822	8.2
RM	17	1485	1.1	52	8507	0.6	69	9992	0.7
Total	177	3087	5.7	802	45264	1.8	979	48351	2.0

Procedure

Through coordination with a point of contact at each location, test schedules were established in advance of visits. To test the largest number of male-female work groups with the least disruption of military work schedules, it was necessary to be very flexible about test times and the size and composition of test groups. Data were collected in class rooms or shops, during the day or at night, as convenient. Since the number of women available at each work center varied, the test group size varied from 4 to 34 (the mode was 10). Test sessions were split into two or three parts occasionally; some sessions included members of several shops and even several different ratings. Each group member, however, evaluated only members of his or her own work group, regardless of which session they attended.

When a group was assembled for testing, events occurred in the following order:

1. The researchers introduced themselves and played a tape recording that explained what would happen. It was important to secure the cooperation of the subjects and, at the same time, to keep them from guessing the real (sex related) purpose of the study and hence from contaminating the study. The recorded statement told the subjects that the study was an effort to test a new performance evaluation system. The subjects were assured that their responses were confidential and would not go into their records. Questions concerning the true purpose of the study were not permitted until after both the SRB test and the peer rating had been completed. A transcript of the recorded statement is provided in the appendix.

2. Subjects signed an attendance sheet.

3. Subjects were given a privacy act statement to read and sign.

4. Subjects viewed the 20-minute sex-race bias film and rated the performance of the 12 men and women shown in the film.

5. The subjects evaluated the performance of their co-workers. Subjects were given a peer rating form and asked to evaluate the overall performance of their co-workers, ignoring all factors except actual work performance. They were asked to write in the names of up to nine fellow workers whom they considered themselves competent to evaluate and to rate each one on a 7-point scale. They were also asked to rate themselves.

6. Subjects were asked to complete the two questionnaires concerning job conditions and job satisfaction. This ended the test session. The questionnaires were self-explanatory and did not require verbal instructions. Total time required for testing each group was approximately 75 minutes.

The point of contact at each site provided the researchers with the latest enlisted performance evaluation ratings (professional performance category) for most subjects. With a few exceptions, the data collected from each subject consisted of (1) a sex-race bias test score, (2) peer ratings of up to nine co-workers, (3) a self rating, (4) questionnaire responses, (5) biographical information, and (6) an enlisted performance evaluation score.

RESULTS

Sex-Race Bias (SRB) Test

A total of 864 persons--705 men and 159 women--rated the "tracking" performances in the SRB film. Results, which are presented in Table 5, shows that the subjects rated males and whites higher than they did females and blacks.² The score difference between males and females is significant at the .0001 level, suggesting that sex bias affected the scoring. Although the difference between black and white scores is significant at the .03 level, the score difference is only .05. This small difference is statistically significant because of the large N , but it is not considered to be a meaningful indication of bias.

Raters were classified as either unbiased or biased on the basis of their test scores. All those whose ratings exceeded plus or minus one standard deviation from zero difference between male and female average scores were considered sexually biased, whether positively or negatively. Those whose ratings exceeded plus or minus one standard deviation from zero difference between black and white average scores were considered racially biased.

Analysis of subject scores on the SRB test revealed minor ordering effects, both sexual and racial, in presentation of tracking performance in the film. Investigation revealed that the order effect did not negate the bias determination.

Performance Evaluation

Peer Ratings

In the initial comparisons of average peer rating scores between groups, scores given by the total subject group were used. In cases where significant differences were found between group means, additional analyses were made. Scores given by the "biased" group were deleted and the scores were again compared, using only the unbiased scores, to eliminate any effects of sex bias. In the peer rating comparisons to follow, all comparisons utilize the full group of raters unless specifically identified as including only the unbiased scores, and all ANOVAS are simple two-group analyses.

1. Peer Rating Scores by Groups. Table 6 provides the average scores given all subjects. The mean scores for females and males were compared, as were the mean scores for blacks and whites. As shown, the mean score difference by sex was not significant, but the difference by race was significant at .02. When the black and white scores were compared again, using rating and pay grade as covariants, the difference between score means was no longer significant.

2. Peer Ratings Scores by Pay Grade. Table 7 shows that the differences between mean male and female scores by pay grade were significant only for pay grade E-4, where the scores of men were higher than those of women. When an analysis of covariance

²Because of the large number of tables in this section relative to the amount of text, the tables have been placed at the end of the section, commencing on page 14. In these tables, there are differences in the total sample number and in the totals for the various ratings. In some cases, these differences were due to equipment breakdown; in others, to subject reluctance to rate fellow workers or to answer certain questionnaire items.

(ANCOVA) was done to remove the effects, if any, of rating differences between men and women, the difference between male and female scores at the E-4 pay grade remained significant at .05. The scores of the women in pay grades E-3 and E-5 were higher than those of the men in those grades, but the differences were not significant.

3. Peer Rating Scores by Rating. The results of ANOVAS of each rating are shown in Table 8. As shown, the only significant difference between the scores of men and women was for the AM rating. When an ANCOVA was performed to remove possible effects of pay grade differences between men and women in this rating, the male-female score difference was no longer significant. This result, however, is somewhat suspect since the number of female scores analyzed changed from 156 to 131.

Women tended to score lower than men in ratings that involved heavy lifting and strenuous physical activity, especially those in the AT/AS, AM, and AT/AX ratings. It is not unreasonable to think that these jobs would tax the physical capabilities of women more severely than those of men.

4. The Effects of Sex Biases on Peer Ratings. After all male-female score comparisons were made, including ANOVAS where applicable, only two differences were found to be significant--those between male and female score means in the E-4 pay grade and in the AM rating. To determine if sex bias may have contributed to these differences, two analyses were performed using only scores given by unbiased raters. Results, which are presented in Table 9, show that, when only unbiased ratings are used, the difference in male and female score means for the E-4 pay grade is no longer significant. The difference between male and female mean scores in the AM rating, however, remains significant.

5. Peer Rating Scores Compared by Race, Pay Grade, and Rating. As was seen in Table 5, there was no significant difference between scores of white and black subjects. To determine if differences existed within pay grades or within ratings, additional ANOVAS were performed. Table 10 compares the scores of whites and blacks by pay grade and job category. There were no significant differences between score means in any pay grade or any rating.

Self-Ratings

A total of 588 subjects rated themselves. These self-ratings were averaged and the mean, 4.28, was found to be higher than the peer rating mean of 4.04. In other words, subjects in general had a better opinion of their own performance than did the members of their work groups. Correlation between self-ratings and peer ratings was .57.

Supervisory Ratings of 666 Subjects

Supervisory ratings were obtained for 666 subjects. Supervisors rated women and men almost the same and blacks slightly lower than whites. The differences were not significant. Pearson r's were computed for the relationship between peer and supervisory ratings and the correlation was found to be relatively low ($r = .19$).

Evaluation of Job Conditions

Chi-square analyses were used to test the significance of differences between men and women on the Evaluation of Job Conditions questionnaire. There were significant differences on only three items. Women were more reluctant than men to work with unpleasant people (item c) or in jobs where the supervisor maintains close tabs on

personnel (item f), and were more agreeable than men to working in lonely, isolated locations (item l). Refer to Table 11.

Job Satisfaction Questionnaire

Chi-square analyses were used to test for significant between-group responses to items on the Job Satisfaction Questionnaire. Significant differences were found on eight of the 26 items on the questionnaire. Results for these items are summarized in Table 12 and discussed below.

1. Fair treatment (question 12). Most respondents felt they were treated "very fairly" or at least "OK." Proportionally more men than women felt they were treated "unfairly."

2. Gains from Navy experience (question 13). Proportionally more men than women indicated that gains from their Navy experience were "very disappointing."

3. Performance of women (question 17). Eight percent (13) of the women and 30 percent (218) of the men said the performance of women in their rating and pay grade was "not as good" as that of the men. Personnel in the most physically demanding ratings--AD/AS and AM, showed the greatest percentage of such responses. Although 10 percent of these individuals did not specify why they felt female performance was not as good, some respondents gave more than one reason. A total of 276 specific reasons were given; these were categorized and are listed in Table 13, page 18.

4. Efficiency of work groups containing women (question 19). Most respondents felt that the presence of women did not affect the efficiency of work units. Proportionally more women than men believed that efficiency was improved.

5. Treatment of men and women (question 20). Seventy-one percent of the women believed that men and women were treated equally, compared to 51 percent of the men.

6. Opposite-sex supervisors (question 22). Two percent of the women and seven percent of the men indicated that they could not work effectively for a supervisor of the opposite sex.

7. Work assignments (question 24). Although most respondents of both sexes believed that men and women performed the same tasks, this view was held by proportionally more women than men.

8. Working and living conditions (question 25). Most respondents, but proportionally more men than women, believed that women enjoyed better working and living conditions than did men in the same ratings.

Performance of Women

Respondents who indicated that the performance of women was not as good as men's (question 17 of Satisfaction Questionnaire) were asked to indicate the reason for their response. Reasons given were classified into five major categories, which are listed in Table 13 and described in the following paragraphs. The largest percentage of responses fell under the performance category, followed by attitudes of respondents toward women in the Navy and treatment of women by supervisors/peers.

1. Skill Level (6% of responses). This is the only category not having at least one response per rating. Skill level was apparently not a problem for female ACs, AGs, and OTs. Male AT/AXs indicated that there were some difficulties in "technical ability," "mechanical ability," and "lack of experience."

2. Performance (31%). Two comments regarding performance showed up much more frequently than others: women were "physically inadequate" and "accomplish(ed) less work." Most of these comments came from AD/As, AMs, and AT/AXs, whose work is often strenuous and tiring. AGs, OTs, and RMs had few responses in either of these performance subcategories.

3. Motivation (17%). Personnel in three ratings in particular--AD/A., AM, and AT/AX--made comments concerning the motivation of women. This may be due to the strenuous and dirty nature of the tasks involved in these ratings.

4. Treatment of Women by Supervisors/Peers (20%). Personnel in all ratings commented on the treatment of women by supervisors/peers. Several respondents said that women received preferential treatment such as not having sea duty and not having to do the heavy work. About one-half of the responses in this category, however, were prefaced by statements that women received the preferential treatment whether they wanted it or not. The same was true of a few responses regarding women doing different tasks than men. Comments concerning being "treated unfairly" were made primarily by women.

5. Attitudes of Respondents Toward Women in the Navy (26%). It can be seen in Table 13 that comments falling under this category may reflect some amount of negative bias toward females. AGs, OTs, and RMs, especially, show high percentages of negative responses. AGs and OTs made more comments falling under this category than under any of the other categories. The largest numbers of responses made in this category (by all ratings) fall under the subcategories, "expect special privileges" and "use their femininity."

Intention to Reenlist

There were no significant differences in the satisfaction expressed by males and females about their jobs (questions 8 and 9), training (question 15), or work groups (question 11). Therefore, it is not surprising that there was little difference in the percentages of each group that plan to reenlist (question 26). Refer to Table 14.

Evaluation of Job Conditions by Blacks and Whites

Blacks and whites differed significantly only on item (a) of the Evaluation of Job Conditions questionnaire, which asks subjects to express their acceptance of a "physically strenuous and tiring" aspect of an otherwise ideal job. Responses, which are presented in Table 15, show that whites found the strenuous and tiring aspects of a job to be more acceptable than did the blacks.

Job Satisfaction Questionnaire--Response of Blacks and Whites

There was no significant difference between the responses of blacks and whites to any question on the Job Satisfaction Questionnaire.

Table 5
Results of Sex-Race Bias Test

Group	Mean Score Given on Sex-Race Bias Test ^a	p
Men	3.50	.0001
Women	3.21	
Blacks	3.33	.03
Whites	3.38	

^aBased on responses made on a 6-point scale, where 1 = poor and 6 = superior.

Table 6
Mean Peer Rating Scores by Group

Group	N	Mean Peer Rating Score	F Ratio
Women	159	3.90	2.15
Men	724	4.06	
Total	883		
Blacks	84	3.83	5.45*
Whites	799	4.06	
Total	883		

Note. Based on scores obtained for 883 subjects, 724 men and 159 women.

*p < .02.

Table 7
Peer Rating Scores by Pay Grade

Pay Grade	N		Total	Peer Rating Score Means		F Ratio
	Women	Men		Women	Men	
E-3	127	39	166	3.87	3.63	2.71
E-4	245	55	300	3.76	4.04	5.32*
E-5	218	47	265	4.41	4.32	.46
Total	590	141	731			

*p < .02.

Table 8
Summary of ANOVAS: Scores by Sex and Rating

Rating	N		Total	Peer Rating Score Means			Ratio
	Women	Men		Women	Men	Total	
AC	20	79	99	4.27	4.18	4.19	.10
AD/AS	21	140	161	3.52	3.89	3.85	2.52
AG	38	58	96	4.24	4.42	4.35	1.08
AM	16	141	157	3.48	3.99	3.95	5.87
AT/AX	9	70	79	3.60	4.02	3.97	2.42
ET	20	102	122	4.03	4.15	4.13	.41
OT	19	46	65	3.80	3.98	3.93	.82
RM	13	38	51	4.32	4.29	4.30	.01
Total	156	674	830				

*p < .02.

Table 9
Effects of Sex Biases on Mean Peer Ratings

Group Being Rated	Unadjusted Peer Rating Score Means				Unbiased Peer Rating Score Means			
	Women	Men	N	p	Women	Men	N	p
Ss in pay grade E-4	3.76	4.40	300	.02	3.81	4.02	260	--
Ss in AM rating	3.48	3.99	157	.02	3.47	3.96	160	.02

Table 10
Comparison of Scores by Pay Grade and Rating

Item	N	Percentage of Ss		Peer Rating Score Means		
		Blacks	Whites	Blacks	Whites	All Ss
By Pay Grade						
Pay grade E-3	166	23	23	3.57	3.70	3.69
Pay grade E-4	300	52	40	3.91	4.00	3.99
Pay grade E-5	265	25	37	4.23	4.35	4.34
Total	731	100	100			
By Rating						
AC	99	4	13	3.57	4.21	4.19
AD/AS	161	23	19	3.49	3.90	3.85
AG	96	7	12	4.52	4.33	4.35
AM	157	36	20	3.74	3.99	3.95
AT/AX	79	5	8	3.91	3.97	3.97
ET	122	9	15	4.34	4.12	4.13
OT	65	5	8	3.63	3.95	3.93
RM	51	11	5	4.21	4.32	4.30
Total	730	100	100			

Table 11
Responses of Men and Women to Three Items on
Evaluations of Job Conditions Form

Job Characteristic	% of Each Sex Responding		N		p
	Women	Men	Women	Men	
c. Working with unpleasant people	--	--	172	772	.01
1. Unacceptable	38	31			
2. Very undesirable	39	33			
3. Undesirable	15	15			
4. Not so bad	6	12			
5. OK	2	9			
f. Boss is always keeping tabs on you	--	--	172	771	.01
1. Unacceptable	20	18			
2. Very unacceptable	29	27			
3. Undesirable	34	24			
4. Not so bad	11	22			
5. OK	6	9			
l. Is in a lonely, isolated location	--	--	173	768	.01
1. Unacceptable	7	18			
2. Very undesirable	15	16			
3. Undesirable	22	23			
4. Not so bad	36	27			
5. OK	20	16			

Table 12
Responses of Men and Women to Eight Items on
the Job Satisfaction Questionnaire

Question Number and Topic	% of Each Sex Responding		N		p
	Women	Men	Women	Men	
Are you treated fairly? (12)	--	--	175	776	.06
1. Very fairly	46	42			
2. OK	43	39			
4. Not very fairly	10	14			
5. Unfairly	1	5			
Are you gaining as much as you expected? (13)	--	--	175	780	.06
1. More than expected	13	13			
2. About as expected	39	45			
3. Not as much	41	31			
4. Very disappointing	7	11			
How does the performance of women in your rating and pay grade compare with that of men? (17)	--	--	166	728	.0001
1. Better	13	2			
2. About the same	70	49			
3. Almost as good	9	19			
4. Not as good	8	30			
Is the efficiency of a group such as yours better or worse with women in it? (19)	--	--	55	250	.0001
1. Better	31	13			
2. Same	67	65			
3. Worse	2	22			
Are men and women treated equally? (20)	--	--	166	749	.0001
1. Yes	71	51			
2. No	29	49			
Could you work effectively for a supervisor of the opposite sex? (22)	--	--	168	636	.03
1. Yes	98	93			
2. No	2	7			
Are men and women allowed to do the same tasks in your rating? (24)	--	--	170	733	.02
1. Yes	87	75			
2. No	13	25			
How do working and living condi- tions compare? (24)	--	--	55	392	.001
1. Men's are better	25	3			
2. Women's are better	75	97			

Note. Numbers in parentheses refer to numbers in satisfaction questionnaire.

Table 13

Reasons Given for Responses Indicating that Women's Performance was Lower than Men's

Response Categories/Subcategories	Response Frequency by Rating																Total	Typical Response		
	AC		AD/AS		AG		AM		AT/AX		ET		OT		RM					
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W				
1. Skill Level																				
a. Low mechanical ability	--	--	2	1	--	--	4	--	1	--	--	--	--	--	--	--	7	1	Also, I find that most women aren't as mechanically inclined as most men.	
b. Lack of experience	--	--	--	--	--	--	1	--	3	--	1	--	--	--	--	1	--	6	0	Mainly, because the women that I've worked with so far in my rating are not experienced. . .
c. Low technical ability	--	--	--	--	--	--	--	--	1	--	1	1	--	--	--	--	2	1	Women don't seem to grasp as well as men. But can be effective at tasks less technical.	
2. Performance																				
a. Physically inadequate	--	--	16	1	--	--	14	--	5	--	2	--	--	--	--	1	--	38	1	They cannot handle the physicalness of the job. Many would have to lift weights to be able to pick up a black box let alone install it.
b. Accomplish less work	--	--	6	--	--	--	5	--	4	1	6	--	--	--	--	--	21	1	Women, as a group (there are rare exceptions), use their sex as a key to get out of jobs they don't want to do, get time off, and in general, do less for the money they get.	
c. Poor performance	2	--	--	--	1	--	4	--	--	--	1	--	1	--	--	--	9	0	Apparently they didn't know what they were getting into when they chose the job. They are very good at complaining, not wanting to get dirty, and doing poor work. You have to babysit them constantly.	
d. Slow workers	--	--	1	--	--	--	2	--	1	--	--	--	--	--	--	--	4	0	Women just cannot do the work or have physical ability like male members to complete the job. Usually slower at a job.	
e. Can't handle pressures	2	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--	3	1	Generally the women aren't able to handle the pressure and responsibility as well as the men.	

Table 13 (Continued)

Response Categories/Subcategories	Response Frequency by Rating																					Typical Response
	AC		AD/AS		AG		AM		AT/AX		ET		OT		RM		Total					
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W				
f. Inferior learning ability	1	--	--	--	--	--	--	--	--	--	1	--	--	--	1	--	3	0	Does not seem to be able to understand what they are trained to do, don't catch on as fast.			
g. Irresponsible	--	--	--	--	--	--	1	--	--	--	--	--	1	--	--	--	2	0	... They try to charm their way out of work and are not responsible.			
h. Slow reaction time	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	0	Not as quick to respond to unexpected incidents.			
3. Motivation																						
a. Apathetic toward job	3	--	8	--	1	--	5	--	3	--	1	--	1	--	1	--	23	0	Failure to apply the needed effort to get the job done.			
b. Avoids dirty jobs	--	--	6	1	--	--	7	--	--	--	1	--	--	--	--	--	14	1	... sometimes try to get out of the dirtier and more taxing jobs.			
c. Avoids heavy work	--	--	2	--	--	--	1	--	--	--	1	--	--	--	--	--	4	0	They don't do much work. They say too strenuous.			
d. Lack of initiative	--	--	1	--	--	--	--	--	1	--	--	--	--	--	--	--	2	0	Lack of initiative.			
e. Low mechanical interest	--	--	--	--	--	--	--	--	2	--	--	--	--	--	--	--	2	0	She does not try working on equipment.			
4. Treatment by Supervisors/ Peers																						
a. Receive preferential treatment	5	--	10	--	1	--	5	--	3	--	5	--	1	--	2	--	31	1	They get help in things men don't, supervisors go easier on them, as a result, they don't learn as much and you constantly have to redo everything they do.			
b. Not given the same tasks as men	--	--	8	1	--	--	3	--	2	--	1	--	--	--	1	--	15	1	They never really work in their rating because they are assigned to other places such as the chiefs office...			
c. Treated unfairly	--	1	2	1	--	--	--	--	--	1	--	2	--	1	--	1	2	7	The women do not get trained in the jobs involving greater responsibility and authority even if they are senior to persons currently working those higher authority positions.			

Table 13 (Continued)

Response Categories/Subcategories	Response Frequency by Rating																				Total	Typical Response	
	AC		AD/AS		AG		AM		AT/AX		ET		OT		RM		W		M				
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M				
5. Attitudes of Respondents																							
a.	2		--	4	1	--	--	2	--	1	--	1	--	--	1	2	--	--	12	2	Not willing to do the same tasks. Think they are too good to do many jobs.		
b.	--	--	3	--	1	--	2	--	2	--	2	1	--	--	2	--	--	--	12	1	Women use their female status to avoid hard jobs (lifting, hard troubleshooting), get special liberty and considerations.		
c.	2	--	1	--	1	--	2	--	--	--	--	--	1	--	1	--	--	--	8	0	They don't have the ability to do as men.		
d.	--	--	1	--	--	--	3	--	--	--	1	--	2	--	1	--	--	--	8	0	They complain and talk too much.		
e.	1	--	5	--	--	--	1	--	--	--	--	--	1	--	--	--	--	--	8	0	I think they should work in rates that are fit for a woman and not screw up the system that has been around since time began. Keep them out of my way!		
f.	1	--	2	--	2	--	--	--	--	--	--	--	1	--	1	--	--	--	7	0	They have "special" problems, babies, etc., that interfere with their jobs.		
g.	3	--	--	--	--	--	2	--	--	--	1	--	1	--	--	--	--	--	7	0	Most women are more nervous than most men, they tend to become upset easily and argue frequently when corrected.		
h.	--	--	--	--	1	--	1	--	--	--	1	--	1	--	2	--	--	--	6	0	Women tend to get quite lazy at times.		
Total		24	2	79	6	8	0	65	0	29	2	27	4	10	3	16	1	--	--	258	18		

Table 14
Reenlistment Plans, as Expressed on the
Job Satisfaction Questionnaire

Question	Women (%)	Men (%)	Black (%)	White (%)
Do you plan to reenlist?				
o Yes	17	17	17	17
o Don't know yet	38	35	44	36
o No	45	48	39	47
Total	100	100	100	100

Note. Base on responses of 591 subjects (405 men and 118 women; 544 whites and 47 blacks).

Table 15
Evaluation of Job Conditions, Responses of Blacks
and Whites to Question A

Job Characteristics	Percent of Respondents		Sig.
	Blacks	Whites	
Physically strenuous and tiring	--	--	.0001
1. Unacceptable	11	3	
2. Very undesirable	11	9	
3. Undesirable	29	17	
4. Not so bad	35	48	
5. OK	14	23	
Total	100	100	

Note. Based on 945 responses--89 blacks and 856 whites.

DISCUSSION AND CONCLUSIONS

Analysis of the peer ratings indicates that co-workers rate the overall performance of women equal to that of men and the performance of blacks essentially equal to that of whites. This finding does not eliminate the possibility that women may not perform strenuous physical tasks as well as do men working in the same ratings. In fact, the significant (.02) difference between scores of male and female AMs seems to suggest that possibility.

The conclusion that women perform as well as men conflicts with the responses to question 17 of the Job Satisfaction Questionnaire: "How does the performance of women in your rating and pay grade compare with that of the men?" One third of the men and 4.5 percent of the women answered "not as good." Thus, although the women are rated as performing as well as the men, there was apparently a strong feeling among men that women in general did not perform as well.

When subjects were asked why they felt that women did not perform as well as men, the reason given most frequently, especially by AMs and ADs, was that women were physically inadequate for some of the heavy lifting tasks in their ratings.

Some possible explanations for these conflicting results are listed below:

1. Attitudes toward specific women (e.g., co-workers) are based on criteria other than sex, even where there is bias against women in general.
2. The increasing emphasis on fair and equal treatment of all workers may have reduced active expression of biases.
3. Although women may have difficulty with the more strenuous physical tasks and may not be capable of performing some of them, the same is probably true of some of the men.
4. Workers performing poorly on strenuous physical tasks may compensate by doing excellent work on other tasks. The subjects in this report were evaluated on overall job performance and not on specific tasks.

Responses to the attitude and opinion questionnaires did not reveal as much difference between males and females or blacks and whites as might have been expected. The fact that all four sex and race groups were scored about the same on job performance, and that they seem almost equally satisfied with their jobs, work groups, supervisors, and the Navy, seem to indicate that neither sex nor race differences significantly affected group performance.

Limitations of the Research

The research results have implications for mixed groups in many traditionally male Navy organizations. Users of the results, however, should consider the following limitations of the research:

1. The relatively large number of subjects was not so distributed as to provide adequate Ns within all pay grades and ratings; thus, the results of comparisons within some ratings and pay grades may be difficult to interpret even when they are statistically significant.

2. An in-depth investigation of male-female performance on specific tasks within each rating was not within the scope of this research.

3. Analysis of specific problems encountered by women was not part of this research.

4. The on-the-job relationships of men and women were not investigated intensively.

5. Follow-up on responses to questionnaire items suggesting such things as unfair division of tasks between males and females was not within the scope of this project.

RECOMMENDATIONS

1. There should be few if any restrictions on the entry of women into traditionally male Navy ratings. Any restrictions imposed should be based on physical factors.

2. Research should be performed to test the validity of co-worker performance ratings by obtaining more objective measurements of worker performance and comparing them with peer or co-worker ratings.

3. Additional intensive research is needed and should include:

a. A thorough examination of the major tasks in selected ratings, including physical and mental requirements, task procedures, team work required, etc.

b. Interviews with supervisors and workers to obtain more complete and accurate information on male/female performance on each task, problems women may have with strenuous physical tasks, male/female interactions on the job, and discrimination for or against women.

c. Determining the need for redesigning some jobs to reduce their physical requirements.

d. Determining the need for developing job aids for strenuous physical tasks.

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APPENDIX
SUPPLEMENTAL INFORMATION

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RATING SCALES FOR PERFORMANCE EVALUATION

Name _____

Task:

Name	Completely Inadequate	Poor	Below Average	Average	Above Average	Very Good	Outstanding
	0	1	2	3	4	5	6
1. _____							
2. _____							
3. _____							
4. _____							
5. _____							
6. _____							
7. _____							
8. _____							
9. _____							
10. _____							
	0	1	2	3	4	5	6

Name _____

EVALUATION OF JOB CONDITIONS

Most jobs have some good and some not-so-good features. Listed below are some of the less desirable features you might find in a job (not your present job). Assume that you have a job that is ideal in every respect except that it also has one of the characteristics below.

Please read each characteristic (a through l), then select a phrase on the rating scale below which indicates how acceptable that characteristic would be to you. Enter the scale number for that phrase in the Rating column opposite that characteristic. For example, if you feel that a particular item describes a characteristic that would be "very undesirable," enter a 2 in the Rating column opposite that item.

Unacceptable	Very Undesirable	Undesirable	Not So Bad	O.K.
1	2	3	4	5

<u>Job Characteristic</u>	<u>Rating (Scale Number)</u>
a. Physically strenuous and tiring.	_____
b. Dirty and messy.	_____
c. Working with unpleasant people.	_____
d. Requires much sea duty.	_____
e. Noisy, smelly, and hot.	_____
f. Boss is always keeping tabs on you.	_____
g. Work is difficult and complicated.	_____
h. In an ugly, greasy work area.	_____
i. Boring and repetitive work.	_____
j. Dull and unexciting	_____
k. Lots of hard work.	_____
l. Is in a lonely, isolated location.	_____

JOB SATISFACTION QUESTIONNAIRE

Name: _____

1. What is your age?
☐ 17 - 24
☐ 25 - 33
☐ 34 or older
2. What is your rating and pay grade? _____
3. How long have you been in the Navy? _____ months
4. How long in your present grade? _____ months
5. How long in this section or group? _____ months
6. Sex. _____
7. Are you married?
☐ yes
☐ no
8. How satisfied are you with your job?
☐ very satisfied ☐ don't like it much
☐ it is ok ☐ very dissatisfied
9. My job is: (check all that apply)
☐ enjoyable ☐ dull
☐ frustrating ☐ challenging
☐ easy ☐ difficult
☐ not enough responsibility ☐ dirty or unpleasant
☐ interesting ☐ _____
10. What other rating do you think you might like better, if any?

11. How satisfied are you with your work group?
☐ very satisfied ☐ somewhat dissatisfied
☐ fairly satisfied ☐ very dissatisfied

12. Are you treated fairly in task assignments, training, performance evaluation, promotion, etc?

☐ very fairly

☐ not very fairly

☐ ok

☐ unfairly

13. Are you gaining as much in experience, personal satisfaction, etc., as you expected from the Navy?

☐ more than expected

☐ not as much

☐ about as expected

☐ very disappointing

14. How would you compare the amount of work you do with that done by other workers in the same rating and pay grade?

☐ much more than most others

☐ about the same

☐ more than the others

☐ less than most others

15. How would you describe the training (both in classes and on-the-job) that you have received in your specialty (rating)?

☐ excellent

☐ not very good

☐ good

☐ poor

☐ fair

16. Which of the following are true of your supervisor? (check all that apply)

☐ is liked by most of the group

☐ is hard to talk to

☐ is not fair

☐ helps me learn the job

☐ expects too much

☐ is not liked by many of the group

☐ will discuss problems with me

☐ treats me fairly

17. How does the performance of women in your rating and pay grade compare with that of the men?

☐ better

☐ almost as good

☐ about the same

☐ not as good

18. If your answer to question 17 is "not as good," why is this so?

19. Is the efficiency of a group such as yours better or worse with women in it?

☐ better

☐ same

☐ worse

20. Do you feel the men and women in your rating are treated equally in task assignments, performance evaluation, promotion, etc?

☐ yes

☐ no

21. Could you supervise persons of the opposite sex without difficulty?

☐ yes

☐ don't know

☐ no

22. Could you work effectively for a supervisor of the opposite sex?

☐ yes

☐ don't know

☐ no

23. What do you feel would be the best proportion of men to women in your rating? (circle one)

90/10

80/20

60/40

50/50

40/60

20/80

10/90

(Men/women)

24. Are men and women allowed to do exactly the same tasks in your rating?

☐ yes

☐ no

25. How do working and living conditions for men and women in the Navy compare?

☐ men's are better

☐ there is little or no difference

☐ women's are better

26. Do you plan to reenlist?

☐ yes

☐ don't know yet

☐ no

RECORDED STATEMENT

You are probably wondering why you are here and what we will be doing. As you may know, no one is very satisfied with the Navy's present methods of evaluating the performance of its personnel. Therefore, at the request of the Chief of Naval Operations, the Navy Personnel Research and Development Center is conducting a study to try out and improve new performance evaluation methods. One of these methods involves what are known as "peer ratings"; that is, having each enlisted man and woman working in a specific rating and in the same work group evaluate the performance of his or her fellow workers. The idea is that your fellow workers may have more accurate knowledge of how you are performing than your division chief does.

What we will ask you to do in this session, therefore, is to rate your fellow workers in your work group on their performance as you know that performance. This is only an experimental technique and has not been adopted yet by the Navy, but it may well be accepted, based on how well you use the technique. Because this method may become standard throughout the Navy, we ask you for maximum cooperation. Performance evaluation should be important to all of you because it partially determines your promotion possibilities. A more accurate evaluation method should improve those possibilities.

One thing we want you to be completely clear about. Absolutely none of the ratings, or the answers to questions that you write in this session will ever be seen by anyone but ourselves. Our data will go into no one's records. In fact, as soon as we start our analysis, the original forms you fill out will be destroyed. We hope, therefore, that you will be as frank and serious as you can.

This session has several segments. In the first two segments we will give you practice in evaluating personnel performance. First you will be shown a film in which Navy personnel track an enemy aircraft on a display. You will be asked to rate their performance. Then you will be asked to evaluate written statements describing the performance of representative Navy personnel. Next you will rate your fellow workers in your work group on how they perform on the job. Finally, you will have an opportunity to indicate how you feel about your job and the Navy in general.

Are there any questions before we start? Please do not hesitate to ask about anything you do not understand.

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