AD 685601

AD

U. S. NAVAL PERSONNEL RESEARCH ACTIVITY

SAN DIEGO, CALIFORNIA 92152

RESEARCH REPORT SRR 69-17 FEBRUARY 1969

FLEET PERFORMANCE OF PROJECT 100,000 PERSONNEL IN THE AVIATION STRUCTURAL MECHANIC S (STRUCTURES) RATING

THIS DOCUMENT HAS BEEN APPROVED FOR PUBLIC RELEASE AND SALE; ITS DISTRIBUTION IS UNLIMITED

DDC
RECEIVED
APR 21 1969
B

NPRA
SAN DIEGO CALIFORNIA

AN ACTIVITY OF THE BUREAU OF NAVAL PERSONNEL

Reproduced by the CLEARINGHOUSE for Federal Scientific & Technical Information Springfield Va. 22151

29

AD

FLEET PERFORMANCE OF PROJECT 100,000 PERSONNEL IN THE AVIATION STRUCTURAL MECHANIC S (STRUCTURES) RATING

by

G. Douglas Mayo
Director, Branch Office, Memphis, Tennessee

February 1969

PF39.522.004.01.43
Research Report SRR 69-17

Approved by

E. I. Jones, Ph.D., Director, Navy Training Research Laboratory
E. E. Dudek, Ph.D., Technical Director
G. W. Watson, Commander, USN
Commanding Officer

This document has been approved for public release and sale; its distribution is unlimited.

Navy Training Research Laboratory
Naval Personnel Research Activity
San Diego, California

ACKNOWLEDGEMENTS

Special appreciation is expressed to squadron and ship personnel who provided the evaluations of performance on which the study is based. Appreciation also is expressed to Mrs. Mary Ann Smith for keeping track of the personnel involved in the study and handling all clerical aspects of data collection and report preparation. The assistance of Mr. Robert Mercer in the analysis of the data is gratefully acknowledged.

SUMMARY AND CONCLUSIONS

Problem

The purpose of the study was to provide information concerning the fleet performance of a sample of Project 100,000, or Category IV, personnel in the Aviation Structural Mechanic S (Structures) rating.

Background and Requirements

The Armed Forces have admitted substantial numbers of lower aptitude personnel (Armed Forces Qualification Test, Category IV) under an experimental program known as Project 100,000. Thirty of these personnel were designated for training and utilization in the Aviation Structural Mechanic S (Structures), AMS, rating. Their performance in training was described in an earlier report. The present report describes the performance of the group in fleet assignments.

Approach

When the Project 100,000 group completed basic training for the AMS rating, the addresses of the squadrons and ships to which they were assigned were noted. After the men had been on board for about seven months, the supervisors of the men were asked to complete an evaluation form concerning their performance. The supervisors also were asked to complete the same evaluation for a non-Project 100,000 graduate of the AMS course who had been on board for a comparable period of time, for purposes of comparison. Due to the small initial number of personnel and to losses from the sample due to various causes, the report is primarily a description of the fleet performance of 13 members of the group on whom complete data were available.

Findings and Conclusions

1. The study presents a picture of varied fleet performance on the part of different members of the Project 100,000 group. Some performed in a manner that supervisors viewed as well above average while the performance of some was unsatisfactory. The study does not provide a means of predicting in advance which Category IV personnel will perform well and which will not.

2. Considering the evidence provided by both the initial study and the present study, it appears that the assignment of Category IV personnel to the AMS rating on an operational basis is not in the best interest of the Navy, unless dictated by a manpower shortage or by non-military considerations.

BLANK PAGE

REPORT USE AND EVALUATION

Feedback from consumers is a vital element in improving products so that they better respond to specific needs. To assist the Chief of Naval Personnel in future planning, it is requested that the use and evaluation form on the reverse of this page be completed and returned. The page is preaddressed and franked; fold in thirds, seal with tape, and mail.

Department of the Navy

Postage and Fees Paid
Navy Department

Official Business

Chief of Naval Personnel (Pers-A3)
Department of the Navy
Washington, D. C. 20370

Report Title & No: FLEET PERFORMANCE OF PROJECT 100,000 PERSONNEL IN THE AVIATION STRUCTURAL MECHANIC S (STRUCTURES) RATING (SRR 69-17)

1. Evaluation of Report. Please check appropriate column.

FACTORS	RATING LOW	AVE	HIGH	COMMENTS
Usefulness of Data				
Timeliness				
Completeness				
Technical Accuracy				
Validity of Recommendations				
Soundness of Approach				
Presentation and Style				
Other				

2. Use of Report. Please fill in answers as appropriate.

a. What are your main uses for the material contained in the report?

b. What changes would you recommend in report format to make it more useful?

c. What types of research would be most useful to you for the Chief of Naval Personnel to conduct?

d. Do you wish to remain on our distribution list?

e. Please make any general comments you feel would be helpful to us in planning our research program.

NAME: _____ CODE: _____

ORGANIZATION: _____

ADDRESS: _____

CONTENTS

TABLES

FLEET PERFORMANCE OF PROJECT 100,000 PERSONNEL IN THE AVIATION STRUCTURAL MECHANIC S (STRUCTURES) RATING

A. General Background

"Project 100,000" has become almost a household term. Many people outside of the armed services have at least a degree of familiarity with the Department of Defense effort to train and utilize a large number of low aptitude personnel, personnel who do not meet previous standards for entry into the armed services.

The project has been described a number of times, including a description by the director of the project, Mr. I. M. Greenberg (1), approximately 16 months after the project was first announced by the Secretary of Defense. It was pointed out that the project was initiated for two reasons: first, to broaden the opportunities for enlistment and the obligation for military service, and second, to use the training establishment of the armed forces to help the personnel involved become more productive citizens when they return to civilian life.

Project 100,000 draws its personnel from individuals who score from the 10th through the 30th percentile on the Armed Forces Qualification Test (AFQT). In effect, this means that in terms of aptitude they are higher than the lowest 10% of the age group subject to military obligation and lower than the upper 69% of this group. The aptitude range between the 10th and 30th percentile is referred to as Category IV, or as Group IV. These two terms and the term Project 100,000 are used more or less interchangeably throughout the report. The success achieved by several samples of Project 100,000 personnel in completing training in Navy service schools and technical schools has been reported in the U. S. Naval Personnel Research Activity series (2, 3, 4, 6, 7, 8). The present report describes the fleet performance of one of these groups, the sample trained for the Aviation Structural Mechanic S (Structures), or AMS, rating.

B. Research Background

Information contained in the report by Harding, Fleischman and Johnson (2) will be summarized only briefly as a point of departure for this report. A total of 30 Project 100,000 personnel were involved. Two were reported absent without leave while undergoing training and were lost to the study. The remaining 28 form the basis for both reports. Following recruit training, these men were trained in a series of three courses at the Naval Air Technical Training Center, Memphis, namely, Aviation Fundamentals School, Class P (2 weeks), Aviation Mechanical Fundamentals School, Class A (4 weeks), and Aviation Structural Mechanic S (Structures) Course, Class A (8.3 weeks). Abbreviations which will be used to refer to the courses are: AvFund, MechFund, and AMS.

None of the students was dropped from the first two courses, although, had they not been in an experiment, nine would have been dropped from the

first course and 15 (including some of the same people) would have been dropped from the second course. Six failed to complete the third course successfully. The usual failure rate does not exceed 1.2% in any one of the three courses. On the basis of the above figures and related information, it was concluded that the training sequence was not suitable for use with Project 100,000 personnel. It was noted, however, that the more functional content of the Aviation Structural Mechanic S (Structures) Course was assimilated better than was the content of the other two courses, which tended to be more academic or theoretical in nature. This raised an interesting question as to whether this trend would continue, and a larger number of the group would perform well in operating units than in any of the courses taken.

C. Procedure

When the 28 Project 100,000 men were ordered to operating units, the name and address of each unit to which they were assigned was noted. An evaluation form, containing some 12 items of information, was devised and mailed to the unit for completion, approximately six months after the Project 100,000 personnel reported aboard. It turned out that the men had been on board an average of 7.6 months at the time the forms were completed and returned. In general, the form included certain identification information, how the man's time had been spent, what formalized training courses he had received, and items inquiring into several aspects of his performance.

The form was transmitted as an enclosure to an official letter from the Chief of Naval Air Technical Training to the Commanding Officer of the squadron or ship to which the man was attached. A copy of the letter of transmittal and the enclosed evaluation form may be found in Appendix A.

The men were not referred to as Project 100,000 personnel in the letter, but instead as personnel who had undergone experimental training. There is some evidence that labeling of ability groups tends to affect grades subsequently assigned to them (5).

The letter specified that the form be filled out by a petty officer who supervised the work of the man concerned. Inasmuch as different supervisors tend to apply somewhat different standards of performance, it was considered desirable to ask them also to complete a form for another graduate of the Aviation Structural Mechanic S (Structures) course who had been on board for a comparable period of time. By so doing it was possible to compare the performance of the Project 100,000 group with that of a non-Project 100,000 group evaluated by the same supervisors. It is noted that this is not quite the same as saying that the Project 100,000 group was compared with a representative sample of graduates of the Aviation Structural Mechanic S (Structures) course with comparable time in operating units.

1. Losses from the Sample

In those instances in which a reply had not been received within approximately two months, a second letter was sent requesting that the form be completed and returned. The initial letter and the follow-up letter brought

replies concerning 23 of the 28 men. However, only in the case of 13 of the men were the evaluations complete, including a completed form concerning a non-Project 100,000 graduate of the Aviation Structural Mechanic S (Structures) course who had been on board for a comparable period. Most of the analysis reported herein is concerned with these 13 pairs of personnel.

The loss of the remaining 17 Project 100,000 personnel from the original 30 was as follows: two were reported absent without leave early in the training sequence; in the case of five men, no reply was received for the operating unit to which they were assigned; three men had been transferred from the original operating unit to which assigned, and a letter to the squadrons to which they were transferred did not result in a reply. The above accounts for ten men for whom an evaluation form was not completed. Of the remaining seven not included in the primary analysis, four had failed the AMS course, therefore were not designated as strikers for the rating, and were not working in the rating.

The remaining three men had passed the course but were not compared with a non-Project 100,000 graduate with comparable time in the squadron. One of these men was performing in an excellent manner in the AMS rating, one had not worked in the rating, and one had worked in the rating for only a short time.

2. Nature of the Analysis

The total of 26 personnel, of whom 13 were Project 100,000 members, is a smaller number than normally would be desired in a study of this kind. On the other hand, the small number offers certain advantages in the presentation of data pertaining to individuals, that is not practical when large numbers are involved. The treatment of the data will, therefore, be more like a clinical protocol than ordinarily is found in reports on training research. By the same token, descriptive statistics will be used to a greater degree than inferential statistics.

In most of the tables data concerning all 13 pairs of Project 100,000 and non-Project 100,000 personnel will be presented. The number of the pair refers to the same individuals throughout the tables. It is possible, therefore, to review the age, education, and aptitude scores of each of the 13 Project 100,000 personnel, and to follow them as individuals through the three courses at Memphis and on to their fleet assignments. Here, one can note the squadron or ship to which each was assigned, what additional training they received, how long they worked in mess cooking and other work outside their rating, and how well they performed when working in their rating.

D. Description of Certain Characteristics and Activities of the Groups

Table 1 shows certain descriptive information concerning the 13 Project 100,000 personnel on whom complete fleet performance data were available. It is noted that the age of the group centers around 20 years with only one man departing from this figure by more than two years. This man was 24 years of age. More than one half of the group had completed 12 years of civilian

TABLE 1

APTITUDE SCORES AND SCHOOL GRADES OF 13 PROJECT 100,000 PERSONNEL

Individual	Age	Educ	AFQT	GCT	ARI	MECH	SP	AvFund	MechFund	AMS
1	20	12	18	36	39	45	46	48	67	73
2	19	10	16	35	38	43	34	54	54	63
3	21	12	25	39	48	45	40	71	68	70
4	20	10	25	41	47	51	53	65	61	78
5	24	8	23	35	40	56	44	62	57	68
6	19	7	17	39	43	46	48	56	57	68
7	20	12	17	40	38	43	54	70	72	65
8	18	11	20	35	42	45	44	60	50	Dropped
9	20	12	18	38	53	42	34	57	75	73
10	20	12	23	41	46	49	56	78	84	77
11	20	12	16	35	38	43	50	67	70	68
12	19	12	18	41	40	41	46	63	65	69
13	21	12	17	37	39	42	40	63	49	65

education, while only one of the men had failed to complete eight years of civilian schooling. The Armed Forces Qualification Test (AFQT) scores ranged from 16 through 25, which is pretty well in the middle of the Category IV range of 10 through 30. These are percentile scores and are not directly comparable to Navy Basic Test Battery scores, which are expressed in the Navy Standard Scores metric. Most of the General Classification Test (GCT) scores are in the upper 30's or low 40's; Arithmetic Test (ARI) scores tend to be a few points higher, while Mechanical Test (MECH) and Shop Practices Test (SP) scores tend to be in the 40's and 50's.

The grades listed for the Aviation Fundamentals (AvFund) School and Mechanical Fundamentals (MechFund) School are the grades made the first time each man took a unit of the course. In most instances the men were permitted to try the units a second time if their marks were below the minimum passing score of 63. As indicated in Table 1, six members of the group made grades below 63 in the AvFund course and six in the MechFund course. Three made grades 70 or above in the AvFund course, and four men made 70 or above in the MechFund course. Grades made by the group in the Aviation Structural Mechanic S (Structures), or AMS, course tend to be somewhat higher than the grades made in the other two courses. Only one failure is noted, although in the original group of 28 Project 100,000 personnel six men failed the course. Most of AMS course failures were not working in the AM rating, and their performance could not be evaluated.

Table 2 shows the squadron or ship to which the 13 pairs of men were assigned. Also shown is whether the squadron or ship is a part of the Atlantic Fleet or the Pacific Fleet. The table shows the rate of the supervisor who completed the evaluation form, as well. It turns out that ten of the pairs were assigned to the Pacific Fleet and three to the Atlantic Fleet. Eight of the evaluations were completed by senior AMS petty officers, three by senior AMH (Hydraulics) petty officers, and two by Aviation Machinist's Mate J (Jet) petty officers.

Table 3 shows how long each man had been attached to the squadron or ship at the time of the evaluation, how long the rater had known him, how long he had worked in the AM rating, and how much time had been spent mess cooking and performing other non-AM duties. The table indicates that the Project 100,000 personnel had been on board an average of 7.6 months, and the non-Project 100,000 personnel used for comparative purposes had been on board approximately one month longer, on the average. The two groups had been known by the petty officers,who completed the evaluation form,an average of 5.7 and 5.9 months respectively.

The Project 100,000 personnel had been working in the AM rating an average of 5.7 months as compared with 6.8 months for the non-Project 100,000 personnel. Both groups had spent an average of about two months in mess cooking and other non-AM type duties. However, 13 of the 26 men had not been assigned to mess cooking or compartment cleaning. This suggests that the oft-quoted statement that technical school graduates spend their first six months mess cooking and compartment cleaning, may not be universally true.

TABLE 2

Squadrons and Ships Participating in the Evaluation

Pair	Squadron or Ship	Fleet	Rate of Evaluator
1	Fleet Composite Squadron 3	Pacific	AMS1
2	Fleet Tactical Support Squadron 21	Pacific	AMSC
3	Helicopter Combat Support Squadron 7	Pacific	ADJ1
4	Fleet Composite Squadron 5	Pacific	AMHC
5	Weather Reconnaissance Squadron 4	Atlantic	AMSC
6	Helicopter Anti-Submarine Squadron 6	Pacific	AMH1
7	Patrol Squadron 6	Pacific	AMSC
8	USS Enterprise (CVA-65)	Pacific	AMS1
9	Fighter Squadron 24	Pacific	AMHC
10	Attack Squadron 66	Atlantic	ADJ2
11	Patrol Squadron 49	Atlantic	AMSC
12	Helicopter Combat Support Squadron 1	Pacific	AMSC
13	Patrol Squadron 48	Pacific	AMS1

TABLE 3

Time Aspects Pertaining to Pairs of Project 100,000 Personnel (P) and Comparison Personnel (C) (In Months)

Pair	Attached		Known by Rater		Working in AM Rating		Mess Cooking Compartment Cleaning		Other Non-AM Duties	
	P	C	P	C	P	C	P	C	P	C
1	12	6	12	6	12	6	0	0	0	0
2	6	11	1	1	6	8	0	3	0	0
3	5	6	1	6	1	6	0	1	4	0
4	8	6	8	2	8	2.5	0	3.5	0	0
5	7	8	4	4	4	4	3	4	0	0
6	7	7	7	7	7	7	0	0	0	0
7	10	10	7	7	9	10	1	0	0	0
8	8	12	8	12	5	8.5	3	3	0	0
9	9	12	9	4	2	9	0	3	6	0
10	6	4	3	4	6	4	0	0	0	0
11	7	7	4	3	4	3	3	6	1	1
12	7	18	7	18	7	18	0	0	0	0
13	7	6	3	3	3	3	4	3	0	0
Mean	7.6	8.7	5.7	5.9	5.7	6.8	1.1	2.0	.8	.1

Table 4 indicates that most of the Project 100,000 personnel received additional training on specific equipment used by their squadrons. The average number of courses taken was .92. Five of the 13 Project 100,000 personnel were not assigned to additional training on specific equipment. The situation was about the same for the non-Project 100,000 group with, perhaps, a slight tendency for them to receive more training.

TABLE 4

Additional Training Courses Taken by Project 100,000 Personnel and Comparison Personnel

Pair	Project 100,000 Personnel	Comparison Personnel
1	1	0
2	1	1
3	0	4
4	0	0
5	1	1
6	2	2
7	1	1
8	0	1
9	1	1
10	4	3
11	1	1
12	0	1
13	0	0
Mean	.92	1.23

E. Results

Tables 5, 6, and 7 present information concerning three aspects of the performance of the 13 pairs of Project 100,000 and non-Project 100,000 personnel. Table 5 contains responses of supervisors to the question of how well each of the men was prepared to perform in the AM rating. The exact wording of the question is shown in item 9 of Appendix A. Values of one through five were assigned to the five possible answers to the question, with the higher values reflecting better technical preparation, or performance. The mean of the scores made by the Project 100,000 group was 3.23 as compared with 3.85 for the comparison group of non-Project 100,000 personnel. This difference of .62 was not statistically significant ($p > .05$).

Quality of performance may be expected to vary inversely with the difficulty of tasks assigned. Performance at a given level on a difficult task is indicative of higher proficiency than performance at the same level on a less difficult task. The next question, item 10 in Appendix A, asked about the difficulty of each man's assignment. The responses of the supervisory

TABLE 5

Technical Preparation of Project 100,000
Personnel and Comparison Personnel

Preparation	Number of Personnel	
	Project 100,000	Comparison Group
Much Better Than Average	1	3
Better Than Average	3	5
Average	7	5
Poorer Than Average	2	0
Much Poorer Than Average	0	0
Weighted Mean	3.23	3.85
Standard Deviation	.80	.77
t Ratio 1.94		
Statistical Significance >.05		

personnel completing the evaluation form are shown in Table 6. Applying the same numerical values to the responses as those used in the preceding item, the mean level of difficulty of tasks assigned to Project 100,000 personnel was 3.15. This compares with 3.31 for the non-Project 100,000 group. Again the difference between the means was not statistically significant.

The third question pertaining to performance, item 11 on the evaluation form, asked about the motivation and initiative exhibited by each man. The responses of the supervisors to this question are shown in Table 7. The means for the Project 100,000 group and the comparison group were 3.08 and 3.69 respectively. The difference between the means was not statistically significant.

In Table 8 the three aspects of performance just described (how well the man was prepared to perform in the AM rating, the difficulty level of the tasks he was asked to perform, and the motivation and initiative exhibited by the man) were combined into one score. This was accomplished by summing the weighted responses of each man's supervisor on the three pertinent items, items 9, 10, and 11 on the evaluation forms. The weighting was the same as that used in arriving at the means in the three preceding tables. The mean score of the Project 100,000 group was 9.46 as compared with 10.92 for the non-Project 100,000 group. As in the case of the individual items, the difference between the means was not significant at the .05 level.

TABLE 6

Difficulty Level of Tasks Assigned to Project 100,000 and Comparison Personnel

Difficulty Level	Number of Personnel	
	Project 100,000	Comparison Group
Much More Difficult Than Average	0	0
More Difficult Than Average	3	5
Average	9	7
Less Difficult Than Average	1	1
Much Less Difficult Than Average	0	0
Weight Mean	3.15	3.31
Standard Deviation	.53	.60
t Ratio .77		
Statistical Significance >.05		

TABLE 7

Motivation and Initiative of Project 100,000 Personnel and Comparison Personnel

Difficulty Level	Number of Personnel	
	Project 100,000	Comparison Group
Much Higher Than Average	0	2
Higher Than Average	6	6
Average	3	4
Lower Than Average	3	1
Much Lower Than Average	1	0
Weighted Mean	3.08	3.69
Standard Deviation	.99	.82
t Ratio 1.63		
Statistical Significance >.05		

TABLE 8

Fleet Performance

Pair	Project 100,000	Comparison Group
1	13	13
2	8	11
3	8	10
4	11	10
5	10	12
6	10	13
7	6	12
8	10	8
9	10	9
10	12	12
11	8	14
12	8	9
13	9	9
Mean	9.46	10.92
Standard Deviation	1.82	1.82
t Ratio 1.96		
Level of significance >.05		

The final information provided by the evaluation form consisted of comments made in response to item 12. This item asked for any comments concerning work assignments and performance that were considered appropriate. These responses are presented in Table 9.

TABLE 9

Comments Concerning Pairs of Project 100,000 Personnel and Comparison Personnel

Pair	Project 100,000 Personnel	Comparison Personnel
1	Has continually demonstrated a high degree of ability to read and correctly interpret technical directives in relation to his job assignment. Curious, ambitious and desire to accomplish all tasks in the correct manner make him an outstanding asset to this division.	Demonstrates a high degree of technical knowledge & accomplishes all tasks in a professional manner. Constantly seeking further knowledge by self study.
2	None	None
3	Has been working as a plane captain's helper for the past month. Has been unable to pass the required examination. Believe the trouble to be lack of maturity and attitude toward the Navy.	When assigned work this man will do a good job. This man knows how to use all pubs assigned to this shop.
4	None	None
5	Is the only AMSAN assigned to shop. Is working at the squadron level and he does not get into any major repair or maintenance. He works at troubleshooting, inspections and parts replacement.	Was advanced to AMH3 on 16 April 1968.
6	The work assignment was light when starting and progressively harder as he learned. This man learns fast but lacks the ability to retain what he learns. He is a very good worker and doesn't give up until the job is done, even if he has to do the job over again.	The work assignment was light at first for a new man. This is to see what he could do. As he progressed, the assignment gets harder and he reveals the ability to comprehend and retain what he learns. He has plenty of initiative and willing to learn. He is better than average and is a lot more mature than most.

(Table continued on next page)

TABLE 9 (continued)

Pair	Project 100,000 Personnel	Comparison Personnel
7	This man is continuously inattentive to his work and in relations with his fellow workers. His complete lack of interest and ineptness finally resulted in his being assigned to messcooking. He constantly requires supervision.	He is a highly dependable metalsmith. He functions well with any assigned task and he completes these tasks correctly and swiftly.
8	This man has good initiative and is well motivated for the AMS rating. He approaches his assigned tasks with a good deal of understanding and does an exceptionally fine job.	This man is a little slow in learning.
9	He is a real fine sailor and will be an asset to the Navy in years to come.	Outstanding.
10	Performance wise send more men like this man.	Well performed, highly competent. A definite asset to the field of structural mechanics.
11	Failed NAMTD course 1011, P3AM Maintenance Course. Assigned to Corrosion Control Branch. Average improvement and learning. This time period is considered too short to accurately choose a category for this man.	Assigned to Airframes - Possesses exceptional talent. Learns quickly and easily. Adapts to new environment and situations.
12	He is lax in obeying orders from next senior petty officer. The quality of his work is above average. He has also been assigned the duties of the ultrasonic cleaner.	He has had previous experience with Boeing aircraft. His work is above average, and he is assigned to the welding shop.
13	He is assigned to the Corrosion Control shop. He has learned his job very well and fast. He needs little or no supervision.	He is assigned to the Corrosion Control shop. He does his assigned work well, but needs occasional supervision.

F. Discussion

The information presented in the Results section is confined to the 13 pairs of personnel on whom complete data were available. Following discussion of this information, comments will be made concerning the degree to which the data are thought to be representative and generalizable. The fleet performance data in Tables 5 through 9 give a consistent picture of most of the 13 Project 100,000 personnel performing at a satisfactory level and with some, perhaps two or three, of the men performing marginally or unsatisfactorily. Man number 7, for example, received a score of only 6 in Table 8 and was described by his supervisor as "continuously inattentive to his work and in his relations with his fellow workers. His complete lack of interest and ineptness finally resulted in his being assigned to messcooking. He constantly requires supervision." It is apparent that this man is not an asset to his squadron as an Aviation Structural Mechanic. It is noted from Table 1, however, that he passed all three courses at the Naval Air Technical Training Center, Memphis. The value of man number 11 to his squadron as an AM also is questionable in view of his failing Naval Air Maintenance Training Course 1011, which is a P3 AM Maintenance course. This is the only reported failure of a Naval Air Maintenance Training course on any of the evaluation forms.

Table 8 shows three additional Project 100,000 men with scores below 9, which indicates performance somewhat below average, as viewed by the supervisors. In the non-Project 100,000 group used for comparison, only one man had a score below 9. It has been noted many times that raters tend to be lenient in their evaluations of performance. This may be true in these evaluations. While no statistically significant differences were found between the performance of the two groups, it is noted that in each table the difference in means favored the non-Project 100,000 group. It is also true that the number of men evaluated was so small that differences would have had to be fairly large in order to result in statistical significance. Therefore, one may not conclude with confidence that the Project 100,000 personnel did, or did not, perform as well as the non-Project 100,000 personnel. Our numbers are not large enough to warrant a definite conclusion.

There are certain statements that can be made, however. If we discount the leniency factor and refer to successful performance as represented by scores in Table 8 of 10 or higher, 7 of the 13 Project 100,000 personnel are in this category. If we wish to define superior performance as exceeding the mean of the non-Project 100,000 group, 10.92, there are three members of the Project 100,000 group whose performance may be so described. There seems to be little doubt that, of a group of 30 Project 100,000 personnel, there are some who can perform well in the AM rating. The present study does not, however, provide an adequate basis for estimating what proportion will so perform, or which ones they will be. The proportion may be smaller than would be acceptable in terms of the Navy's interest, assuming that higher aptitude personnel are available.

More serious than the small number of cases involved, is the probability that the 13 Project 100,000 personnel on whom complete data were available were not representative of Project 100,000 or Category IV personnel in general. The men were assigned more as an informal tryout or pilot study

than as a well controlled research study. While the aptitude scores of the men assigned appear quite reasonable, the educational level appears as though there may have been some selection on this basis. The mean educational level was 10.6 years of civilian schooling, and 14 of the 30 men had completed high school. Like most studies which attempt to collect information on post-training performance in the fleet, a substantial proportion of the initial group was lost to the study, as explained in a previous section.

Again, in the reduction from 30 men to 13 men, the probability of non-representative (less able) personnel being eliminated from the sample is more serious than the numbers per se. For example, only one of the men who failed the AMS course was among the 13 pairs. This was due largely to school failures not being designated as strikers and hence not working in the AM rating. It is also reasonable to suspect that some of the men who successfully completed the AMS course but were not working in the AMS rating had not been assigned to AMS work because of a lack of confidence on the part of squadron personnel in their ability to perform in the AMS rating. In some of the cases in which no reply was received from a squadron, the men may not have been assigned to AM duties and there may have been a reluctance to reply for this reason. All in all, it would not be surprising if the 13 Project 100,000 men on whom complete evaluation data were received tended to be somewhat better performers than the other 17 men in the original group.

In view of the above limitations, it appears the primary value of following this sample of Project 100,000 personnel to their fleet assignments lies in the descriptive,longitudinal aspect of the study, wherein it is possible to follow each of the 13 men on whom complete data were available from the time he entered training at the Naval Air Technical Training Center, Memphis until he had completed approximately seven months in a squadron or aboard ship. This does not permit many definitive conclusions, but provides what the study was intended to provide, a better "feel" for the extent to which Project 100,000 personnel can be trained and utilized successfully in the AMS rating.

G. Conclusions

The study is more descriptive than definitive. However, certain conclusions seem warranted.

1. As a whole, the study seems to present a picture of varied fleet performance on the part of different members of the Project 100,000 group. Some performed in a manner that supervisors viewed as well above average while the performance of some was unsatisfactory. The study does not provide a means of predicting in advance which Category IV personnel will perform well and which will not.

2. Considering the evidence provided by both the initial study and the present study, it appears that the assignment of Category IV personnel to the AMS rating on an operational basis is not in the best interest of the Navy, unless dictated by a manpower shortage or by non-military considerations.

BLANK PAGE

APPENDIX A

LETTER USED IN DATA COLLECTION

CHIEF OF NAVAL AIR TECHNICAL TRAINING
NAVAL AIR STATION 75
MEMPHIS, TENNESSEE 38115

Code 34
29 April 1968

From: Chief of Naval Air Technical Training
To:

Subj: Evaluation of experimental training program; request concerning

Encl: (1) Evaluation form

1. The Chief of Naval Air Technical Training is participating in an experimental training program directed by the Chief of Naval Operations. The final phase of the program involves an evaluation of the job performance of a small experimental group approximately seven months following completion of training at the Naval Air Technical Training Center, Memphis, Tennessee.

2. In order to provide the necessary information it is requested that a petty officer, who supervises the work of the man whose name appears on line 1 of one of the copies of enclosure (1), complete the form concerning this man. It is further requested that a copy of the form be completed on a second man who is roughly comparable to the first man in terms of the time he entered the Navy and attended the AM(S) School, Class A. The data concerning this second man will be used for comparative purposes. If there are several men who meet the above qualifications, select the man who is most similar to the first man in terms of the date they reported aboard. Forward the completed forms to the Chief of Naval Air Technical Training (Attn: Code 34).

(Signature)

EVALUATION FORM

This form should be completed as accurately as possible by the supervisor of the individual being rated. In case the supervisor of the individual is relatively new in his position, he may seek the advice of other supervisory personnel who are better acquainted with the individual. The form may be completed in longhand, if desired.

1. Name of Man _____ Ser. No. _____ Present Rate _____

2. Name of Supervisor _____ Rate _____

3. Squadron/Ship _____ Address _____

4. Months supervisor has known the man _____

5. Months the man has been attached to this squadron/ship _____

6. How has this time been spent?

   a. Months working in AM rating _____
   b. Months working at mess cooking, compartment cleaning, etc. _____
   c. Months in formal schools _____
   d. Months unaccounted for above _____ (Provide a brief description of how this time was spent.)

_____

_____

_____

7. List the names of any NAMTRAGRU courses, or other formalized courses the man has taken since the training he received at the Naval Air Technical Training Center, Memphis, Tennessee. (If he failed any of these courses, so indicate.) _____, _____

_____, _____

8. Has the performance of this man been unusually handicapped by:

   a. A disciplinary problem? _____ (Yes or No)
   b. A medical problem? _____ (Yes or No)
   c. A personal problem? _____ (Yes or No)

(SEE REVERSE SIDE)

Enclosure (1)

9. How would you rate this man's technical preparation for the AM rating as compared with other entry level personnel received from NATTC,Memphis?

____a. Much better than average
____b. Better than average
____c. Average
____d. Poorer than average
____e. Much poorer than average

10. What level of difficulty are the tasks to which this man has been assigned (as compared with tasks assigned other entry level personnel from NATTC, Memphis)?

____a. Much more difficult than average
____b. More difficult than average
____c. Average
____d. Less difficult than average
____e. Much less difficult than average

11. How does the man compare in terms of motivation and initiative with other entry level personnel received from NATTC, Memphis?

____a. Much higher than average
____b. Higher than average
____c. Average
____d. Lower than average
____e. Much lower than average

12. Comments: Make any comments concerning the work assignment and performance of the man you consider appropriate.

a. _____

b. _____

c. _____

REFERENCES

1. Greenberg, I. M. Project 100,000 purposes, progress and experience, in Proceedings of Project Aristotle Symposium. Washington, D. C.: National Security Industrial Association, 1967, 26-30.

2. Harding, L. G., Fleischman, H. L., and Johnson, K. A. An investigation of the feasibility of Navy Aviation Structural Mechanic S (Structures) training for Group IV personnel. San Diego: U. S. Naval Personnel Research Activity, January 1968. (Research Report SRR 68-15)

3. Hooprich, E. A. and Steinemann, J. H. An investigation of the feasibility of Navy Commissaryman training for Group IV personnel. San Diego: U. S. Naval Personnel Research Activity, September 1967. (Research Report SRR 68-7)

4. Hooprich, E. A. A second investigation of the feasibility of Navy Commissaryman training for Group IV personnel. San Diego: U. S. Naval Personnel Research Activity, May 1968.(Research Report SRR 68-23)

5. Schrank, W. R. The labeling effect of ability groupings. Journal of Educational Research, 1968, 62, 51-52.

6. Standlee, L. S. and Saylor, J. C. Feasibility of Equipment Operator Class "A" School training for Group IV personnel. San Diego: U. S. Naval Personnel Research Activity, March 1968. (Research Report SRR 68-21)

7. Standlee, L. S. and Saylor, J. C. Feasibility of Storekeeper Class "A" School training for Group IV personnel. San Diego: U. S. Naval Personnel Research Activity, June 1968. (Research Report SRR 68-25)

8. Standlee, L. S. and Saylor, J. C. Feasibility of Steelworker Class "A" School training for Group IV personnel. San Diego: U. S. Naval Personnel Research Activity, August 1968. (Research Report SRR 69-8)

UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

ORIGINATING ACTIVITY (Corporate author) U. S. Naval Personnel Research Activity San Diego, California 92152	2a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED 2b. GROUP NA

3. REPORT TITLE

Fleet Performance of Project 100,000 Personnel in the Aviation Structural Mechanic S (Structures) Rating

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)

Final report

5. AUTHOR(S) (First name, middle initial, last name)

George D. Mayo

6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
February 1969	29	8

8a. CONTRACT OR GRANT NO	9a. ORIGINATOR'S REPORT NUMBER(S)
b. PROJECT NO PF39.522.004.01.43	Research Report SRR 69-17
c.	9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)
d.	

10. DISTRIBUTION STATEMENT

This document has been approved for public release and sale; its distribution is unlimited.

11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY
	Chief of Naval Personnel (Pers-A3) Navy Department Washington, D. C. 20370

13. ABSTRACT

The fleet performance of a small group of Project 100,000 (low aptitude) personnel was assessed by means of an evaluation form completed by their supervisors after the men had been on board for approximately seven months. The men previously had been trained for the Navy rating, Aviation Structural Mechanic S (Structures), AMS. The performance of non-Project 100,000 personnel working in the AMS rating, who had been attached to the same squadrons for a comparable period of time, also was assessed for purposes of comparison. Statistically significant differences between the two groups were not found, although all measures showed a small difference favoring the non-Project 100,000 group. The performance of Project 100,000 personnel in the AMS rating ranged from above average to unsatisfactory. On the whole, the study suggests that the use of Project 100,000 personnel in the AMS rating is not in the best interest of the Navy, unless dictated by a manpower shortage or other non-military considerations.

DD FORM 1 NOV 65 1473 (PAGE 1)

S/N 0101-807-6801

UNCLASSIFIED

Security Classification

14 KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
AFQT						
Aviation Structural Mechanic						
Category IV						
Fleet Performance						
Mental Group IV						
Project 100,000						