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EVALUATION OF OCCUPATIONAL CHOICES IN THE MARINE CORPS

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The purpose of this study was to determine the occupational preferences of Marine recruits with regard to occupational fields other than those in aviation The Marine Assignment Preference Schedule (MAPS), 28 military occupational fields, was administered in May 1972 to approximately 850 Marine recruits at the Marine Corps Recruit Depot, Parris, Island, who were in their third week of training. Analysis showed that the five most preferred military occupational fields as indicated by the recruits first choice were Motor Transport; Military Police; Construction, Equipment and Shore Party; Utilities; and Infantry.

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EVALUATION OF OCCUPATIONAL CHOICES IN THE MARINE CORPS[1]

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Summary.—The purpose of this study was to determine the occupational preferences of Marine recruits with regard to occupational fields other than those in aviation. The Marine Assignment Preference Schedule (MAPS), 28 military occupational fields, was administered in May 1972 to approximately 850 Marine recruits at the Marine Corps Recruit Depot, Parris Island, who were in their third week of basic training. Analysis showed that the five most preferred military occupational fields as indicated by the recruits first choice were Motor Transport; Military Police; Construction, Equipment and Shore Party; Utilities; and Infantry.

With the prospect of an all-volunteer armed force, the Marine Corps will be faced with the problem of attracting high caliber personnel in sufficient quantity to maintain required manpower levels. It is therefore necessary to examine those programs that have a potential for attracting young men to serve in the Marine Corps. One approach to the problem consists of granting to every incoming recruit a duty assignment in an occupational field of his choice. There must, however, be a rigorous assessment of the probable impact of such a program not only on the combat and operational effectiveness of the Marine Corps but also on the individual Marine's subsequent job performance and long-range career satisfaction. Fundamental to this research effort is the need to determine the relative desirability of the occupational fields that are available to the newly enlisted Marine recruit.

A study by Decision Systems Associates, Inc. (1970) concerned with accommodating recruits' preferences in duty assignment concluded that it is feasible to accommodate occupational preferences in the Marine Corps but that the merits of accommodating preferences still require further investigation. In a study by Hoehn, Wilson, and Richards (1972) of recruits' assignment preferences, it was found that, although a small proportion of recruits were actually assigned to occupations of their choice in terms of DOD grouping, the majority expressed satisfaction with the assignment that they received.

The present study, which is the first of a series of research reports in this area, was designed to assess the relative desirability of career choices in terms of specific Marine Corps military occupational fields.

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[1]Paper presented at the meeting of the Military Testing Association, Lake Geneva, Wisconsin, September, 1972.

[2]The views expressed herein are those of the authors and do not necessarily reflect the views of the U. S. Marine Corps or the U. S. Navy. Requests for reprints should be sent to Arthur C. F. Gilbert, Naval Personnel Research and Development Laboratory, Washington Navy Yard, Washington, D. C. 20374.

METHOD

The data were obtained from the May 1972 administration of the Marine Assignment Preference Schedule (MAPS) to a sample of Marine recruits who were in the third week of their entry level training at the Marine Recruit Depot, Parris Island, South Carolina. MAPS was administered to groups of approximately 120 recruits at a sitting, and a test administrator was available to answer questions concerning any ambiguities in the instructions.

Marine Assignment Preference Schedule (MAPS)

MAPS was designed to elicit information from the Marine recruit concerning the particular military occupational fields to which he would like to be assigned upon completion of his entry level training. The edition of MAPS used in this study contained a list of 28 occupational fields which included all those classified as ground occupations by the Marine Corps.[3] These occupations fell under the following broad groups: Combat and Combat Arms, Administrative Specialist, Technical Specialist, and Communications and Electronics. The Air Control and Anti-Air Warfare occupational field was also included in MAPS since certain of the Military Occupational Specialties (MOS) in this field are included by the Marine Corps in the ground guarantee program for incoming recruits.

The occupational fields were listed in numerical order by the code numbers assigned to them in the Marine Corps Occupational Specialties Manual. The actual sequence and the titles of the 28 occupational fields are presented in Table 1.

Administration

Before indicating his occupational preference on MAPS, the recruit was first instructed to read through the full list of occupational fields. To familiarize him with the kinds of jobs encompassed by a given occupational field, each occupational field was accompanied either by specific examples of actual jobs within the area or by a brief description of the tasks performed by Marines assigned to that field. The recruit was then asked to select the four occupational fields to which he would most like to be assigned. He was then instructed to rank these four in order of preference by writing a "1" beside his first choice, a "2" beside his second choice, and so forth.

Other information elicited by MAPS included an indication of the degree of importance that a recruit placed on getting his choice of occupational field. The recruit was also asked whether he placed greater importance on receiving his choice of occupational field or greater importance on being assigned to a preferred place of duty.

[3]The ground occupational fields excluded from the study were Lithography, Training Support, and Band. The first two were excluded because of their small manpower requirements; Band was excluded because of its unique entrance requirements.

Data Analysis

Before the data were analyzed, all improperly marked MAPS were eliminated. The most common mismarkings were: failure to select *four* occupational fields and erroneous rankings, such as, using "1 2 2 3" or "1 1 3 4," rather than the required "1 2 3 4." The remaining 828 MAPS records were fully and correctly marked, and were used in the data analysis.

Analysis of the data was initiated by tabulating the number of times recruits selected each occupational field as "first," as "second," as "third," and as "fourth" choice. These tabulations are presented in Table 1. Following this procedure, the 28 occupational fields were arranged in rank order on the basis of the percentage of the sample that selected each field as the "first" choice.

The data were also analyzed by taking into consideration the rankings of all four choices of occupational fields made by the recruits. This involved use of the paired comparison solution from incomplete rankings proposed by Guilford (1954). This solution involved computation of proportions for each occupational field that reflect the relative desirability of that particular occupational field when compared with every other occupational field. Z values (χ/σ distances from the mean) were then obtained for the occupational fields on the basis of these proportions. The obtained Z values were then converted to final scale values by adding the largest negative Z value to each of the original Z values so that all the final scale values would carry positive signs. The occupational fields were then placed in rank order of relative desirability based on the converted Z values. This method yields a good approximation of the scale values that would be obtained if each occupational field were actually compared with every other occupational field in the usual paired comparison approach.

Results and Discussion

Initially, the rank values (i.e., 1 through 4) given by the recruits were tabulated for each occupational field. The results of these tabulations are shown in Table 1. The first four columns of this table show the number of recruits who ranked the different occupational fields as first, second, third, and fourth choices respectively. For example, 27 recruits ranked the Personnel and Administration as their first choice. Fifteen recruits selected this occupational field as their second choice, nine ranked it as their third choice, while 13 ranked it as their fourth choice.

The relative desirability of the 28 occupational fields according to the first choice made by the recruits is shown in Table 2. These occupational fields are shown in decreasing order of desirability. The Motor Transport occupational field is the most desirable since 200 recruits (or 24.15%) of the total sample expressed a preference to be assigned to this field as their first choice of assignment. The Military Police and Corrections ranks second in terms of desirability since 109 recruits (or 13.16%) of the sample expressed a desire to be assigned

TABLE 1
OCCUPATIONAL FIELDS WITH FREQUENCY OF RANKINGS AS FIRST, SECOND, THIRD AND FOURTH CHOICE

Occupational Field	Choice 1	Choice 2	Choice 3	Choice 4
Personnel & Administration	27	15	9	13
Intelligence	21	21	11	14
Infantry	44	31	31	43
Logistics	3	12	15	17
Field Artillery	6	9	12	13
Utilities	58	64	53	45
Construction, Equipment & Shore Party	61	52	49	53
Drafting, Surveying, & Mapping	27	19	26	20
Tank & Amphibian Tractor	21	23	51	30
Armament Repair	5	21	14	13
Ammunition & Explosive Ordnance Disposal	7	11	15	15
Operational Communications	10	12	9	21
Telecommunications Maintenance	20	31	28	29
Supply Administration & Operation	17	22	24	37
Transportation	10	36	38	51
Supply Services	2	6	13	9
Food Service	33	48	44	56
Auditing, Finance & Accounting	14	9	10	15
Motor Transport	200	118	88	59
Data Systems	39	41	45	36
Marine Corps Exchange	7	16	20	23
Public Affairs	7	19	27	33
Legal Services	10	15	18	4
Photography	23	26	32	42
Nuclear, Biological, & Chemical	5	8	14	9
Military Police & Corrections	109	103	76	68
Electronics Maintenance	33	31	35	39
Air Control & Anti-Air Warfare	9	9	21	21

Note.—$N = 828$.

to this field. The least popular choice of an occupational field when only considering the first choice is the Supply Services field. Only two recruits (or 0.24%) of the sample selected this occupational field.

On the basis of first choice, several occupational fields were tied in terms of ranking of relative desirability. For example, the Food Service and Electronics Maintenance fields were both selected by 33 recruits, the Personnel and Administration field and the Drafting, Surveying and Mapping field were both selected by 27 recruits and so forth.

In Table 3, the results involving all of the four rankings made by the recruits are shown. This analysis was accomplished by using the method of paired comparison from incomplete rankings. The occupational fields are listed in the table according to their relative desirability and each of the fields is accom-

TABLE 2

OCCUPATIONAL FIELDS RANKED IN TERMS OF RELATIVE DESIRABILITY ACCORDING TO FIRST CHOICE

Occupational Fields	%
Motor Transport	24.15
Military Police & Corrections	13.16
Construction, Equipment & Shore Party	7.37
Utilities	7.00
Infantry	5.31
Data Systems	4.71
Food Service	3.99
Electronic Maintenance	3.99
Personnel & Administration	3.26
Drafting, Surveying & Mapping	3.26
Photography	2.78
Intelligence	2.54
Tank & Amphibian Tractor	2.54
Telecommunications Maintenance	2.42
Supply Administration & Operations	2.05
Auditing, Finance & Accounting	1.67
Operational Communications	1.21
Transportation	1.21
Legal Services	1.21
Air Control & Anti-Air Warfare	1.09
Ammunition & Explosive Ordnance Disposal	0.85
Marine Corps Exchange	0.85
Public Affairs	0.85
Field Artillery	0.72
Armament Repair	0.60
Nuclear, Biological & Chemical	0.60
Logistics	0.36
Supply Services	0.24

Note.—$N = 828$; Top 5, 56.99%; balance, 43%.

panied by its corresponding converted Z values (χ/σ distances from the mean).

By using all four choices, the Motor Transport field again emerges as the most popular of the occupational fields and the Military Police and Corrections field is next. The least desirable of the occupational fields is Supply Services. By use of this method two occupational fields tied in terms of these rankings; these were the Ammunition and Explosive Ordnance Disposal field and the Legal Services field.

The rankings of the 28 occupational fields in terms of desirability are shown in Table 4 both according to the first choice made by the recruits and in terms of the paired comparison solution generated from all four rankings. A Spearman rank-order correlation coefficient (ρ) was computed between the two sets of rankings and a coefficient of .90 was obtained.

Additional information was elicited from the recruits as to the importance that they placed on getting their choice of job. Choice of job was designated as being very important by 513 (or 61.96%) of the sample and as being important by 268 (or 32.37%) of the sample. Forty-six recruits (or 5.56%) indicated that getting their choice of jobs was of little or no importance.

TABLE 3

RELATIVE DESIRABILITY OF OCCUPATIONAL FIELDS BASED ON ALL FOUR RANKINGS

Occupational Fields	Converted Z
Motor Transport	1.730
Military Police & Corrections	1.506
Utilities	1.186
Construction, Equipment & Shore Party	1.169
Food Service	1.049
Data Systems	0.990
Infantry	0.942
Electronics Maintenance	0.890
Transportation	0.860
Tank & Amphibian Tractor	0.826
Photography	0.816
Telecommunications Maintenance	0.745
Supply Administration & Operations	0.693
Drafting, Surveying & Mapping	0.658
Public Affairs	0.597
Intelligence	0.476
Personnel & Administration	0.453
Marine Corps Exchange	0.448
Air Control & Anti-Air Warfare	0.394
Armament Repair	0.329
Operational Communications	0.313
Auditing, Finance & Accounting	0.275
Ammunition & Explosive Ordnance Disposal	0.267
Legal Services	0.267
Logistics	0.251
Field Artillery	0.165
Nuclear, Biological & Chemical	0.105
Supply Services	0.000

Note.—Converted Z values were obtained by adding $+.650$ to each original Z value (χ/σ distance from the mean).

Information was also obtained as to the importance that the recruits placed on getting their choice of jobs versus getting their choice of place of duty. Five hundred and nine recruits (or 61.5%) indicated that getting their choice of jobs was more important in contrast to 319 (or 38.53%) of the sample who indicated that place of duty was more important.

TABLE 4

RELATIVE DESIRABILITY OF OCCUPATIONAL FIELDS RANKED ON THE BASIS OF FIRST CHOICE AND ON THE BASIS OF ALL FOUR CHOICES

Occupational Fields	Rank	
	1st Choice	4 Choices
Motor Transport	1	1
Military Police & Corrections	2	2
Utilities	4	3
Construction, Equipment & Shore Party	3	4
Food Service	7.5	5
Data Systems	6	6
Infantry	5	7
Electronics Maintenance	7.5	8
Transportation	18	9
Tank & Amphibian Tractor	12.5	10
Photography	11	11
Telecommunications Maintenance	14	12
Supply Administration & Operations	15	13
Drafting, Surveying & Mapping	9.5	14
Public Affairs	21	15
Intelligence	12.5	16
Personnel & Administration	9.5	17
Marine Corps Exchange	21	18
Air Control & Anti-Air Warfare	20	19
Armament Repair	25.5	20
Operational Communications	18	21
Auditing, Finance & Accounting	16	22
Ammunition & Explosive Ordnance Disposal	21	23.5
Legal Services	18	23.5
Logistics	27	25
Field Artillery	24	26
Nuclear, Biological & Chemical	25.5	27
Supply Services	28	28

The occupational preferences of the recruits sampled in this study were similar to those expressed in an early study (Headquarters, U. S. Marine Corps, 1948). In spite of the advances in technology over the past 20 yr. and its corresponding impact on Marine Corps occupations, the preferences of those sampled in the two studies are strikingly similar. In both studies, the respondents expressed a predominant preference for the Motor Transport occupational field, a low preference for the Combat group, and an unfavorable regard for the Administrative and Clerical group. One notable difference between the two studies was that the men in the earlier study expressed a lesser preference for both Infantry and Military Police than those in this study.

A recent study of recruits' preferences (Hoehn, Wilson, & Richards, 1972) presented a different view of Marines' occupational preferences. This study in-

dicated a greater preference by recruits for Infantry than shown by those in the previous two studies, and only a moderate preference for Military Police. The Administration and Clerical group, however, received a similarly low preference rating in this study. The difference in expressed occupational preferences between the recruits sampled by Hoehn, *et al.* and those sampled in this study may be due to the difference in the approaches used by the two studies to elicit recruits' preferences. Although some of the jobs listed under an occupational field are the same in both studies, for the most part the occupational groupings were different making direct percentage comparisons difficult if not impossible to make.

Generally, the findings of this study suggest there was a tendency for the Marine recruits to select those occupations that are both related to civilian trades and that demand physical activity. The top four occupations in terms of ranking of relative desirability not only meet both of these requirements but also account for over 50% of the sample. The selection of these occupational fields may very well be influenced by possibilities of obtaining gainful employment after leaving the Marine Corps. It should be noted that the Infantry occupational field ranked fifth in terms of preference on the basis of the first choice.

One of the factors that has to be considered in interpreting the final scale values derived in this study is the amount of information that was provided to describe the occupational fields. It was essential that sufficient information was given to enable each recruit to make a choice. In this study the information provided was by examples of military occupational specialties within each occupational field or by a brief description of the occupational field. The influence of the type of examples used or the wording of the descriptions are factors that definitely should be considered in interpreting the scale values of some of the fields. Further research might involve comparing the relative desirability of the occupational fields when each is accompanied by different descriptions or examples of the jobs. It is conceivable that because of the relative attractiveness of the descriptions or examples or work activity that some occupational fields receive preference over equally desirable but not as attractively described fields. Further research might involve comparison of the relative desirability of the different occupational fields when each is accompanied by different descriptions or examples or by no description at all.

Both methods of obtaining scale values were compared by use of the Spearman rank-order correlation coefficient (ρ). The obtained coefficient of .90 indicates little advantage in this instance between basing the relative desirability of the occupational fields on all of the four choices compared with basing it on only the first choice.

Further research should evaluate the effect of granting Marine recruits their preferences of job assignments in terms of job performance and career satisfaction. Additional efforts will focus on the stability of job preferences among re-

cruits as well as how realistic their job preferences are in relation to their aptitudes.

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