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**EVALUATION OF THE MODERN VOLUNTEER ARMY
(MVA) PROGRAM. VOLUME IV. STUDIES AND
SURVEYS RELATING TO THE MODERN VOLUNTEER
ARMY**

W. L. Clement, et al

Research Analysis Corporation

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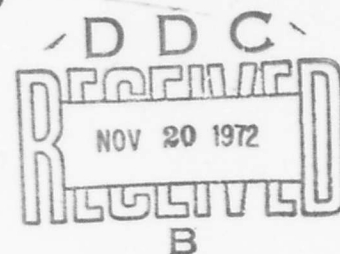
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Evaluation of the Modern Volunteer Army (MVA) Program

Volume IV

Studies and Surveys Relating to the Modern Volunteer Army

by W. L. Clement R. W. Rae
J. H. Glover G. P. Sica
V. W. Hobson J. C. Whiton
W. A. Lindsay C. R. Wilbourn



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FOREWORD

This report, Volume IV of four volumes, is submitted as a part of the ongoing study, "Evaluation of the Modern Volunteer Army (MVA) Program," undertaken by the Research Analysis Corporation under the sponsorship of the Special Assistant for the Modern Volunteer Army (SAMVA). The report addresses Task 1 of Phase I of the Work Statement, shown below:

...To collect, catalogue, correlate and review all civilian and military ongoing and completed studies on projects related to MVA programs and display these data in common terms as concerns the current status and results achieved....

In particular, the report updates the status of ongoing studies and surveys described in the RAC Interim Report, "Evaluation Plan for Modern Volunteer Army Program," dated 22 Sep 71.

Volume I presents the main report on Phases I and II of the study, Volume II is a data book on volunteers, and Volume III contains an analysis of RAC MVA survey responses.

Albert D. Tholen
Head, Resource Analysis Department

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"A Study of Factors Influencing the Choice of Enlistment Options," A. L. Kubala and H. E. Christensen, HumRRO TR-69-10, George Washington University, Washington, D.C., Jun 69.	3-49
"Summary of Findings, Quantitative Phase, Army Recruiting Study," Audits & Surveys, Inc., New York, May 69.	3-50
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ABBREVIATIONS

ACB	Army Classification Battery
AFEES	Armed Forces examining and entrance station
AFQT	Armed Forces Qualification Test
AIT	advanced individual training
AMEDD	Army Medical Department
ANC	Army Nurse Corps
APSTRAT	aptitude strategies
AVAF	All-Volunteer Armed Force
AWOL	absent without leave
BCT	basic combat training
CBR	Chemical, biological, and radiological
CHAMPUS	Civilian Health and Medical Program of the Uniformed Services
COA	Comptroller of the Army
CONARC	US Continental Army Command
CORC	Chief, Office of Reserve Components
CTF	Correctional Training Facility
ESPRIT	Development of Methods for Improving Soldier Adjustment Levels
EVATP	Experimental Volunteer Army Training Program
HumRRO	Human Resources Research Organization
IDA	Institute for Defense Analyses
MODE	Methodology of Studying Drug Usage in Military Settings
MTL	Motivation and Training Laboratory
MVA	Modern Volunteer Army
M&RA	Manpower & Reserve Affairs
NPS	nonprior service

OASD (M&RA) Office of Assistant Secretary of Defense (Manpower & Reserve Affairs)
 OCRD Office, Chief of Research and Development
 ODCSPER Office of the Deputy Chief of Staff for Personnel
 OPO Office of Personnel Operations
 OSA/DCSOPS Office of the Secretary of the Army, Deputy Chief of Staff for Military Operations
 OSAMVA Office of the Special Assistant for the Modern Volunteer Army
 OSD Office of the Secretary of Defense
 PREVENT Military Educational Approaches to the Prevention of Non-Therapeutic Use of Drugs
 PX post exchange
 SAVER Study to Assess and Validate Essential Reports
 SDC System Development Corporation
 USABESRL US Army Behavioral Science Research Laboratory
 UTILITY Studies of Soldiers in Lower Mental Categories; Job Performance and Identification of Potentially Successful and Potentially Unsuccessful Men

Chapter 1
INTRODUCTION

As a part of the initial phase of the study, "Evaluation of the Modern Volunteer Army (MVA) Program," RAC reviewed, analyzed, and evaluated the MVA Program and over 100 studies which address problems related to developing a volunteer force. This is in response to Phase I, Task 1, of the Work Statement,¹ which is:

To collect, catalogue, correlate and review all civilian and military ongoing and completed studies or projects related to MVA programs and display these data in common terms as concerns the current status and results achieved; identify information gaps and make recommendations for new studies or data collection.¹

Appendix A, "Analysis of Studies Pertinent to MVA Programs," of the RAC Interim Report of 22 Sep 71,² met the requirements of Task 1. The first quarterly report, "MVA Program Evaluation,"³ contained the updated version of the ongoing studies and surveys to be reviewed and evaluated, plus a bibliography of additional RAC/MVA data bank acquisitions.

The trend in the study's monitoring effort has been progressively to fewer studies requiring Office of the Special Assistant for the Modern Volunteer Army (OSAMVA) cognizance. Many of the studies that were in the planning stage when the RAC/OSAMVA study began have been dropped from the various research work programs before actually reaching implementation stage. A few were started but terminated while in progress. Therefore this report presents the "enduring" studies and surveys in their most updated forms. Tables 1-1 and 1-2 show ongoing studies and surveys arranged by sponsor or study origin, and Table 1-3 identifies surveys yet to be completed. Abstracts of studies completed during the course of the RAC/OSAMVA study are in Chap. 2, abstracts of studies

completed before the RAC/OSAMVA study are in Chap. 3, and a listing of the contents of the RAC/MVA data bank is in Chap. 4.

Table 1-1

PROGRESS CHART OF OFFICE OF THE DEPUTY CHIEF OF STAFF FOR PERSONNEL (ODCSPER)
 SPONSORED STUDIES AND SURVEYS MONITORED BY RAC FOR OSAMVA

Study sponsor	Performing agency/contractors	Title	Status	Estimated date of completion
DACS-MA	Cambridge Communications	Communications Themes and Approaches for Accessions to the Combat Arms (CINECOM II)	In progress	Jan 72, final draft in preparation
DACS-MA	Systems Development Corporation (SDC)	Evaluation of VOLAR Programs	In progress	Aug 72
DAFE-DDD	Human Resources Research Organization (HumRRO)	Methodology of Studying Drug Usage in Military Settings (MODE)	In progress	Jun 74
DAFE-DDD	HumRRO	Military Educational Approaches to the Prevention of Non-therapeutic Use of Drugs (PREVENT)	In progress	Jun 73
DACS-MA	HumRRO	VOLAR-E; MVA Field Experiment Evaluation	In progress	Oct 72
DAFE-MPC	US Army Behavioral Science Research Laboratory (USABESRL)	Development of New Forms of the Armed Forces Qualification Test (AFQT)	In progress	Continuing
DAFE-MPC	USABESRL	Development of New Forms of the Army Classification Battery (ACB)	In progress	Continuing
DAFE-MPC	USABESRL	Differential Classification	In progress	Continuing
DAFE-MPC	HumRRO	Enlisted Manpower for the MVA	In progress	Continuing (beyond FY72)
DAFE-MPC	HumRRO	Design of a New Technique for Changing Racial Attitudes among Military Personnel (BR-20)	In progress	Jun 72



Table 1-1 (continued)

Study sponsor	Performing agency/contractor	Title	Status	Estimated date of completion
DAFE-MPC	USABESRL	Manpower Management for Individual and Organizational Development-- Manpower Development	In progress	FY73
DAFE-MPC	To be contracted	Motivations of Members of Minority Groups to Serve in the Army	Proposed	
DAFE-MPC	USABESRL	Officer Assessment for Career Development (Officer Career)	In progress	Continuing (beyond FY72)
DAFE-MPC	USABESRL	Officer Career Counselling	In progress	Mar 72
DAFE-MPC	USABESRL	Officer Systems (Officer Evaluation Performance Systems)	In progress	Continuing
DAFE-MPC	Motivation and Training Laboratory (MTL)	Sociological Analysis of Enlisted Personnel Systems	Planned (work statement exists)	
DAFE-MPC	HumRRO	Studies of Soldiers in Lower Mental Categories; Job Performance and Identification of Potentially Successful and Potentially Unsuccessful Men (UTILITY)	In progress	Late FY72
DAFE-PB	HumRRO	Determining Ultimate Proficiency Levels Attainable	In progress	Jun 72
DAFE-PB	HumRRO	Development of Methods for Improving Soldier Adjustment Levels (ESPRIT)	In progress	Jun 74
DASG-CN	Dept of Commerce	ANC (Army Nurse Corps) Structure Analysis and Program Planning Study	In progress	Feb 73

Table 1-1 (continued)

Study sponsor	Performing agency/contractor	Title	Status	Estimated date of completion
DAPM	Correctional Training Facility (CTF)	AWOL (Absent without Leave) Study	In progress	Jun 72
DAPE-IIR	USABESRL	Selection for Retention	In progress	Continuing
DAPO-FM	USABESRL	Selection of Army Aviators for Initial Flight Training	In progress	Continuing (beyond FY72)
DASG	Computer Science Corporation	Development of an Effective Education and Information Program to Implement CHAMPUS (Civilian Health and Medical Program of the Uniformed Services)	In progress	
DAPE-IIR	USABESRL	Primary Officer Leadership	In progress	Continuing
DAPE-MPL	Human Sciences Research Institute	Leaders Race Relations Handbook	In progress	Jun 72

Table 1-2

MONITORED STUDIES OF OTHER-THAN-ODCSPER SPONSORSHIP

Study sponsor	Performing agency/contractor	Title	Estimated date of completion
Army Medical Department (AMEDD)		Program for Medical, Osteopathic, Dental, and Veterinary Education for Regular Army Officers	Continuing
Comptroller of the Army (COA)		Study to Assess and Validate Essential Reports (Project SAVER) (SM 70-317; 71-69)	Continuing
US Continental Army (COMARC)	HumRRO	Performance Test of AIT (Advanced Individual Training) Graduates, Ft Bragg and Ft Carson	Continuing
Chief, Office of Reserve Components (CORC)	CORC	Role of the Army Reserve Component Adviser	Continuing
Office of Assistant Secretary of Defense (Manpower & Reserve Affairs) [OASD (M&RA)]		DOD-Wide Annual Personnel Survey	Continuing
OASD (M&RA)		Enlisted Retention Analyses	Monthly
OASD (M&RA)	HumRRO	Entrance Attitude Surveys (Enlisted and Officer Candidates)	Continuing
OASD (M&RA)		Exit Interviews of Samples of Separating Servicemen	Semiannually
OASD (M&RA)		Monthly Comparisons of Service Enlistment Plans and Actual Achievement	Monthly



Table 1-2 (continued)

Study sponsor	Performing agency/contractor	Title	Estimated date of completion
OASD (M&RA)		Officer Retention Analyses	Monthly
OASD (M&RA)		Quarterly Officer Procurement Analyses	Quarterly
OASD (M&RA)		Random Sequence Number Analysis	Monthly
Office, Chief of Research and Development (OCRD)	USABESRL	Estimating Aptitudes and Skills Available for an All-Volunteer Army and for Full or Partial Mobilization (MANPOWER RESOURCES)	Jun 74
Office of the Secretary of the Army, Deputy Chief of Staff for Military Operations (OSA/DCSOPS)		Alternative for Improved Army Force Capabilities (TAG Ltr, 30 Apr 71)	Continuing
Office of the secretary of Defense (OSD)	Manpower & Reserve Affairs (M&RA)	Analyses of Paid TV-Radio Advertising	Dec 71
OSD		Basic Indicators of Progress	Ongoing
OSD	RAC	DOD Nonappropriated Funds Personnel Study—Basic Wages and Salaries	Aug 72
OSD	National Data Use and Access Laboratory	Preparation of Census Data for Manpower and Recruiting Studies	Jul 71

Table 1-2 (continued)

Study sponsor	Performing agency/contractor	Title	Estimated date of completion
SAMVA	HumRRO	Performance Testing of Ord/Jackson, Basic Combat Training (BCT)/AIT Graduates Assigned to TOE Units in USAREUR, Ft Bragg and Ft Carson	Continuing
COMARC	OCRD	Experimental Volunteer Army Training Program (EVATP)	Dec 71
COMARC	HumRRO	Unit Goals Approach to Improving Racial Relations in Army Units	Continuing
	Gilbert Youth Research Inc.	Attitudes of Youth Sub-populations toward Voluntary Enlistment	Jun 72
	Institute for Defense Analyses (IDA)	Enlistment, Reenlistment, and Compensation Studies	Sep 72
	University of Michigan	Longitudinal Follow-up of Youth in Transition Participants—Knowledge, Plans, Attitude concerning Military Service	

Note: Lack of an entry in "Sponsor" or "Performing Agency/Contractor" column indicates an information requirement.

Table 1-3
SURVEYS REVIEWED AND EVALUATED BY RAC FOR OSAMVA

Survey	Performing organization	Report due
Attitude/Opinion Surveys at VOLAR Installations	SDC	30 Jun 72 (final)
Attitude/Opinion Surveys at Non-VOLAR Installations	SDC	May 72 (est)
Gilbert Youth Survey #2	Gilbert	May 72
AFEES (Armed Forces Examining and Entrance Station) Administered Survey	HumRRO, Project Volunteer, OSD	Monthly
Reserve Components Survey of NPS (Nonprior-Service) Personnel	RAC	Aug 72

Chapter 2

STUDIES AND SURVEYS REVIEWED BY RAC AND COMPLETED DURING THE RAC/OSAMVA EFFORT, FY71-FY72

Abstracts of the studies and surveys reviewed and evaluated by RAC and completed during the RAC/OSAMVA effort, FY71-FY72, are presented in this chapter. The abstracts are arranged in alphabetical order, with each abstract starting on a new page. Each abstract contains the title, the objective, and the findings of the study or survey.

Title: "Analysis of MVA/VOLAR Actions Impact on Soldiers' Attitudes toward the Army and on Retention," Draft—Interim Final Report, TM-4886/002/00, System Development Corporation, 1 Jun 72.

Objective: Analysis of the effectiveness of MVA/VOLAR actions and attitudes toward the Army.

Method: Attitude survey (MVA Evaluation Questionnaire) given to officers and enlisted men at VOLAR-72 installations and non-VOLAR installations; interviews conducted at VOLAR-72 installations; descriptions and observations of MVA/VOLAR actions implemented at the VOLAR-72 installations; documented results of VOLAR-71 evaluation studies conducted by HumRRO; and documented results of evaluations conducted by VOLAR-72 installations.

Conclusions: The overall findings from the March 1972 survey were highly consistent with those from the December 1971 survey. The MVA/VOLAR program continues, on the whole, to be gaining widespread acceptance and meeting with a generally quite favorable response on the part of the target population. Results to date show that certain actions such as those concerned with job assignment, growth and experience, health care, and pay and benefits have a consistently high positive impact on both attitude and retention. Areas in which concerted efforts have been made by the VOLAR posts generally show higher positive responses than at the non-VOLAR posts. In particular, the overall attitudes and reenlistment intent of the under-two years service group at VOLAR posts are generally significantly higher than at non-VOLAR posts; the posts which have been involved in the VOLAR program for the longest period of time (i.e., VOLAR-71 posts) show, as a total group, even more positive results. There appears to be some leveling off in the positive reaction to specific MVA/VOLAR actions, perhaps reflecting situations in which actions were less in magnitude or slower in implementation than anticipated and also perhaps reflecting a condition in which the population is becoming more accustomed to actions which were originally considered quite novel.

- Title:** "Analysis of MVA/VOLAR Actions Impact on Soldiers' Attitudes toward the Army and on Retention, Vol I: Study Results, Vol II: Data Annex," MVA/VOLAR Evaluation Project, Interim Report, SDC, 25 Feb 72.
- Objective:** To analyze various respondent groups to determine similarities and differences in attitudes, attitude trends, and effects of MVA/VOLAR on these attitudes and on retention.
- Findings:** In brief, selected study findings are paraphrased below.
1. Officer groups, as a whole, have a more positive attitude overall toward the Army than do enlisted groups.
 2. Enlisted personnel with more-than-2-years' service have a significantly more positive attitude overall than those in the less-than-2-years group; however, the VOLAR less-than-2-years group has a consistent and significantly (4 percent) more positive attitude on general, job-specific, and leadership and supervision factors than does the comparable non-VOLAR group.
 3. Overall reenlistment intent for enlisted personnel is about 20 percent but varies widely from post to post; that for the VOLAR less-than-2-years group is significantly higher (4 percent) than that for the comparable non-VOLAR group, but still quite low when compared to that for the over-2-years groups (7 percent vs 36 to 39 percent).
 4. The comparison of soldier expectations and degree of perceived fulfillment shows a difference of approximately 30 percent over the past 10 months.
 8. Actions that have a high impact on attitude but low impact on retention are generally in the areas dealing with personal activities, preferences, and conveniences. These include beer availability, freedom to decorate own room, post exchange (PX) goods and service, transportation services, and entertainment and recreation.
 9. Action areas to date which have had a low impact on attitude toward the Army but a high retention effect are those in the areas of job assignment (choice and relevance), work conditions, hours of work, and leadership and supervision. Accordingly, it is suggested that these areas be given additional emphasis.
 10. With reference to the 17 action areas considered, changes noticed were generally quite positively received by both the VOLAR and non-VOLAR groups.

13. Pay and benefits actions (together with job assignment, opportunity for growth and education, and health care) have had the most positive impact on attitude toward the Army and on retention. However the higher grades indicate a somewhat less favorable response to changes noticed to the reenlistment bonus area than do the lower grades.

Title: "An Analysis of Problems Associated with the Establishment of an All-Volunteer (Zero-Draft) Force for the United States (SABER Volunteer)," Dept of Air Force, Studies and Analysis HQ, Assistant Chief of Staff, Office for Special Studies, Dec 71.

Objective: To examine three problem areas related to the establishment of an all-volunteer force: (a) the magnitude of the recruiting task which will confront the Services; (b) the "supply" of young men from which the all-volunteer force must come; and (c) pay -- as a link between "demand" and "supply."

Method: Analysis of lottery data for CY70 for all four Services, test information on lottery registrants, descriptions of Air Force skill assignments, and other relevant data on males 17-22 years of age.

Findings: Initial accessions to the Navy merited the highest scores on the AFQT, followed in sequence by those joining the Air Force, the Army, and the Marine Corps.

Racially, between 84 and 90 percent of all DOD male accessions were white. The difference in quality (measured in terms of AFQT) between true and reluctant volunteers is described as statistically significant but "slight."

In sum, some 60 percent of all CY70 military accessions were either draftees or motivated by the draft. True volunteering of the 19-22 age group is highest at ages 19 and 20. "Quality" appears to be satisfactory to the Air Force for 1970.

Throughout the decades of the 1960's and 1970's the reservoir of qualified and available men amounts to no more than 60 percent of the cohort. There is not an overabundance of young men to provide candidates for an all-volunteer force.

Compensation is expected to play a major role in an all-volunteer environment, and an open market for the talents of young men is predicted.

With passage of Public Law 92-129, pay for recruits is reasonably competitive with the pay of young civilian workers.

Military pay for the very young worker (19 and lower) is well above the earning levels of the young civilian.

The relation of pay to high mental qualification is more apparent with advancing age.

Title: "Aptitude Strategies (APSTRAT)," OASD (M&RA) and OSA/
DCSPER, HumRRO.

Objective: To develop a new approach on "training strategies" to
enhance individualized Army technical training at Ser-
vice schools.

Findings: A model was developed of aptitude strategies and the
Army's Field Wireman course, MOS 36K, was selected as
the experimental vehicle.

Principal strategies of the APSTRAT model are modular
sequencing of course material content, peer instruction,
individual instruction, individual pacing, rapid and
detailed feedback, and functional context training.

(Due to study results, CONARC has directed that five
Army training centers conduct Field Wireman courses
utilizing the APSTRAT techniques.)

Title: "Attitudes of Youth toward Military Service: A Comparison of Results of National Surveys Conducted in May 1971 and November 1971," prepared for OASD (M&RA) by HumRRO (surveys conducted by Gilbert Youth Research, Inc.), Apr 72.

Objective: To determine for American youth,

- (a) their potential for voluntary enlistment in the Regular and Reserve military forces in a draft-free environment,
- (b) their factual knowledge and perceptions of the Regular and Reserve forces,
- (c) their reactions to enlistment incentives, benefits, compensation, and options or conditions of service, and
- (d) their enlistment propensity in terms of demographic characteristics, socioeconomic background and educational/occupational status, achievements, and interests.

Findings: The following findings are selected for inclusion in this abstract:

1. In both May and November, the military service was seen by a substantial percentage of youth as offering a secure/steady job.
2. The attitudes of youth toward military service improved slightly in the November 1971 survey compared with the May 1971 survey. Even with this improvement, a negative attitude toward military service was still held by a substantial percentage of American youth -- largely because military service is perceived as interfering with the freedom/life style of youth.
3. American youth overwhelmingly endorsed the concept of an all-volunteer military service in both the May 1971 and the November 1971 surveys. In a peacetime condition, over 80 percent would prefer this approach to military service. Conversely, only about 15 percent would prefer the present draft system during peacetime.
4. Among the men who say they would enlist if there were no draft, the Navy (25 percent) was the preferred Service in November 1971, while the Air Force (30 percent) was most preferred in May 1971.
5. The image of the Services does not appear to have changed appreciably from May 1971 to November 1971.

6. A fully paid college education was the most preferred potential enlistment incentive in both surveys. However its appeal appeared limited among the sons of families under \$8000 annual income.

7. Current incentives to enlistment endorsed in both surveys include (a) choice of branch of Service, (b) travel, excitement, and new experiences, and (c) learning a skill or trade valuable in civilian life.

8. In the November 1971 survey, college juniors and seniors were asked to indicate the likelihood of their enlistment as a regular officer (assuming no draft). Approximately 13 percent indicated that they would volunteer as an officer in the active Service.

9. In both surveys, the majority of youth reported exposure to military recruiting information through such media as television, posters, and magazine/newspapers. A slight decline in radio and TV exposure was noted.

10. Television continues to emerge as the most influential of the media by virtue of mass exposure (74 percent exposed to TV, in the November 1971 survey). Only 51 percent of those reporting TV exposure regard the information about military opportunities obtained from TV to be adequate.

Title: "Attitudinal Studies of the VOLAR Experiment, 1971:
1. The Enlisted Permanent Party at Five Posts (Fts Ord,
Jackson, Benning, Carson, and Knox)," S. J. Goffard,
J. S. DeGracie, and R. Vineberg, HumRRO, Nov 71.

Objective: Evaluation of VOLAR innovations.

Method: Attitude surveys (questionnaires) given to enlisted
men, some in training and some cadre, and to officers.
Six questionnaires were designed: VOLAR I, II, II-S,
III, IV-E, and IV-O.

Conclusions: The following conclusions are selected for inclusion in
this abstract.

1. If there were different programs of VOLAR innovations in effect at the five posts during the period of this study (January to June 1971), there is no evidence that these programs had any differential effect, one way or another, on the reenlistment intentions or the attractiveness of the Army to men in the permanent party, regardless of the length of time they have been in the Army.

2. The single variable found to affect reenlistment intention, both among men with 2 years of service or less and among men with more than 2 years of service, was draft motivation, which is not under Army control.

3. Herzberg's notion that the motivation to work is intrinsic to the job and not a product of extrinsic conditions appears to be supported by these data.

4. In view of the differences in the evaluations of check list items made by men with 2 years of service or less and by men with more than 2 years of service, the same programs of innovations seem unlikely to attract both groups.

Title: "Attitudinal Studies of the VOIAR Experiment, 1971:
2. The Enlisted Permanent Party at Ft Bragg and Three
Installations in USAREUR," S. J. Goffard, J. S. DeGracie,
and R. Vineberg, HumPRO, Nov 71.

Objective: Evaluation of VOIAR innovations.

Method: Attitude surveys.

Conclusions:

1. Since the April and June samples of men in USAREUR were equivalent in all other respects, the differences observed appear to represent changes in operations of one or more of the three installations.
2. The differences between the USAREUR sample and the total sample in background characteristics make it impossible to draw firm conclusions about the large differences between this sample and the total sample in attitudes and reenlistment intentions. While the samples are the most negative of any examined, it is impossible to say whether the operation of the installations has any influence on their attitudes toward the Army.
3. The large numbers of differences between this sample and the total sample on the various check lists suggest that a great many innovations or changes are being made at the three installations. It is impossible to say whether they are effective in increasing the attractiveness of the Army; the data suggest that they may be decreasing its attractiveness.

Title: "The Development and Implementation of the Experimental Volunteer Army Training Program," J. E. Taylor, E. R. Michaels, M. F. Brennan, HumRRO, Nov 71.

Objective: To chronicle the planning and implementation of the EVATP at Ft Ord over the period mid-November 1970 to 30 Jun 71.

Method: Direct observation and statistical analysis of training test results.

Conclusions: Because of the project structure, conclusions are divided into those on BCT and AIT. Accordingly, they are listed below.

BCT

In general subjects, first aid, chemical, biological, and radiological (CBR) defense, and land navigation, the reorientation of instruction toward performance objectives and mastery of skills produced a soldier with a superior level of skill attainment, when compared with his conventionally trained counterpart.

In subjects, guard and M-16 weapon maintenance, where the contrast in amount of practical work was less marked, the differences in performances still remained significantly in favor of the men trained under the experimental program.

Only in subjects individual tactical training and drill and ceremonies were there no significant overall performance differences.

There were no disproportionate contributions by Category I and II men toward the total percentage of successful performances in the general Ft Ord results.

The differences in performances of Ft Ord vs Ft Jackson men in each mental category were in the direction of the general performance differences.

The Ft Ord results indicate that the performance differences among men at each mental category were lessened by the performance orientation of the EVATP. The trend was toward reduction of performance differences among mental categories.

AIT

In general, the results indicate that the experimental AIT program produced soldiers with a higher degree of

skill attainment in the subjects tested within a shorter period of instructional time.

Even in the weapons subjects, where conventionally there was a substantial amount of practical work, the soldiers trained at Ft Ord showed a considerably higher level of proficiency. The only exceptions were performances on the .45 caliber pistol tests and the M-203 grenade launcher tests, where the levels of performance were roughly equivalent.

In the tests of communications and land navigation, where a stronger cognitive component was tested, the soldiers trained under performance-oriented instruction generally maintained their higher level of proficiency. The land navigation test results indicate that these skills were retained at a considerable level over a 9-week period.

Overall, the EVATP trains men of all mental category levels to a higher level of proficiency in most of the subject skills. The EVATP tends to lessen, in addition, the degree of achievement differences among men of all category levels.

Title: "Effectiveness of the Modern Volunteer Army Advertising Program," prepared for Dept of Army, OSAMVA, by Stanford Research Institute, Stanford, Calif., Dec 71.

Objective: To analyze the Army's paid broadcast-media in terms of its objectives, planning, the media and ads used, the audiences to whom it was addressed, its interrelation with the person-to-person recruiting efforts of the Army, and its administration or execution.

Method: Statistical and subjective interpretation of data on Spring 1971 advertising campaign.

Findings: Paid broadcast-media advertising was:

1. Very effective in increasing awareness of Army advertising among young male Americans without prior service.
2. Effective in motivating some of these men to action represented by making personal inquiries about Army service.
3. Accompanied by increases in levels of Army enlistments beyond those that past enlistment trends would indicate.
4. Accompanied by more pronounced increases in levels of Army enlistments in the geographic section of the US where advertising was most intensified.

Title: "Evaluating the Effectiveness of the Army's Paid Advertising Campaign, Phase I," Audits and Surveys, Sep 71.

Objective: To trace the effects of the Army's paid advertising campaign through several stages -- awareness, attitudes, and behavior.

Method: Questionnaire and interview of sample composed of several advertising audiences of 17 to 21 year olds.

Findings:

1. The campaign generated high levels of awareness among the target population of 17-21 year old men.
2. Recall of the content of the Army's advertising is high, with particular recall of both the campaign slogan, "Today's Army Wants to Join You," and the European Duty theme.
3. Awareness and recall of advertising is not related to actual enlistment or disposition toward enlistment.
4. The level of agreement with the advertising themes improves with increasing involvement in the possibility of Army service.
5. There is no significant evidence that the advertising campaign has been a clear success in making men more disposed to enlist in the Army.
6. For all groups, the initial impetus for considering Army service comes from "outside" factors -- e.g., the draft, the inevitability of service, and the lack of a job.
7. There is no clear evidence that the advertising campaign had any significant effect on individuals' decisionmaking process.
8. Slightly more than one out of three Army enlistees (36 percent) planned to enlist prior to the campaign.
9. Based on Advertising Attribution Score, it is estimated that about 7 percent of Army enlistees in June were in some way affected or influenced by the paid advertising campaign.
10. Awareness of the advertising is higher in test markets than in the rest of the country, where the level of awareness is already high.
11. Recall of "Today's Army Wants to Join You" is greater in test markets for the general population and the enlistees.

12. Agreement with advertising themes is the same in the test markets as in the total US, indicating that the additional advertising had little or no incremental effect on young men's attitudes.

13. It seems clear that, although the double weight of advertising in the test markets generated relatively higher levels of awareness than in the rest of the country, it did not affect other aspects of awareness, attitudes, or behavior in a similar fashion.

14. There is no indication that the advertising campaign influenced men to change their attitudes toward serving in the combat arms.

15. Overall, Audits and Surveys believes the advertising-attributed enlistments among Delayed Entry Program recruits were overstated by Army recruiters.

Title: "Future Impact of Dissident Elements within the Army on the Enforcement of Discipline, Law, and Order,"
R. W. Rae, S. B. Forman, and H. C. Olson, RAC-TP-441,
Research Analysis Corporation, Jan 72.

Objective: To determine the current level of dissidence in the Army and to examine the possible causes of dissident behavior as a basis for estimating what the trend may be in the next few years.

Method: Interview, statistical analysis.

Conclusions: Although there are continuing activities in types of dissent with possible political overtones, such as demonstrations, publishing of underground newspapers, and attendance at antimilitary coffee houses, these do not represent a serious problem for the Army at the present time in terms of enforcement of discipline, law, and order. Moreover, these are likely to become less of a problem as the Vietnam War winds down and the MVA comes into effect.

The major problems affecting discipline, law, and order in the Army appear to be (a) drug usage, (b) inter-racial friction, and (c) disrespect to superiors and refusal of orders. Not only are these problems serious at the moment, but the trend appears to be towards an increase in frequency.

There is no evidence that the types of situations created by the problems listed above will create a need for military police procedures other than standing operating procedures. However, in view of the increasing trend in these incidents, current military police authorized strengths may not be sufficient to cope with the problem adequately over the next few years.

Title: "Innovations for Achieving an AVAF," Dr. Stephen Enke, GE/TEMPO, prepared for OASD (M&RA), Dec 71.

Objective: To identify major innovations, some of which may have to be undertaken before the draft ends, if there is to be a satisfactory transition to an All-Volunteer Armed Force (AVAF).

Method: Statistical and subjective analyses of manpower data.

Findings: An AVAF by the end of FY76 still appears feasible as a goal, depending on what force strengths and quality distributions are required, and if supplemented by additional personnel innovations. Some of these innovations are outlined below.

1. Draft. Use the draft, while it remains, to gain more quality temporarily. Induct men only of mental category III or better. Get draft calls in FY72 of 50,000 and in FY73 of 100,000. Relieve Army excess strength by encouraging enlistees to take 2 years of Selected Reserve obligation in lieu of their last active duty year. Recruit category IVs as required.
2. Compensation. Pay extra for enlistees of superior quality, as measured probably by other means than the present AFQT. Special compensation could be a combination of extra pay, enlistment bonus, or reenlistment bonus. Starting FY74, pay premiums (e.g., 35 percent extra pay and \$2500 on each enlistment) to first termers qualifying as mental category I and II and an almost equivalent percentage raise to quality men in the career force.
3. Servicewomen. Direct that Services enlist more women and establish quotas by Service. DOD should be able to fill an extra 1 percent of enlistee slots each year for 4 years starting FY73. The percentage for the Navy and Air Force should be lower.
4. Civilians. Use more civilians in place of enlistees and in lieu of first termers. Make the choice between military and civilians more impartial, deliberate, and flexible. Procedural changes are needed within DOD, especially appropriate account transfer authority between the Military Pay Account and a new subaccount of Operations and Maintenance.
5. Flexibility. Congress should grant DOD new discretionary authority to transfer appropriated funds among prescribed accounts, to offset manpower supply control that OSD is losing with the end of the draft.

Congress should establish a considerable and truly incremental personnel compensation fund. OSD discretion to use such funds should include paying enlistment and reenlistment bonuses of all kinds.

Title: "Personnel Offensive (Phase I)," Executive Summary,
US Army Combat Developments Command, Personnel and
Logistics Systems Group, 18 Sep 71.

Objective: (a) To describe the changing characteristics of incoming
military personnel during the 1970's.

(b) To determine the effects of the changing character-
istics of personnel in the 1970's upon Army personnel
policy and doctrine.

(c) To propose alternative Army leadership techniques,
personnel policies, and doctrine regarding troop leader-
ship, personnel management, and administration.

(d) To identify areas where sufficient information is
lacking and describe the requirements for Army studies
or research in these areas.

Method: Review of secondary source data.

Findings: The Executive Summary contains 27 pages of findings con-
cerning the changing characteristics of incoming person-
nel in the decade of the 1970's and suggested modifica-
tions in the Army's structure for meeting the changes.
There are two pages of conclusions and recommendations
that, in effect, favor the acceptance of and action
upon the findings of the study.

Title: "Value Conflicts between Civil Society and Military Institutions," H. C. Olson, J. H. Bigelow, P. S. Bon-sall, R. W. Rae, Draft, Research Analysis Corporation, Feb 72.

Objective: (a) To describe significant points of value difference between the social value system in civilian life as contrasted with that of Army personnel, with emphasis on the values of the nation's youth.

(b) To determine the feasibility of change in those Army institutional practices, policies, and traditions which appear to be causes of value difference and which will accommodate the societal values without compromising the Army's effectiveness.

Method: Survey, statistical analysis.

Findings: Findings are broken down by (a) influence of age, (b) values and needs of youth, (c) military/civilian orientation, and (d) potential for reenlistment. Selected findings are listed below.

Influence of Age

Satisfaction from and importance attached to family are consistently highest among all the value questions for all personnel at all age and grade levels.

Personal development is second in importance to work and increased systematically with age, becoming for the older respondents as important as concern for the family.

The need for security becomes increasingly important with increasing age; physiological needs appear to be generally lowest in importance across all age levels.

Self-actualization is above the norm in importance for all age levels and is perceived to be nominally gratified in Army service.

Values and Needs of Youth

Youth have highest concern for family, as expressed in objectives of a happy life and security for family.

Youth have high concern for personal development, as expressed by goals for fair and equitable treatment by others, desire to find "beauty in life," and opportunity for education.

Among all needs of youth in a military environment, self-actualization needs are relatively the most important to the young; physiological and security needs are relatively less well gratified, but physiological needs also are less important to youth; social needs are well gratified, and moreover are relatively important.

Suggestions for change follow the findings in the report summary (pp 8-15 to 8-19).

Chapter 3
STUDIES COMPLETED BEFORE THE RAC/OSAMVA EFFORT

Abstracts are presented in this chapter of selected studies and surveys identified during the literature search of Phase I, Task 1, as pertinent to the subject of the MVA. The abstracts are arranged in alphabetical order, each abstract starting on a new page. Each abstract provides the title, status, objective, method, and findings of the study or survey.

Title: The American Enlisted Man, C. C. Moskos, Jr., Russell Sage Foundation, New York, 1970.

Status: Completed 1970.

Objective: To analyze the "role of the rank and file in the military system ... and in American society." The book deals with the soldier, beginning with World War II and projecting into the 1970's. Moskos, himself a draftee in 1956, concerns himself principally with the US Army enlisted man.

Method: An analysis of statistical data, interviews, and over 180 bibliographic references form the basis of the findings. The author makes special mention of the data collected by the National Opinion Research Center, University of Chicago, 1964, during the course of the Military Manpower Policy Study ordered by President Johnson.

Findings:

1. An unfavorable attitude toward military life is characteristic of draftees, and causes a strain between single-term servicemen and career soldiers; this "conflict ... in many instances overrides that between enlisted men and officers."
2. The military man led the way in racial integration. "It is a commentary on our nation that many black youths, by seeking to enter and remain in the armed forces are saying that it is even worth the risk of being killed in order to have a chance to learn a trade, to make it in a small way, to get away from a dead-end existence, and to become part of the only institution in this society that seems to be really integrated."
3. With regard to the combat soldier, the study finds "that the intensity of primary-group ties so often reported in combat units are best viewed as mandatory necessities arising from immediate life-and-death exigencies." Furthermore, the American soldier's essentially individualistic frame of reference is ... reinforced ... by the rotation system—which sets a private terminal date for each soldier's participation in the war.... This is not to deny the existence of strong interpersonal ties within combat squads, but only to reinterpret them as derivative from the very private war each individual is fighting for his own survival."

4. "The high probability of a curtailed draft and major increases in military pay will serve to reduce significantly the degree of middle-class participation in the enlisted ranks. This state of affairs will become acutely pronounced if the Selective Service System is abandoned entirely in favor of an all-volunteer force. For...armed forces...will of necessity increasingly draw its membership from America's economic and racial underclasses. Furthermore, such an enlisted membership coupled with an almost entirely college-educated officer corps will most likely contribute to a more rigid and sharp definition of the castelike distinctions between officers and enlisted men within the military organization of the 1970's."

5. We can look to a greater use of civilians in support-type positions in an all-volunteer force.

6. American forces will be increasingly augmented by foreign nationals.

7. "What should not be forgotten is that the United States has normally (sic) looked upon its military with some disfavor...the quarter-century-old honeymoon between the American public and the military establishment is likewise coming to an end."

8. "Unlike civilian institutions...the military can rigorously suppress internal agitation... With the advent of a curtailed draft or all-volunteer force, the military will find its membership much more acquiescent to established procedures and organizational goals."

Comments:

An excellent study which includes much statistical data for analysis. The author, a former enlisted man (combat engineer, draftee), "liked the Army while serving in it and I still do." He takes issue with the national policies which committed Americans to intervention in Vietnam. In a concluding statement he says that "in many ways our American nation has a much better military than it deserves." He looks to a relatively stable all-volunteer force divergent from our society in structure, with great distinction between officer and enlisted ranks, and with greater civilianization. He feels that future US intervention which may occur in an all-volunteer environment will have less political impact at home than did our Vietnam involvement; but he is quite critical of what he feels are basically adventuristic policies.

Title: "An Analysis of Post-World War II Manpower Research, Policy and Program Experience Applicable to Current Manpower Planning and Peacetime Conversion of Military Manpower to Civilian Occupations," Georgetown Research Project, Atlantic Research Corporation, Oct 68.

Status: Completed 1968 (Sponsor--Dept of Labor)

Objective: To analyze Post-World War II research, policy, and program experience applicable to planning for the conversion of military manpower to civilian occupations following cessation of Vietnam hostilities.

Method: Examined literature and research relating to civilian employment experience of military separatees, and the extent to which skills and training obtained in the Armed Forces prove transferable to the civilian job market. Assesses quantitatively and qualitatively the public and private programs designed to facilitate the conversion process.

Findings: Included in the 18-page Summary are the most prominent studies of the last 25 years on the mobility of Service retirees; the civilian uses of Service vocational training and education; the careerist and non-careerist in the civilian job market; the transferability of skills; and the disabled.

Recommendations include that (1) more and better studies should be done on enlisted men and 2-year draftees, after separation; (2) Sharp and Biderman's study of careerist after separation should be used as the point of departure for future studies on the subject; (3) markedly low non-use in civilian life of training imparted in some skill areas by the Armed Forces warrants further study; (4) Project 100,000 should be expanded to advance the nation's manpower objectives in behalf of the disadvantaged; and (5) greater budget support for Project Transition.

Comments: This anthology on the transition from military to civilian life contains much useful material on skill levels and income distribution, particularly the tables on pp 221-30.

Title: "Attitude Change in Marine Recruit Training,"
Report Number 68-26, Naval Medical Neuropsychiatric
Research Unit, San Diego, Calif., 1968.

Status: Completed Study, 1968

Objective: To investigate changes in attitude of Marine
Corps recruits during recruit training to
determine if there is an overall change in
the direction of a more positive appraisal of
the Marine Corps.

Method: The recruit sample consisted of 489 Marines who
entered basic training at approximately the same
time and who remained with the same platoon
throughout training. These Marines were members
of two series, each series in turn composed of
four platoons. A control series of 260 recruits
was tested on the 39th training day, which was
comparable to the final testing session for the
experimental group, but was not tested at any
of the other testing phases. A comparison of
the control and experimental groups on final
attitude permitted the determination of whether
repeated test taking effects were operating to
influence the final attitude score.

Recruits were given a battery of three question-
naires at the first testing session: a biograph-
ical inventory, the Cornell Medical Index, and a
Marine Corps Opinion Survey. Only the Cornell
Medical Index and Opinion Survey were readministered
at subsequent testing sessions. The control group
was given the entire battery of tests.

Items in the Opinion Survey were designed to
reflect attitudes toward the Marine Corps in
general and commissioned and noncommissioned
officers. All items were combined to yield a
"general attitude" score. This survey was given
to both series of platoons four times, on the
second day after arrival at the training depot
and on the 15th, 30th, and 39th training day,
which correspond to the beginning of training,
the end of the first and second phases, and the
conclusion of training.

Findings:

On the basis of the data generated in the survey, three general conclusions were made as follows:

1. Attitudes toward the military and toward superior officers tend to change in a negative direction during recruit training.
2. Multiple regression analysis of biographical variables to a criterion of attitude change revealed that the recruit whose attitude changed in a positive direction can be characterized as young, of below average intelligence, and from a lower socioeconomic background.
3. Membership in a particular platoon is of considerable importance in determining attitude change. Furthermore, platoon differences were not attributable to differences among platoon personnel at least with regard to the variables analyzed in the study or to initial attitude scores. Thus platoon variations on the criterion of attitude change existed independently of variations in platoon composition.

Comments:

Contrary to assumptions sometimes made that Marine Corps recruit training exerts a positive influence on recruit attitudes toward the Corps, this study indicates that such attitudes do not become more favorable as training progresses. Possibly the reality of the training process may serve to dampen temporarily the ardor initially experienced on joining the Corps. The more intelligent recruit appeared to be fairly stable in his attitudes which may be indicative of more positive and highly developed self concepts.

With reference to the first conclusion, platoon differences in such variables as platoon homogeneity or in characteristics of drill instructors may play an important role in developing positive attitudes.

Title: "Attitudes and Motivations of Young Men toward Enlisting in the US Army," prepared for N. W. Ayer & Sons, Inc., and the US Army, by Opinion Research Corporation, Princeton, N.J., May 71.

Status: Completed 1971

Objective: To provide up-to-date information on the attitudes and motivations of young men, aged 17-21, relating to enlistments in the US Army; indicate the types of actions which might increase voluntary enlistments; and provide information on the feasibility of the Modern Volunteer Army.

Method: The study involved interviews with (a) several thousand young civilians aged 17-21, and (b) about 200 recent Army volunteers.

Findings: In very abbreviated form, highlights of the two studies are:

1. Currently, about 17 percent of young men aged 17-21 have a generally favorable attitude toward entering the Armed Forces, even though they have little present intention of enlisting in any one of the Services.
2. The Army offers two basic attractions—self-development and training.
3. The main deterrent to enlisting in the Army is the threat of being sent to Vietnam.
4. The general climate of opinion has greatly influenced young men's attitudes towards the Army.
5. Among factors increasing interest in the Army, the most important would be getting out of Vietnam. Other inducements relate to self-development, training, dignity, patriotism, adventure, and travel.

Tabular results are presented throughout the document. The questionnaires are also included.

Comments: Very interesting and pertinent study.

Title: "The Budget Cost of A Volunteer Military," S. L. Canby and B. P. Klotz, RM-6184-PR, The RAND Corporation, Santa Monica, Calif., Aug 70.

Status: Completed 1970

Objective: To estimate the additional annual budget cost required to support a volunteer DOD military force envisaged for the post-Vietnam era (2.65 million men) as compared to the cost of an equivalent draft-induced force in 1970.

Method: The study separates the estimating methodology into three processes: (a) a projection of the annual demand for military manpower to sustain an effective force of 2.65 million men, (b) a projection of the 1970's supply of volunteers in the absence of the draft, and (c) a calculation of wage changes necessary to balance demand and supply.

Cost estimates are divided into four major elements: increased wage costs for new recruits, increased wage costs caused by the greater seniority of a volunteer force, increased retirement costs, and savings from reduced training activities. The study also differentiates between the short-run transition costs to achieve voluntarism (employing the draft or the Vietnam phase-out) and the long-run steady-state costs.

Long-run costs and savings associated with voluntarism are also calculated for various assumptions pertaining to the youth employment rate and the responsiveness of volunteers to pay increases.

Findings: The study concludes that the added budget cost of a volunteer force falls within the range of \$2.1 billion and \$2.5 billion annually when compared to the cost of a draft-induced force. The largest cost increases are attributed to higher retention rates which generate higher seniority and retirement costs that only become manifest in the long run. Initial wage increases for entrants are estimated as \$0.5 billion to \$0.8 billion in the long run and \$0.75 billion to \$1.2 billion during the transition to voluntarism when the draft is used for phasing purposes.

Comments:

This RAND study focuses on only one principal incentive as the basis for increased accession and retention rates by the armed forces, i.e., monetary remuneration. The study states that voluntarism can be motivated efficiently and rather cheaply through visible emoluments, whereas expensive increases in fringe benefits, which enlistees do not often perceive or value, would be much less effective in attracting and retaining personnel.

The President's Commission on an All-Volunteer Force (Gates Commission) estimated that an incremental budget cost of \$3.1 billion (excluding Reserve forces and retirees) would sustain a volunteer force of 2.5 million men in 1971. This estimate pertains to the short-run cost and envisions a direct shift to voluntarism. By comparison, the short-run RAND estimate described herein is \$0.75 billion to \$1.2 billion annually for a slightly larger force of 2.65 million men, but it is based on an assumption that the draft will be employed during a 3- to 4-year period of transition. It is interesting to note that the FY72 DOD budget request for Project Volunteer amounts to \$1.5 billion and is based on a 2-year extension of the draft. However, it consists of both monetary (approximately two-thirds) and nonmonetary enlistment and reenlistment incentives.

The long-run or steady-state incremental cost estimate developed by the Gates Commission compares favorably with that cited by the RAND study--\$2.3 billion annually vs the RAND estimate of \$2.1 billion to \$2.5 billion.

The methodology applied in the RAND study is similar to that used by Gates Commission, particularly in the area of econometrics. The major difference is the emphasis RAND places on the institutional details of the military manpower system. Both studies provide valuable background material for future investigations of the allocation of resources to accomplish the all-volunteer goal.

Title: "Comparison of Self-Motivated Air Force Enlistees with Draft-Motivated Enlistees," Lonnie D. Valentine, Jr., and Bart M. Vitola, Tech Rpt 70-26, Air Force Human Resources Laboratory, Lackland Air Force Base, Tex., Jul 70.

Status: Completed Study (Jul 70)

Objective: To compare samples of self-motivated and draft-motivated Air Force enlistees in the areas of background, attitudinal, and ability variables to provide useful information to assist in planning for an all-volunteer force.

Method: Two surveys, the Airman Biographical Survey and the Career Attitude Survey, were administered to 2107 basic trainees at Lackland AFB who had entered service after implementation of the draft lottery. In addition, data on their AFQT and AQE test performances and their dates of birth were collected. All subjects 19 years old or older (1751) were selected for further study. They were classified into three draft-threat groups on the basis of their draft lottery numbers. Those in the highest draft-threat groups who indicated they definitely or probably would not have enlisted in the absence of a draft were classified draft-motivated enlistees; those in the lowest draft group who indicated that they definitely or probably would have enlisted in the absence of a draft were categorized as self-motivated enlistees. The characteristics of the two groups were then compared with respect to a number of background, attitudinal, and ability variables.

Findings: Compared with draft-motivated enlistees, it was generally found that self-motivated enlistees tended to be less well educated, avoided advanced courses in high school, dropped out of college at an earlier point, and perceived their academic performance slightly less favorably. They represented racial minority groups with greater frequency, their homes were more frequently multilingual with one or both parents foreign born, and their parents were less well educated. Usually, their economic background was also less affluent. On the other hand self-motivated enlistees entered the Air Force with more positive attitudes toward military service, tending to be attracted primarily by the prospect of learning a trade or marketable skill.

Young men from both groups expressed the desire to choose their branch and period of service, but draft-motivated subjects expressed these feelings with greater frequency.

Aptitude test performance of the self-motivated group was appreciably lower than the draft-motivated group. One of the most obvious implications of this finding is that, under the conditions of an all-volunteer force, there may be difficulty in adequately filling jobs with high aptitude requirements unless standards and training curricula are revised. Redefinition of some jobs may also be required.

Additional investigation is needed to assess better the numbers of young men likely to offer themselves for service under an all-volunteer system and to further characterize this available manpower pool on a number of relevant issues.

Comments:

The results of this study further emphasize the importance of the attractiveness of the Army to high-quality personnel particularly in the area of hard skills. The study also highlights the need to obtain as accurate a picture as possible of the characteristics and numbers of young men likely to offer themselves for service under different sets of incentives in the absence of the draft.

Title: "The Cost of the Draft and the Cost of Ending the Draft," Anthony C. Fisher, American Economic Review, Jun 69; "The Cost of Ending the Draft: Comment," Benjamin P. Klotz, American Economic Review, Dec 70; and "The Cost of Ending the Draft: Reply," Anthony C. Fisher, American Economic Review, Dec 70.
(The basic analysis, listed first, motivated argument by another author in the second article which in turn generated a reply by the original author in the third article. Both authors are noted economists.)

Status: Completed 1970

Objectives: The purpose of the basic article is to determine the effect of the draft on enlistments and the money cost to the DOD and the general taxpayer of a 2.65 million man all-volunteer military force.

Method: Initially, a model for the supply of enlisted volunteers for military service is developed and an equation derived from it that can be estimated statistically. Next, the results of a least squares regression estimation of the parameters of the equation are presented and evaluated employing 1957-1965 time series and cross section data. The results are then used to analyze the impact of the draft on enlisted accessions and to develop the cost of an all-volunteer force.

In his comment on the basic study (second article referenced above), Mr. Klotz raises questions concerning the key manpower supply parameters, consistency of results with the theory of manpower supply, and the cost of establishing voluntarism in 1970 as compared with the 1965 costs in the basic study. Mr. Klotz argues that there is a simultaneous equations bias (downward) in the supply elasticity and that the implied elasticity of enlistments to the unemployment rate is low. By excluding seasonal dummy variables and reducing an alleged bias in the equations, Mr. Klotz derives new and higher elasticity coefficients (wage, unemployment, and draft-pressure) for the true volunteer margin. These, in turn, reduce the volunteer cost estimates in spite of the addition of bonuses, increases in seniority pay, and increased retirement costs.

In his reply (third article referenced above), Mr. Fisher agrees with the elimination of seasonal dummies from his regression equation and an increase in the proportion of draft induced volunteers as suggested

by Mr. Klotz. However, he argues against an accusation of bias in the amended coefficients resulting therefrom and disagrees with the assumptions by Mr. Klotz that the unemployment rate and distribution of tastes for military service remain unaltered between 1965 and 1970.

Findings:

Subject to the qualification of a high degree of uncertainty, the extra budgetary cost of a 2.65 million man volunteer force in 1970 would appear to be in the neighborhood of \$1.8 billion (Fisher estimates) to \$2.09 billion (Klotz estimates). Both authors apparently agree on the following elasticity estimates at the true volunteer margin:

Wage elasticity	1.44
Unemployment elasticity	.62
Proportion of draft-induced volunteers	.41

Comments:

These articles provide useful background information on the broad econometric considerations pertinent to the goal of an all-volunteer military force.

Title: "The Determinants of Personnel Turnover Costs and Accession Requirements: A Steady-State Model," Brian E. Forst and David M. O'Neill, Research Contribution 170, Center for Naval Analyses, Arlington, Va., Jan 71.

Status: Completed 1970

Objective: The purpose of this research contribution was to develop a model which can be used to estimate changes in labor turnover costs that result from changes in specified behavioral and other parameters such as changes in military retention rates, length of basic military training, involuntary loss rates, and pupil/teacher ratios at training sites.

Method: A simple model of the determinants of turnover costs was first developed. It consists of the following set of sectors into which the total enlisted strength can be partitioned:

O_E = fully-effective operating force sector

O_S = non-effective OJT operating force sector

S_T = training command (student)

F_T = training command (enlisted faculty and support)

T = transient account

Letting S = Total strength, we have then by definition:

$$S = O_E + O_S + S_T + F_T + T$$

Force capability is directly related to the size of O_E . The output of the resources in the other support sectors contributes to force capability by maintaining the number and quality of personnel in O_E in the face of force turnover and other factors. For example, the number of transients depends on force turnover as well as other variables such as deployment policies. But the model assumes essentially that the effect of changes in the requirements of these sectors will not depend on the values of these other variables. In this context, the definition of turnover costs becomes simply the annual cost of all the resource requirements of these support sectors.

From the above, a system of eight equations was developed to form a complete steady-state model given certain specified values. This system of equations was then solved to yield a set of equations that give support sector enlisted personnel requirements and other resource costs as a function of personnel turnover behavior. Thus, for a specified value of O_E (desired, effective force level) one can compare the variation in turnover costs for various assumed parametric changes. Once the parameter values have been specified, calculations can be made quickly on a hand calculator.

In a study prepared for the Gates Commission, one of the authors of this research paper estimated values for the model's parameters by making extensive use of military personnel data sources. The Gates Commission study documents in detail the statistical methodology and data sources used.

Findings:

The description of the model includes two examples of model application which illustrate both the order of magnitude of military turnover costs and some implications of these costs for public policy. One exercise suggests that an all-volunteer Army could maintain the same force capability with about a six percent reduction in total enlisted strength and also save about \$56 million per year in nonpersonnel resources. Exercise of the model also indicated that the turnover of military personnel is currently "costing" society at the rate of \$6700 per new accession to the force. During FY69 there were 700,000 enlisted accessions for the entire military establishment, implying an aggregate turnover cost in the neighborhood of \$5.3 billion.

Comments:

An important limitation in this model is its "steady state" character. Optimum transition paths cannot be considered and for force planning, the model ignores the divergence between the actual length of service distribution and the hypothetical steady-state length of service distribution.

The model also assumes that an individual's productivity does not change after reaching journeyman status. This produces a bias with respect to turnover cost savings created by increased retention.

Although the model input data are aggregated at a relatively high level, the derivation of timely cost factors required for the various military support sectors would appear to be a very extensive and challenging task.

Title: "An Economic Analysis of First-Term Reenlistments in the Army, Research Paper," Gary R. Nelson, P-647, Institute for Defense Analyses, Arlington, Va., Jun 70.

Status: Completed Study 1970

Objective: The purpose of this Research Paper is to provide a theoretical and statistical analysis of first-term reenlistment behavior considering the influence of wage-earning expectations as well as the effects of other significant nonmonetary factors.

Method: The study develops a model of the supply of reenlistments based on the premise that the supply varies with expected earnings, the influence of draft pressure on the initial enlistment, and with the variables which predict future conditions of service for the enlisted man. These variables were established as dependency status, combat status, and the likelihood of service in a war zone. A precise form for the supply of reenlistments was then developed and a statistical investigation conducted employing regression analysis.

The data for the study comes from the first-term reenlistment decisions of Army enlistees who entered military service in 1964. The observations for the statistical analysis were based on the behavior of 300 groups of enlisted men classified by level of education, mental test score, race, and military occupational specialty. Army personnel tapes, which provided data on individual reenlistments, were used to estimate military pay. Estimates of civilian earning ability of separatees were based on the Current Population Survey for 1967, processed at the Center for Naval Analyses, and a DOD survey conducted and compiled by Dr. Eli Flyer.

Findings: The primary conclusions derived from the statistical estimation of the supply of reenlistments were as follows:

1. The reenlistment rate is strongly influenced by variations in both estimated military and civilian earnings. While there is some evidence of a different response to military and civilian earnings, the results indicate that a 10 percent change in the ratio of military to civilian pay may affect reenlistment by 20 to 30 percent.

2. A very rough estimate indicates that a post-Vietnam, all-volunteer Army may have 70 percent more reenlistments than the 1967 Army.

3. Reenlistment rates for whites are dramatically lower than reenlistment rates for blacks. This study offers evidence that differences in civilian earning ability are the primary reason for this gap. If this is true, the future racial composition of the Army may depend on racial income differentials.

Comments:

The study highlights limitations and uncertainties with respect to the various components of the theoretical model and the accuracy and generality of the basic reenlistment data. An effort was made to correlate the findings and methodology with related studies but differences in approach and assumptions precluded a meaningful comparative analysis. Necessarily, the author relied heavily on 1964 reenlistment data which suggests that post-Vietnam reenlistment attitudes and behavior may not vary significantly. Current indications do not support such an assumption.

Title: "The Economic Cost of the Draft," Walter Y. Oi, American Economic Review, May 67.

Status: Magazine article

Objective: To compare the cost of acquiring and retaining military personnel for two hypothetical forces with the same active duty strength of 2.65 million men -- one a purely volunteer force and the other a mixed force composed of conscripts, draft-motivated enlistees, and true volunteers.

Method: Mr. Oi's first step is to determine the decrease in the current accession rate upon adoption of an all-volunteer method. This rate includes those men who are drafted as well as reluctant volunteers. His second step is to estimate the increase in military pay levels required at the start and beyond to produce the desired adjusted accession rate. In essence, the problem is to determine the probable elasticity of manpower supply, given various ratios of military pay to alternative median supply incomes. Using cross section data, Oi then obtains an initial elasticity of supply. From the supply equation, he calculates the increases in pay required to create the desired accession rate for an all-volunteer force and the increase in payroll costs once the transition to a steady volunteer state is completed.

Findings: Oi obtains an initial elasticity of supply of 1.36. From the supply equation, he concludes that if the average first-term pay is increased by 68 percent (\$2500 to \$4200) along with a 17 percent increase for careerists, the desired accession rate for an all-volunteer force could be achieved. Once transition to a steady state is made, he estimates that the all-volunteer system would raise payroll costs from \$12.049 billion at the time of his study to \$16.103 billion, or by about \$4 billion to maintain a force of 2.6 million men. In addition to higher levels of pay, the Oi study implies a change in the composition of the armed services with larger fractions of older men in the career force and smaller fractions of college graduates in the officer corps.

Comments:

An implicit assumption of this article is a nearly instantaneous adjustment of manpower supply to adjustments in military pay. A variety of sources, however, indicate that attitudes toward military service and other occupations are influenced by many cultural and sociological factors other than pay. In fact, some surveys have indicated widespread misunderstanding of the true level of military compensation by civilian youth. Thus, there is still much to be learned about the mechanism of occupational choice and the influences which condition young men to choose a military career.

Title: "Estimating the Quality of Air Force Volunteers,"
A. A. Cook, Jr., and J. P. White, RM-6360-PR, The
RAND Corporation, Santa Monica, Calif., Sep 70.

Status: Completed Study, 1970

Objective: To describe an analytical model of airmen supply in
the context of occupational choice. The model is
used to examine the distribution of volunteers in
terms of the Armed Forces Qualification Test scores
of new airmen over time.

Method: To determine the variation in recruit force
quality, the economic model is used to derive a
quality supply curve, which can be used to predict
quality changes in recruits, and by extension, in
volunteers, as a function on the draft and
economic considerations.

Findings: The findings provide insight into the effects of
possible changes in the environment and suggest ways
in which the Air Force can maintain its recruit
quality if such changes occur. See pp 24-26 for
an interpretation of the statistical results, and
pp 26-28 for an illustration of the results in a
hypothetical scenario.

Comments: This study did not consider any changes in the
present recruiting procedures, the existing test
procedures, or the methods of setting and meeting
the manpower requirements in any given period. The
model was constructed solely within the confines
of Air Force established institutional arrangements.

Title: "An Exploratory Study of Job Satisfaction, Retention, and Performance of Navy Enlisted Men," Peter H. Stoloff, Research Contribution 177, Center for Naval Analyses, Arlington, Va., Feb 71.

Status: Completed 1970

Objective: To examine the relationship of two aspects of job satisfaction: satisfaction with the work itself (job content) and satisfaction of the job environment (job context) to retention behavior and measures of on-the-job performance of first-term naval enlisted men.

Method: The data base was a Navy Personnel and Training Research Lab study performed in 1968, of relations between a host of variables and the reenlistment decisions of nearly 3600 first-term enlisted men assigned primarily to sea-duty activities. Forty-four pecuniary, habitability, organizational, and personal characteristics items were rescaled and grouped into categories reflecting either a different dimension or facet of job satisfaction or a behavioral variable hypothesized to relate to job satisfaction. Four occupational categories were formed to act as moderator variables of the relations between job satisfaction variables and the behavioral measures.

Three major analyses of the variables were made-- a principal components factor analysis, regression analysis, and an analysis to relate empirically derived job satisfaction factors to the one and two-factor theories.

Findings: While both job content and job context factors were found to be important determiners of on-the-job performance, only the job context and compensation measures asserted a strong influence on reenlistment decision. The findings suggested that the Navy should concentrate on improving the aspects of naval life associated with the satisfaction of more basic needs--such as pay, image of the Navy, and ship-board living conditions--to retain enlisted men, particularly those in the "hard" ratings in the electronics and electro-mechanical occupational groups.

Title: "Future Impact of Dissident Elements within the Army on the Enforcement of Discipline, Law and Order," R. Rae, S. Forman, and H. Olson, Final Draft, Research Analysis Corporation, 2 Aug 71 .

Status: Completed 1971

Objective: To identify and assess the existing and potential impact of dissident elements within the Army on the enforcement of discipline, law, and order, and to determine Army-wide measures which could serve to reduce dissidence.

Method: Utilizes written survey instruments administered to over 800 soldiers at Fts Bragg, Carson, Dix, Gordon, and Hood; personal interviews of 126 soldiers at the named posts; a mail survey distributed to the 17 largest posts in the continental United States; and documentary sources available in the Washington, D.C., area.

Measure of Achievement: Six types of dissident activities were separated from mere indicators of discontent for the purposes of the study, and results were compared by grade, by post, and within NCO grades, by years of Active Army service.

Findings: Twenty-two findings from the sample surveyed are divided into the categories of (a) extent and nature of dissidence; (b) factors that can contribute to dissidence; (c) trend of dissident activities for the next 2-4 years; (d) effect of dissident activities on the enforcement of discipline, law, and order; and (e) Army-wide measures for reducing dissidence.

Three conclusions are given concerning the likelihood of continued dissidence in the immediate future and the ameliorating effect of the Vietnam war as it winds down; the MVA as it comes into effect; the major problems affecting discipline, law, and order, or drug usage, interracial friction, and disrespect to superiors; the refusal of orders; and the increase in the manning of the Military Police to cope with personnel problems of the next few years.

Comments: There is a considerable amount of tabular information concerning the subjects of recruitment for dissident acts, extent of racial discrimination, extent of drug usage, and profiles by grade of those who participate in dissident activities as well as a rather in-depth review of dissidence at over six posts.

Title: "General Description of a Computer Model for Projecting the Impact of Officer Procurement, Promotion, and Retention Policies," Leon W. Transeau, RAC-TP-246, Research Analysis Corporation, Feb 67.

Status: Completed 1967

Objective: To develop the computer capability for projecting the impact of a variety of officer personnel policies.

Method: Design of a projection model to estimate the impact of selected personnel policies as they will affect the Army and the size and composition of its officer force over a 10-year period.

Findings: The model is for use in developing long-range manpower policies and evaluating immediate policy alternatives.

Title: "Health Services in the All-Volunteer Armed Force,"
Mordechai Lando, Professional Paper No. 60, Center for
Naval Analyses, Arlington, Va., Jan 71.

Status: Completed 1971

Objective: To find methods of keeping down the increase in salaries
calculated necessary to induce medical personnel into
the Armed Forces in the absence of a draft. Includes a
literature search of academic sources and publications
and data of the Executive Department.

Findings:

1. Civilianization of the Armed Forces health services
to the fullest extent possible is desirable in order to
reduce costs, since higher earnings are required in the
military vis-à-vis the civilian section to overcome the
nonpecuniary discrimination indicated by numerous DOD
studies.
2. In the volunteer Army, the gap between the pay of
medical officers and the pay of line officers will
increase drastically with a probable debilitating in-
fluence on morale. Civilianizing the medical services
would eliminate this problem.
3. It is not possible to civilianize all medical billets
since some must be filled by military medical men, par-
ticularly in sea duty and short tour stations.

Comments: There appears to be some good tabular information on
DOD health personnel and manpower strengths through
December 1968.

Title: "Impact of Proficiency Pay Specialty Program On Reenlistment Rates," Office of Personnel Operations, EDP-EPPME, May '68.

Status: Completed 1968

Objective: To determine the effectiveness of the Proficiency Pay, Speciality Program in increasing the reenlistment rate.

Method: Survey of 48 installations and activities visited by DA Military Personnel Management team.

Findings: Includes the first three reasons given for reenlisting by respondents, and the first three reasons given for not reenlisting by respondents, plus recommendations concerning overhaul of the enlisted promotion policy and systems, improvement of utilization of skills, and a need to broaden and improve reenlistment options.

Comments: A considerable quantity of tabular information on the subject treated indicates a primarily statistical orientation.

Title: "Improvement of the Procurement, Utilization, and Retention of High Quality Scientific and Technical Officers," Taylor Drysdale, PRL-TR-68-5, Data Dynamics, Inc., Los Angeles, Calif., Jun 68.

Status: Completed 1968

Objective: To recommend changes in policies and actions which will improve Air Force procurement, utilization, and retention of high quality scientific and technical officers.

Method: Statistical and subjective.

Findings:

1. Create a distinction between R&D scientist and R&D manager.
2. Develop a scientific grade/military rank composite for status and pay.
3. Establish a three-element, merit-based entry/promotion system.
4. Develop a three-element, feedback assignment system.
5. Establish a military scientist career field.

Title: "Manning the Future Navy, Annex A, Multivariate Study of Enlisted Retention (MUSTER)," Center for Naval Analyses, Arlington, Va., Oct 64.

Status: Completed 1964

Objective: To increase the enlisted rate in those categories where it is less than the desired rate.

Method: Multivariate study of enlisted retention seeking to answer the question: "What kind of enlisted personnel reenlist?" The data base is drawn from the records of 82,628 men who either reenlisted from Aug 62 to Jul 63 or left the Navy even though eligible and recommended to reenlist. Multivariate techniques were applied to a limited extent to a large data base to compare men who chose to re-up with those who did not. This was the first phase of the work. (They used the Enlisted Master Tape.)

Findings: Contained in Chap. 9 and synopsized as follows.

1. In the majority of cases, few variables were identified which affected career enlistment rates, but their impact on the first-term reenlistment rate was much greater.
2. Reenlistment of first termers was observed to be more closely related to education and aptitude variables than that of career men. The Navy is retaining its best and worst men except in the electronics rating.
3. Effects of service and assignment experiences on re-up rates of career men are noticeable, but effects on first termers are even greater. (Phase II is to examine this relationship further.)

Title: "The Manpower Cost Implications Associated with Changes in Navy Reenlistment Rates: A Methodology," George L. Henry, Naval Personnel Research and Development Laboratory, Washington, D.C., Jul 70.

Status: Completed Study, 1970

Objective: To develop a methodology for calculating and displaying the manpower cost implications associated with changes in first- and second-term reenlistment rates in the US Navy.

Method: The circumstances and consequences related to reenlistment and non-reenlistment were analyzed to determine pertinent cost factors and strength data required for a practical reenlistment/cost methodology. This effort concentrated on minimizing the number of factors while simultaneously providing the maximum output of useful information. It was determined that the major costs associated with changes in reenlistment rates are those of procurement, training, reenlistment bonus, medical care of additional dependents, and retirement.

Factors developed for application of the methodology were categorized as representative pending further review.

Findings: The principal findings were as follows:

1. Because of the wide variance in training costs, from approximately \$30,000 to \$500 per man, training costs for specific Navy Enlisted Classification Numbers/ratings must be applied in the methodology to produce realistic findings.
2. The greatest measurable saving associated with reenlistment is in the reduction of the amount of high-cost formal school training that is required.
3. The cost of retirement outweighs any measurable savings that are associated with reenlistment. However, the yet unmeasured value of increased effectiveness gained by serving until retirement, probably offsets much of the retirement cost.
4. The time frame for realistic predictions of cost implications associated with changes in enlistment rates is limited to a maximum of 2 years in the future.

Comments: With the development and production of certain personnel tabulations identified in the study as needed but

unavailable, the methodology appears to provide a practical means for calculating and displaying cost implications associated with changing reenlistment rates. However, the study states that the factors associated with the methodology are subject to change after further analysis by reviewing agencies and that a final report will be published at a later date.

Title: "Military and Civilian Earnings Alternatives for Enlisted Men in the Army," Gary R. Nelson and Catherine Armington, Research Paper P-662, Institute for Defense Analyses, Arlington, Va., Jul 70.

Status: Completed 1970

Objective: To estimate the military and civilian earnings alternatives facing the first-term enlisted man at the time of his reenlistment decision.

Method: Estimation is performed for first-termers in the Army who decided between military and civilian alternatives for 1966-1967. The data used permit the estimation of average earnings by level of education, mental test score, military occupational specialty, and race. The earnings stream of two alternatives are compared in terms of probable financial gain (or loss).

Findings:

1. Non-high school graduates, on the average suffer a financial loss if they choose civilian employment over continued military service.
2. Enlisted men who have attended college tend to experience a financial loss if they remain in military service.
3. Average military and civilian earnings for high school graduates overlap.
4. Military and civilian earnings estimates for blacks with a high school education or less, indicate that military earnings far exceed the average observed earnings by blacks in the civilian labor force.

Tabular material is presented on pp 25-40.

Comments: The authors indicate that application of the estimates may be restricted by the assumptions about earnings and earnings expectations.

Title: "Military Lawyer Procurement, Utilization and Retention," OASD(M&RA), Oct 68.

Status: Completed study prepared by DOD working group for ASD(Manpower), 1967-1968

Objective: Examine requirements for military lawyers; procurement, utilization, and retention problems; other problems associated with military lawyers.

Method: DOD Working Group Analysis

Findings: The problem of retaining military lawyers in all Services is severe. Lawyers leave at two major career points: first, when their obligated tour expires, and, second, as soon as eligible for voluntary retirement. Draft pressure will be the only reason for military lawyers to exist unless changes are made.

This document includes 17 suggested actions (summarized pp III-V, detailed in the document).

Comments: The value of this document seems somewhat limited due to the 1967-1968 date; but the conclusions seem to point up that the problem with military lawyers may be as severe as with doctors.

Title: "Military Manpower Procurement, The Supply of Military Personnel in the Absence of a Draft," Stuart H. Altman and Alan E. Fechter, American Economic Review, May 67.

Status: Magazine article

Objective: To summarize the methods used in estimating the budgetary costs in the mid-1970's of shifting to an all-volunteer procurement system for active duty enlisted and officer personnel, excluding doctors and dentists.

Method: To understand the manner in which the military manpower market operates, the authors initially examined actual procurement experience for enlistees and officers beginning with the year 1954. Because of many legal and administrative constraints on recruiting practices, it was found necessary to limit the manpower supply analysis to groups procured through programs that were relatively free from these constraints, e.g., Army enlistees in Mental Groups I-III and officers commissioned through ROTC programs in "voluntary" schools. Variables which were important determinants of the level of enlistments were then identified and incorporated into a regression equation estimated from quarterly data for the period July 1956 to June 1965. Conclusions were then drawn concerning major factors that influence enlistments. Next, enlistments with a draft were projected for the years 1970 through 1975 assuming two unemployment levels. The potential supply of new officers during the same period was also projected.

Shifting to consideration of the impact of the draft on the supply of military personnel, a sample of active duty personnel was surveyed concerning the influence of the draft on their decision to enter the service. The supply of active duty personnel without a draft was then projected for the 1970-1975 period employing the draft motivation factors derived from the survey.

The effect of pay on military supply was examined by analyzing the extent to which regional variations in military pay relative to civilian earnings has influenced voluntary enlisted and officer accessions. Supply elasticity equations were then developed and the increased payroll costs necessary to attract an all-volunteer force were computed. Allowances were made for expected increases in retirement benefits

resulting from higher basic pay rates and a larger proportion of career personnel.

Findings:

With the draft in force, it was concluded that the following variables were important determinants of the level of enlistments: the 18-19 year old male population, the 18-19 year old unemployment rate, major changes in draft pressure, and seasonal factors. From the regression analysis, it followed that periods of relatively high civilian unemployment and periods of relatively high draft pressure tended to produce higher than average levels of volunteers. Further, enlistments were above average in the quarter following high school graduation and below the yearly average in the fall and spring.

From the results of the survey conducted to assist in estimating draft-motivated volunteers, 38 percent of the enlisted men and 41 percent of the officers indicated that they "definitely" or "probably" would not have entered service in the absence of the draft. The highest proportion was recorded for the Army; the lowest, for the Marine Corps. More detailed tabulations also indicated that the draft was a more important factor for older personnel and for those with higher levels of education.

A comparison of the no-draft estimates of supply with expected annual requirements for a 2.65 million man force indicated that the largest deficit would be faced by the Army, and within each service the most severe shortages would be experienced in those specialties requiring men of above average mental aptitude and education.

Based on estimated recruitment deficits and pay elasticity, the costs of recruiting an all-volunteer force in the mid-1970s ranged from \$5.4 to \$8.3 billion, depending on the level of unemployment. These estimates include substantial pay increases for both enlisted and officer personnel.

Comments:

This article provides excellent background information pertaining to the framework for an analysis of military manpower procurement, the significant factors involved, and possible approaches to the problem of manpower supply for a volunteer force. It is interesting to note that more recent studies appear to apply a similar approach to this overall problem indicating that the state of the art has not improved significantly.

Title: "Occupational Choice, the Draft, and the Excess Supply of Air Force Volunteers," Alvin A. Cook, Jr., The RAND Corporation, Santa Monica, Calif., Mar 71.

Status: Research paper, Mar 71

Objective: To describe a model of military enlistment behavior based on the principle of occupational choice and to explain the derivation of a supply curve of Air Force volunteers.

Method: The author first constructs an occupational choice model describing a youth's decision to enlist as a function of the net advantages of Air Force life with respect to civilian life, thus theoretically deriving a supply curve of Air Force volunteers. Because the Air Force has experienced an excess supply of volunteers and data are unavailable on the total numbers who have applied, an adjusted supply curve is then developed from which the parameters of the actual but not observable supply curve of total volunteers can be inferred. The foregoing adjustment is based on the "queuing" concept of labor markets and incorporates variations in the average quality of those who enlisted as a correction for unobserved variations in the excess supply. In describing the results of the statistical estimation of parameters of the supply equation, the parameters of four equations are presented each of which addresses a different range of quality for the volunteers.

Findings: The elasticity of supply of military manpower with respect to the military/civilian earnings ratio developed in this research paper (approximately 2.19) greatly exceeds the elasticity calculated by other well-known authorities. For example, Altman and Fechter derived an Army pay elasticity for the total military of 0.8; and Oi, an initial pay elasticity for Army enlisted personnel of 1.36. This Air Force factor indicates that military pay increases will induce a greater percentage of men to volunteer for the Air Force than for the Army. Or more appropriately, a military pay increase necessary to satisfy the Army's requirements for an all-volunteer force would more than suffice for the Air Force.

The author also concludes that if the supply curve is estimated without the quality variable, the estimated pay elasticity will always be biased downward. Further, directly estimating a supply curve on the observed values for employment by excluding a quality adjustment, when in fact excess supply exists, leads to an underestimate of the true elasticity of supply.

Comments:

For the most part, manpower studies in support of a volunteer military force have concentrated on meeting requirements for the Army with particular emphasis on the estimation of the relevant supply curve in terms of its pay elasticity. In contrast, this research paper derives a supply curve for the Air Force which has enjoyed a surplus of volunteers. The methodology presented provides interesting insights concerning the impact of "quality" considerations and highlights the need to place these considerations in proper perspective.

Title: "Prediction of Officer Performance and Retention from Selected Characteristics of the College Attended," Ernest C. Tupes and Howard L. Madden, AFHRL-TR-68-119, Lackland AFB, Tex., Dec 68.

Status: Completed 1968

Objective: To describe analyses of relations between military performance and retention rates of officers entering active duty from each of 172 AFROTC detachments during the period 1958-1962 and characteristics of the colleges and universities at which the detachments are located.

Method: A total of 28 variables were classified according to the "psychological environment" or "climate" of the colleges surveyed.

Findings:

1. Differences in AFROTC detachments surveyed are primarily due to differences in the student bodies of the colleges and, to a great extent, beyond the control of the professors of air science or their staffs.
2. It appears that the retention rates of AFROTC graduates can be increased by differential assignment of quotas to AFROTC detachments or by disestablishment of certain detachments. (Implications of the study for the Officer Training School Recruiting and Selection systems are discussed.)

Title: "Proceedings of Conference on Personnel Retention Research," Report 364-2, Performance Research Inc., Washington, D.C., May 69.

Status: Completed 1968

Objective: To review the entire scope of the Navy's personnel retention problem and to outline specific areas for study.

Findings: Numerous papers presented at the seminar have been abstracted for the proceedings. As papers presented by experts on the subject of Navy personnel retention, they represent a fair statement of the state-of-the-art of personnel studies as of Dec 68.

Comments: Much interesting information on how the Navy viewed its retention problem a few years ago might afford some insight into Army problems.

Title: "PROVIDE, Project Volunteer in Defense of the Nation, Volumes 1 and 2 (Executive Summary, Vol 1)," DCSPER Directorate of Personnel Studies and Research, 9 Mar 70.

Status: Completed 1970

Objective: To determine what is required to establish and maintain an all-volunteer Army under alternative force structures and conditions short of total war.

Method: Assessment of the threat and force structures to meet it using approved documents such as the "Five-Year Defense Program." Assumptions include:

(a) Phased implementation upon redeployment from Vietnam.

(b) Continued threat of limited conflict.

(c) Alternative active, reserve, and civilian force structures (following phasedown) based on approved documents;

(d) Draft machinery retained for total war requirements.

(e) Future recruiting and retention capabilities assessed under assumed employment rates of 4 percent, 5 percent, and 6 percent.

Findings: Sixty-five recommendations are listed covering the results of study in the followins areas.

1. Image of the Army
2. Foreign experience with volunteer Armies
3. Force considerations
4. Capability of meeting manpower requirements without the draft
5. Recruitment to meet manpower requirements
6. Increased use of civilians to meet manpower requirements
7. Use of indigenous forces by the US Army
8. Increased use of uniformed women
9. Military compensation

10. Incentives and benefits other than pay
11. Capability of maintaining Reserve and National Guard Forces at required levels
12. Medical and dental officers
13. Attainment of an All-Volunteer Army
14. Implications for the future (statistical projections indicate that the All-Volunteer Army can be a reality).

Comment:

Basic material to be read by all.

Title: "Reasons for Air Force Enlistment," Cecil J. Mullins, Iris H. Massey, and Larry D. Riederich, AFHRL-TR-68-101, Air Force Human Resources Laboratory, Lackland AFB, Tex., Jul 68.

Status: Completed 1968

Objective: To determine reason for enlistee choice in USAF over other branches of the service and to test a questionnaire.

Method: Administration of a questionnaire; Chi-square was used to check responses to each item.

Findings: Selected findings are as follows:

1. The most important reason for joining the Air Force was education. Slightly more than 30 percent felt they could learn more in the Air Force than other branches of the Service.
2. The next most frequent responses have to do with self-respect.
3. Twenty-six percent would have joined without the draft.

Comments: This is a concise picture of motivations toward Air Force enlistment.

Title: "Relationship between Army Recruit Characteristics and First-Tour Performance," John S. Caylor, HumRRO TP-69-5, George Washington University, Washington, D.C., Apr 69.

Status: Completed Apr 69

Objective: To determine the relationship between characteristics of recruits and their performance both in recruit training and in subsequent unit assignments to assist in policy decisions pertaining to selection, training, classification, assignment, and retention.

Method: In earlier research under HumRRO Work Unit Transition in 1961, the effects of the reception station and basic training experience on the attitudes of recruits toward Army service were examined, considering a variety of factors affecting adaptation to Army life. These variables singly and in combination, were related to the development of recruit attitudes toward the Army at the end of BCT. In the interest of determining the relationship between the variables available at the end of BCT and subsequent performance, a follow-up study was conducted during 1963 and 1964 of soldiers initially studied in BCT in 1961.

Data collection was entirely administrative in nature; soldiers were not involved in the completion or return of data forms. Data were collected on 1782 volunteers and 2620 draftees in 30 BCT companies by means of questionnaires inserted in 201 files with the request that they be returned to the researchers when the men involved were terminated in 1963 and 1964. Questionnaires were completed by the personnel officer at the soldier's out processing station and included information on: MOS, grade and time-in-grade, conduct and efficiency ratings, awards and commendations, courts martial convictions, service schools attended, reenlistment actions, service extensions, and reenlistment eligibility. Data were expressed in a single composite criterion score representing a summary of the soldier's success in and contribution to the Army during his first tour of duty.

Findings: The conclusions drawn from analyses of the data described above were as follows:

1. Data on recruit characteristics, available prior to entry into service were predictive of Army success during the first duty tour. The GT level, educational level, and age of recruits were indicative of their success; the older recruit with more education and high aptitude had a better record on the criteria measures

of success and contribution to the Army. Recruits from the lower ranges of age, education, and GT were more likely to encounter difficulty in adapting to the Army and to be promoted at a less than standard pace.

2. Performance in BCT was also indicative of later contribution to the Army. The better a recruit performed in BCT, the better he did during the rest of his initial tour. Those who received higher evaluations from their peers also performed better in subsequent service.

3. Early attitudes toward the Army and career orientation were negatively related to later Army performance. Recruits with stronger career orientation got lower scores on the criterion measure of Army success. Similarly, volunteers who demonstrated higher levels of general reactions to the Army and Army life in Project TRANSITION Attitude III also got lower scores on the criterion measure.

Comments:

While, from the data in this study, the empirical predictive value of several single recruit characteristics has been shown, neither theoretical nor practical questions about combined effects can be adequately answered. In addition, comparisons of effects between volunteers and draftees were not obtainable. The 1-year (50 percent) difference in length of service between volunteers and draftees rendered their criterion scores incommensurate and required separate analyses for the two; the marked differences in age and education between draftees and volunteers also dictated separate parallel analyses. But, whether volunteer or draftee, the data indicated that the older, better educated, higher aptitude recruit during the 1961-1964 period adapted best, performed best, and contributed most to the Army.

Title: "Report on Discussion of Needs and Values of Potential Volunteers for an All-Volunteer Army," CINECOM Incorporated, undated.

Status: Completed, undated

Objective: To assemble a group that would, in ten days, prepare a briefing that would identify whom the Army should be seeking in a zero-draft situation to fill its ranks, with particular emphasis on the combat arms. An enlisted key target group was identified as 17 to 21 year olds, single, and from blue-collar nonprofessional families. An implied assumption was that as a result of the enlistment and benefit options being offered, both present and contemplated, the Army will not be likely to attract volunteers from a broader spectrum of socioeconomic groups than they are presently attracting.

Method: The target group was surveyed about attitudes and its general size and geographic characteristics were described. Communication themes were explored for reaching the identified target groups, and the communication strategy was planned.

Findings: N/A, seminar.

Comments: This appears to be a good exploration of target groups for the Army in a zero-draft situation and the communications media appropriate for reaching them.

Title: "The Report of the President's Committee on an All-Volunteer Armed Force," US Govt Printing Office, Washington, D.C., Feb 70.

Status: Completed 1970

Objective: To present the major questions and considerations concerning an all-volunteer force (Part I, pp 5-20), and present the evidence gathered during the Committee's inquiry (pp 23-176). Significant tabulations of data are presented, Apps A-C, pp 177-211.

Findings: This is a keystone document. It is substantiated by the material presented in Vols I and II of "Studies Prepared for the President's Commission on an All-Volunteer Armed Force," Nov 70.

The "Findings" which follow are extracted from the 13 chapters of this report, are highly abbreviated, and are substantiated in the referenced Vols I and II.

1. Conscription and taxation—conscription is a discriminatory tax-in-kind which voluntary recruiting would do away with.
2. Military personnel requirements—large forces or high quality forces require substantial increases in military pay; recommendations (pay, Chap. 5) are that proficiency pay plus accelerated promotions are to provide a force of 80 percent accessions from mental categories I - III. These considerations, with intensive recruiting and improvements in military personnel management, should provide adequate quantity/quality personnel.
3. Compensation and management—a number of compensation and management options are highlighted in this section. These are not readily summarized. Refer to pp 49-67 for details.
4. Officer procurement and retention—the procurement of approximately 30,000 new officers annually will necessitate recruiting approximately 7 percent of the US college graduates in the mid-1970's. There appears to be no reason to expect this will pose a significant problem.
5. Recruitment—modification of existing recruiting activities should yield substantial gains in enlistment rates. Such modifications are noted and recommended.

6. Conscription of physicians—the difficult problems of obtaining and retaining physicians are discussed. The estimate given to move to a voluntary medical service is estimated to be \$150-200 million per year; Table 8-III, p 94, presents proposed compensation.
7. Reserves—a complex problem exists which can only be imprecisely answered today; the results of experience in the next few years should be considered at a later time.
8. The Standby Draft—a standby draft mechanism is described (and recommended), which can be invoked only by resolution of Congress at the request of the President.
9. Budgetary implications—increases required to implement and sustain an all-volunteer force are given.
10. Objections to an all-volunteer force—most of the popular objections are handled in this lengthy chapter, which arrives at the conclusion that an all-volunteer force will not have the dire consequences predicted.
11. Conscription in America—an historical account, concluding with the recommendation that the relatively recent innovation of a continuing peacetime draft requires re-evaluation.
12. Recent foreign experience with voluntarism—discusses British, Canadian, and Australian Forces. Concludes that experience suggests competitive wages will attract an adequate quantity and quality of volunteers.
13. Alternatives to an all-volunteer force—the National Service, UMT, and lottery are discussed, pros and cons enumerated.

Comments:

Appendixes include interesting and current tabular data:

- App A: Budget expenditures projected
- App B: Military and Civilian Compensation (narrative)
- App C: Review of the 1966 DOD Draft Study

Title: "A Study of the Effects of Demographic Characteristics on Armed Services Enlistments," Marcom Incorporated, New York, 1969.

Status: Completed Study, 1969

Objective: To identify the socioeconomic and demographic characteristics that affect enlistment patterns, develop improved methods of estimating enlistment potential within local geographic areas, and recommend a data collection system for demographic and enlistment data to support manpower research in DOD.

Method: The study investigates enlistment pattern dynamics using FY65 data. It focuses on a sample of representative cities in the continental US. The key factors hypothesized as influencing enlistments are explicitly identified in a Base Enlistment Model Structure and are systematically examined in two analytical phases. In the initial phase, alternative variables representing various socioeconomic characteristics are investigated and determinations are made concerning their interrelationships. The usefulness of alternative independent variables with significant statistical relationships to enlistments is also evaluated. In the final analytical phase, various predictive models of enlistment patterns are tested. Specific variables representing socioeconomic and demographic characteristics are then identified for use in establishing a DOD manpower data collection system.

Findings: The major conclusion of this study, based on FY65 recruitment experience, is that in three Services--Navy, Air Force, and Marine Corps--the geographic distribution of enlistments was influenced more by service decisions concerning allocations of recruiters and recruitment quotas than by actual variations in local recruitment potential. This pattern is also evident for the Army in those areas where local recruitment quotas were achieved. Thus, the research indicates that overall Army enlistments could have been significantly increased in FY65, in the areas which achieved their recruitment objectives, if higher quotas and/or more recruiters had been assigned to these areas. However, in contrast, Army enlistments in below-quota areas proved to be much more sensitive to recruitment marketing factors.

The study also concludes that aggregate enlistments in cities for all services can be predicted with high determinacy from a relatively small number of variables: current population, Selective Service registrants, and a qualification rate. On the other hand, where recruiter influence is neutralized and market conditions prevail, a series of social, economic and area characteristics substantially alters enlistment patterns, e.g., greater enlistments from low income groups and in areas where Armed Forces qualification rates tended to be high or where employment prospects were dim.

To establish a DOD manpower data system, a limited number of items are recommended embracing the general areas of military manpower supply, area demographic variations, area economic opportunity, and allocated recruiting resources.

Comments:

It should be noted that the Army has substantially revised its methods of allocating recruiters and quotas since FY65 and has placed greater emphasis on development of local market data for this purpose. The report nevertheless does highlight the need for a much more sophisticated method for measuring market potentials, based on a common data collection program, as an important management tool in improving recruiting efforts.

Title: "A Study of Factors Influencing the Choice of Enlistment Options," A. L. Kubala and H. E. Christensen, HUMRRO TR-69-10, George Washington University, Washington, D.C., Jun 69.

Status: Completed 1965

Objective: To determine significance of certain factors (recruiting policies, recruiter background, geographical differences, etc.) in relation to recruiting men into enlistment options.

Method: Jul-Sep 1965 survey of approximately 10,000 men.

Findings:

1. Recruiters who formerly held technical MOSs did not preferentially enlist men into them.
2. Recruiters with personnel service background tended to "sell" more specific MOS options.
3. The most successful recruiters tended to obtain options for which qualifications required were minimal and for which no advance quotas were required.
4. Career group options were chosen rather than specific MOS options in the same area.
5. Geographic differences found in enlisting men into specific MOSs.
6. Men who began but failed to complete enlistments had higher average aptitudes than enlistees.

Comments: This report is still valid although six years old. Results are very pertinent.

Title: "Summary of Findings, Quantitative Phase, Army Recruiting Study," Audits & Surveys, Inc., New York, May 69.

Status: Completed study, May 1969, conducted for N. W. Ayer, acting for US Army Recruiting Command.

Objective: To obtain both qualitative and quantitative data concerning behavioral factors which entered into the enlistment decision.

Method: A two-phase survey, consisting of:

- a. A survey, that is, series of group interviews.
- b. A quantitative study of hypotheses developed in Phase 1. (Note: This report treats only Phase 2.)

Findings: There were three objectives in this study:

- a. What were the most salient factors in the enlistment decision?
- b. What was the Army "image"?
- c. Assess the role of the recruiter.

Findings in each case (summarized pp 4-6 of subject report) are:

1. Desire to "learn something useful" primary factor; also, "to fulfill my obligation" or "to get it over with," showing negative motivation. Large number of Navy and Air Force enlistees cited "did not want to be drafted."
2. Army rated lower than Air Force or Navy on all of the 17 image features. Particularly significant--it appears that the recruiter worsens the draftee's image of the Army.
3. Twenty-five percent of the enlistees cited the recruiter as the most influential person in the service decision. Importance of Army recruiter is emphasized.

Title: "The Supply of Air Force Volunteers," A. A. Cook, Jr., RM-6361-PR, The RAND Corporation, Santa Monica, Calif., Sep 70.

Status: Completed Study, 1970

Objective: To investigate factors that influence the supply of Air Force volunteers.

Method: To estimate the cost of fulfilling the given manpower requirements, a supply curve of volunteers to the Air Force was estimated. A model of airmen supply was developed in the context of occupational choice. Although data limitations precluded the direct estimation of the model's parameters, they could be inferred by considering the equilibrating mechanism used by Air Force recruiters in procuring no-prior-service airmen. The Air Force always satisfies its manpower requirements. In so doing, it allows the quality of its recruits to vary; this assures an equilibrium between the manpower requirements and the volunteer supply.

Findings: The supply curve that results from the model is empirically estimated using quarterly data, which explicitly consider changes in expected military and civilian earnings and the diverse effects of draft pressure on young men. The elasticity of supply of volunteers with respect to the military-civilian pay ratio is estimated to be 2.19, implying that an additional two percent of the pool of eligible young men volunteer for a one-percent change in the military-civilian pay ratio. The elasticity of supply with respect to draft pressure is 0.22, implying that a one-percent change in draft pressure induces a 0.22 percent change in the number of volunteers. Unemployment has an insignificant effect on the supply of volunteers.

An example is presented to demonstrate how the results might be used (1) to determine the number of airmen volunteers for alternative scenarios, and (2) to estimate the cost of obtaining various levels of airmen accessions for various scenarios.

Comments: The study assumes that the average quality level of the recruit force remains constant. It does not consider questions about the decrease in quality that may be entertained without harming the Air Force's mission and about the preferred and feasible mix of various qualities of individuals under a binding budget constraint.

Title: "The Supply of First-term Enlisted Manpower in the Absence of a Draft," John C. Hause and Anthony C. Fisher, Institute of Defense Analyses, Arlington, Va., Apr 68.

Status: Completed 1968

Objective: To estimate the influence of several important conditions on the supply of first-term enlisted manpower and, on the basis of these estimates, to estimate the budgetary costs of reducing or eliminating use of the draft to maintain specific military force levels and characteristics. The time period is the early 1960's.

Method: Developed a theory of supply which suggested that the responsiveness of enlistments to changes in military earnings is determined by the joint distribution of tastes and civilian alternative earnings of eligible enlistees. Examined the dispersion in civilian, and military earnings and determined that, on average, for first-term enlistees, civilian earnings exceed military earnings by a considerable amount. Surveyed the distribution of tastes of potential enlistees for military service and determined that evidence relating to tastes of male high school seniors may be used to describe the distribution of tastes for military service. Based on the theory and evidence, derived a statistical model of the supply of enlisted volunteers for military service.

Findings: The several types of evidence yielded a range of estimates of the proportion of enlistees that are draft induced, as follows:

Time series regressions	25%
Attitude surveys	40%
Comparison of 1948 and 1951 experience	60%

Based on these estimates the study developed a rough estimate of \$5 billion to \$7.5 billion as the additional budgetary costs of maintaining the pre-Vietnam force level and characteristics in the absence of the draft.

Tabular materials are on pp 13-55.

Comments: The time period is the early sixties.

Title: "The Supply of First-term Military Officers," Alan E. Fechter, Study S-290, Institute for Defense Analyses, Arlington, Va., Mar 67.

Status: Completed 1967

Objective: To examine three determinants of officer supply--eligible population, the draft, and pay--and estimate the additional budgetary costs to DOD if the draft were eliminated.

Method: Examine data on applicants and officers commissioned from the various commissioning programs over the period 1957-1964; data on enrollment rate in ROTC-I; data from survey questionnaire on effect of draft on officer procurement; data from ROTC on supply response to changes in relative military pay. Estimate by regression analyses the cost of an all-volunteer officer force.

Findings:

1. The number of new officers commissioned was determined largely by quotas and was strongly affected by demand rather than supply factors.
2. The relation between eligible population and officer supply proved to be extremely stable except for years in which major changes occurred in either draft policy or policy regarding the length of the initial tour of duty for officers commissioned from ROTC programs.
3. The proportion of first-term officers who would not have sought commission in the military service in the absence of a draft varied by level of education, service, and source of commission. There was an inverse relation between level of education and estimated impact of the draft on officer accessions. The draft also had a relatively larger influence on officers commissioned from programs which required shorter initial tours of duty.
4. It was estimated that a 10 percent increase in first-term military pay could raise the enrollment rate by as much as 20 percent.
5. Given a continuing draft and stable relative pay, population growth will enable the Services to continue to meet required officer accessions.

6. Given the no-draft situation, projections indicate that officer accessions will be short of estimated required accessions by 27 percent.

7. The shortage of 9700 officers is about 60 percent pay sensitive officer accessions and could be eliminated by raising the pay of entering officers by 30 percent.

8. It would cost an estimated \$68 million to \$363 million to raise officer pay by enough to produce an all-volunteer officer force.

Tabular materials appear on pp 13-52 and in appendixes.

Comments:

This study was part of a larger research program sponsored by OSD to estimate the feasibility and costs of meeting military requirements in the absence of a draft.

Title: "The Survey of Army Recruiting," Marcom Economics, Inc., New York, Mar 65.

Status: Completed Study, 1965

Objective: To research the Army recruiting system and identify measures to improve Army recruiting productivity.

Method: The study group concentrated on field research covering the recruiting school, 5 of 6 recruiting districts and a representative sample of recruiting main stations (11 of 70). Officers and enlisted personnel throughout the Army Recruiting Command were interviewed. The organizational structure, policies, procedures, and results achieved were examined in detail. Where appropriate, Army recruiting practices were compared with those of the other military services.

Findings: The major conclusions are summarized below.

1. Resources devoted to Army recruiting should be increased; specifically, increase the number of recruiters and develop a continuing program of field sales training.
2. Improve the quality of personnel assigned to recruiting duties through better standards of personnel selection, improved training and better performance evaluation methods.
3. Re-direct recruiter resources to emphasize pre-conditioning activities (indirect selling) that lead to enlistments as opposed to direct prospecting; supplement pre-conditioning activities with advertising and public relations emphasizing the role of specialists in the modern Army and the Army's educational and training program.
4. Improve management practices in the areas of uniformity, flexibility and sales-orientation; initiate a deliberate market and sales planning effort at the CONARC level and market research activities at district levels; formalize and make better use of "buddy referrals" and hard incentives for recruiters, improve the management of MOS-producing school options, and coordinate technical school schedules with the seasonal pattern of enlistments.

Comments:

This study provides an excellent review of the Army recruiting process in early 1965. Although a number of major changes have been made since that time, it is interesting to note that many of the study conclusions are now being emphasized as a part of the Modern Volunteer Army Program, e.g., increased recruiter strength, improved quality of recruiter personnel, the application of marketing principles, etc.

Title: "Talking Papers," SA/SAMVA, 13 Jul 71.

Status: Completed reports, ongoing program 1971

Objective: To report on the MVA program from Oct 70 to date. Subjects covered are MVA concept and accomplishments, recruiting progress, status of advertising, FY72 program summary, and proposal for a national varsity club.

Method: Talking papers and displays.

Findings:

1. Major accomplishments of the MVA program are given in pp 1-3.
2. The talking paper on recruiting contains data on objectives and enlistments, combat arms enlistments, recruiter buildup, leased housing, recruiting facilities, and other recruiting information.
3. The Assistant Recruiter Programs, the Delayed Entry Programs, the Combat Arms Profile, and the Unit-of-Choice Option are reviewed, and data are displayed concerning these programs in the talking paper on Other Recruiting Information.
4. The talking paper on Status of Advertising presents data on the LISTFAX, reports on the paid radio/TV advertising, and the results from classified advertising.

Title: "Training and Retention of Air Force Airmen: An Economic Analysis," RM-5384-PR, John McCall and Neil Wallace, The RAND Corporation, Santa Monica, Calif., Aug 67.

Status: Completed Study, 1967

Objective: To examine the training and retention of USAF electronic specialists. The major goal is to investigate the responsiveness of the reenlistment rate to changes in USAF remuneration. An attempt is also made to measure the degree to which Air Force training is transferable to the civilian economy.

Method: The data base for the study included the following: biographical and earnings information for a group of 505 electronic specialists who left the Air Force in 1962 after their first tour of duty and reported civilian earnings in 1964, and similar biographical data for a control group of 393 electronic specialists who reenlisted in 1962 after their first tour of duty.

The study is based on the hypothesis that the probability of reenlistment by first-term airmen is a decreasing function of the difference between civilian earnings and Air Force remuneration. A logit model was used to represent this relationship and to develop a hypothesized first-term reenlistment supply curve. Next, biographical and average civilian earnings data were structured for the above-mentioned 505 airmen who did not reenlist following their initial tour. These data were then compared with biographical data and estimated potential civilian earnings of the 393 airmen who chose to reenlist. The reenlistment supply function was estimated, and the effects of changes in remuneration on reenlistment rates were assessed. Finally the relationships between reenlistment rates and the level of technical training provided by the USAF to a potential reenlistee are investigated. The principal factors considered were sample data on those ex-airmen who use their USAF training in civilian pursuits, their earnings, and their educational levels.

Findings: For the sample of airmen analyzed, the reenlistment rate was very sensitive to differences between civilian and Air Force earning opportunities. The results imply, for example, that if the initial reenlistment rate were 50 percent and if USAF remuneration were increased by \$1,000 per year, the reenlistment rate would rise to about 70 percent. (In 1962, the actual reenlistment rate was 35 percent; in 1967, approximately 15 percent.)

The study further states that the relations between reenlistment and remuneration undoubtedly vary among skill groups and over time, but further testing of data similar to that used in this study is required to determine the extent of these differences.

Approximately 67 percent of the airmen who entered the civilian labor force reported use of Air Force technical training. Their median income was \$6,000 annually as compared to \$5,200 for those who did not use their training. Although only a single year was investigated, the advantage in earning power assists in explaining the tendency of the supply of first-term reenlistees to vary inversely with skill levels attained in the USAF. It was also noted that Air Force compensation for those airmen who reenlisted is at least as high as the average alternative civilian earnings if pay, allowances, fringe benefits, retirement pay, and a lower effective tax rate are considered.

Comments:

Although this study illustrates clearly the insights which can be derived from good quantitative and qualitative data samples pertaining to reenlistments, the scope appears too narrow for use in conjunction with an analysis of the MVA Program. Further, the study considers only one aspect of motivation for reenlistment -- monetary remuneration.

Title: "1-Y's for Mental Reasons," Bernard D. Karpinos,
Dept of Army, Office of The Surgeon General, 1967.

Status: Completed Study, 1967

Objective: To obtain exact and comprehensive information with respect to registrants classified by the Selective Service System as 1-Y for mental reasons, only.

Method: Basic data derived from a 50 percent subsample of the continuous Selective Service One-Percent Sample Inventory were obtained by Selective Service from Local Boards by means of a specially designed form requesting information concerning mental qualification of living registrants within the age of liability in class 1-Y. The forms were edited and coded by Selective Service. The coded data were put on punch cards, tabulated, and analyzed by the Medical Statistics Agency, Office of The Surgeon General, DA.

Findings: The overall estimate is 187,700 qualified 1-Y's for mental reasons, only, under the current mental standards, of which about half are registrants from the South--about equally divided between white and negro. See pp 32-35 and Tables 1-10 for elaboration of findings.

Comments: May be of value as background concerning accession and retention of quality personnel.

Chapter 4
RAC MVA DATA BANK BIBLIOGRAPHY

Chapter 4 presents the classification system (Table 4-1) and bibliographic listing of the MVA Data Bank (Table 4-2). The data bank bibliography provides the Army with the documentary base of the RAC/MVA study effort. The bulk of the data base is composed of completed studies, books, journal articles, and talking papers accumulated during the implementation of the study and organized by type of information, i.e., congressional hearings, bills, policy documents, SAMVA memoranda, etc.

Table 4-1
CLASSIFICATION SYSTEM

Number range	Content or Type of Information
1-49	Commission Reports, Congressional Hearings and Bills, General DA personnel policy documents/manuals
50-199	Books on Army and MVA; completed study project reports (a) Study reports arranged numerically beginning with pros and cons of MVA, supply of military personnel, costs, recruiting and advertising efforts, enlistment, retention. (b) Documents beginning at No. 105-120 deal with analytical <u>models</u> for enlistment and retention.
200-399	Dept of Army, SAMVA memoranda, documents, briefings, and "talking papers" (source material from DA)
400-499	Ongoing studies or surveys - includes completed Phase reports
500-599	Compiled data reference notebooks - compendium of most relevant data on specific subject areas (a) Each notebook contains quantitative data on particular subject. (b) Also includes notebooks on relevant journal/magazine articles.
600-699	Source material questionnaires, VOLAR reports and plans from various posts (a) Summary of relevant data will be contained in subject notebooks.
700-749	General economic indicators and statistics within US - Census and Dept of Labor publications
750-799	Bibliographical references (generally annotated), abstracts of studies, DA personnel research inventories of planned projects
---	Recurring DA (PERSINSCOM) Data Reports (a) Will be placed in separate bookcase, not numbered, arranged chronologically by quarter for each report (i.e., DCSPER 46, COPO 70)

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