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Technical Research Note 123

ABSTRACTS OF USAPRO RESEARCH PUBLICATIONS--FY 1962

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ABSTRACTS OF USAPRO RESEARCH PUBLICATIONS--FY 1962

Emma E. Brown and Harry Kaplan

Submitted by

Arthur J. Drucker, Staff Assistant

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USAPRO

Research Publications

Technical Research Reports

USAPRO Technical Research Reports are publications describing completed research studies or programs which contribute directly to the solution of Army human factors problems. The Report is generally divided into two parts--a brief general report to management and a technical supplement.

Technical Research Notes

USAPRO Technical Research Notes are primarily of interest to technically trained research workers in the National Military Establishment and in other governmental research agencies. Notes present technical information concerning research methodology or basic psychological knowledge growing out of the work program.

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USAPRO Research Studies are special reports to military management, generally prepared in response to questions raised by operating agencies when early answers are needed. Research Studies may include presentations to military management, interim bases for changes in personnel operations, and bases for research decisions. Distribution is usually restricted to operating agencies with a direct interest in the content. However, significant Research Study content is eventually incorporated within Technical Research Reports and Notes and through these media becomes available for general use.

Research Memorandums

USAPRO Research Memorandums are technical publications presenting information of interest primarily within the U. S. Army Personnel Research Office. Research Memorandums include the following types of content: details concerning construction of experimental instruments, fragmentary or incidental data, and methodological developments relating primarily to USAPRO operations. Because, as in the case of the Research Study, significant content is eventually incorporated within Technical Research Reports and Notes, and through these media becomes available for general use, outside distribution is not usually made.

Technical Research Note 123

Abstracts of USAPRO Research Publications--FY 1962

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INTRODUCTION

Abstracts of USAPRO Research Publications--FY 1962

Abstracts have been prepared for the majority of FY 1962 publications of the U. S. Army Personnel Research Office. Where a publication has been abstracted, the principal research findings have been described as much as possible in non-technical language. Technical language has generally been used as the most expeditious method of communicating details of research and analysis.

USAPRO research publications are numbered consecutively and continuously from year to year, in separate series for the four types of publication. Publications released during FY 1962 include Reports 1122 through 1128, and Notes 115 through 122. Research Studies prepared during FY 1962 include RS 61-3, RS 61-4, 62-1, 62-2, and 62-3. Research Memorandums prepared during FY 1962 include RM 61-6 through 61-17.

Research Note 123 identifies both by publication serial number and by Research and Development Research Task all research publications prepared and released by the U. S. Army Personnel Research Office in FY 1962. The listing includes 7 Technical Research Reports, 8 Technical Research Notes, 5 Research Studies, and 12 Research Memorandums.

End-products of USAPRO research are frequently in the form of personnel tests implemented by the appropriate user agency to aid in the selection, classification, management, and utilization of Army personnel. Over 40 personnel programs in the Army make use of more than 100 USAPRO research test products. Estimates of the numbers of Army personnel tested in these various programs during FY 1962 appear in the last section of this publication.

Distribution of APRO Publications

Initial distribution of each Research Report and Research Note is made directly by the U. S. Army Personnel Research Office. Research Reports are distributed primarily to operational and research facilities and their sponsors in the Department of Defense, to other interested governmental agencies, and to the Library of Congress which in turn distributes to depository libraries. Research Notes are distributed primarily to technically trained research workers, including those reached through Library of Congress channels.

Qualified agencies and individuals not on initial automatic distribution may be furnished copies of Research Reports and Notes upon request to the U. S. Army Personnel Research Office as long as initial stocks last. When stock has been exhausted, copies may be obtained through the following sources:

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Copies may also be obtained on loan from depository libraries in many metropolitan and university centers. A list of these libraries appears on Pages 25 through 28.

Research Studies and Research Memorandums are not available for general distribution.

Operational tests are for official use only.

ABSTRACTS

USAPRO Research Publications--FY 1962

TECHNICAL RESEARCH REPORTS

1. TRR 1122. **Helme, William , Graham, Warren R, and Anderson, Alan A. Development of ACB Automotive Information and Clerical Speed tests, Forms 3 and 4. March 1962.**

New operational forms of two tests of the Army Classification Battery, the Automotive Information Test (AI) and the Army Clerical Speed Test (ACS), were developed. Emphasis was placed on updated content for the AI form and shorter length and improved format for the ACS. The tests were administered experimentally along with the original operational forms to 728 enlisted men during September 1960. Scores on both the experimental and operational tests were statistically analyzed to determine reliability of the tests, independent contribution of each to differential classification, and equivalence of the alternate forms of each test. Raw scores on the new forms were converted to Army Standard Scores.

The new forms (AI-3 and -4 and ACS-3 and -4) proved reliable measures of aptitudes required for jobs in the Motor Maintenance (MM) and Clerical (CL) occupational areas. Relationship between the new forms and the prior forms 1 and 2 was satisfactorally close (ranging from .84 to .90 for AI; .69 to .86 for ACS). In January 1962, the new forms of AI and ACS replaced the prior forms as component tests of the Army Classification Battery.

It is evident that the shortened form of the ACS has resulted in an estimated saving of one-third the cost of scoring the test, and more important, has eliminated a source of error which had been noted in the scoring of ACS-1 and -2, namely, occasional failure to score the third page of the three-page answer sheet required.

2. TRR 1123. **Dobbins, D. A. Monitor Performance Task--Status Report, 30 June 1962. June 1962.**

History and progress of Task since its inception at the beginning of FY 1960 is traced. The task was initiated in response to the needs of an expanding military technology to improve the dependability of human performance in jobs of critical importance. The primary objective is to improve performance in U. S. Army monitor jobs, with particular emphasis on developing and testing new work methods for use in operational man-machine systems.

Three subtasks constitute the major research effort of this task: (1) a study of Army drivers performing on the AASHO Road Test (completed); (2) experimental laboratory studies of vigilance behavior (in process); (3) human factors studies of critical jobs in the operational setting (in process).

Both the AASHO studies and a survey, conducted across service elements, of Army jobs having a vigilance component have confirmed the utility of a broad program of vigilance research and have pointed up the need for a versatile laboratory simulator through which relevant features of monitor jobs may be experimentally studied. Simulator specifications have been established and experimental designs have been developed for pilot studies in information monitoring.

3. **TRR 1124.** **Helme, William H. and Katz, Aaron. Attrition Reduction Task--Status Report, 30 June 1962. June 1962.**

Improvement of procedures for identifying men who will succeed in training for critical jobs and technical specialties has been the primary objective of the Attrition Reduction Task. During FY 1962, three separate, but related, lines of research have been pursued: (1) continued evaluation of operational effectiveness of ACB measures and aptitude area composites; (2) efforts to identify personality factors leading to attrition during training and to underachievement in training or on the job; (3) study to determine to what extent, in event of mobilization, women can be utilized in job areas not heretofore authorized for their assignment and in which critical manpower shortages are likely to occur.

Findings accumulated on prediction in more than 100 MOS have formed the basis for comprehensive research on the total differential classification problem and on problems of manpower allocation. From preliminary investigations of the attrition problem in the operational setting, a pilot study was designed in which motivational and personality characteristics were analyzed in relation to failure to complete training or to perform at a level commensurate with measured abilities. Findings from a series of studies established a number of jobs in electronics and electrical maintenance MOS as suitable for women and clearly indicated the feasibility of introducing the WAC into carefully selected technical job areas.

4. **TRR 1125.** **Bayroff, A. G. Methods for Improving Enlisted Input--Status Report, 30 June 1962. June 1962.**

During FY 1962, major emphasis in research to improve the quality of enlisted input was placed on: (1) evaluation of an interim differential aptitude measure, the Army Qualification Battery, AQB-1; (2) standardization of new tests for the AQB; (3) construction and standardization of a differential aptitude battery for WAC, Women's Army Classification Battery (WACB); (4) standardization of new forms of the Armed Forces Women's Selection Test

(AFWST-5 and -6) and Women's Enlistment Screening Test (WEST 3-4), in collaboration with the Department of Air Force; (5) exploring feasibility of short, limited-range tests to predict pass-fail at the 31st percentile on AFQT, current standard for enlistment in the Army; (6) devising a reliable method of estimating mental abilities in the civilian manpower pool eligible for military service; and (7) planning for sampling current AFQT data. Development of the AQB meets a continuing requirement under Congressional legislation for procedures to screen Armed Services input.

Research findings led to new forms of the AQB, prepared for implementation on 1 July 1962 and to operational use of the women's tests, AFWST-5 and -6, WEST-3 and -4, and WACB, in late 1961.

5. **TRR 1126. Helme, William H. and Waters, Lawrence K. New Classification Techniques--Status Report, 30 June 1962. June 1962.**

Research conducted in response to the continuing Army requirement for maintaining and improving the effectiveness of the Army Classification Battery used in determining assignments of personnel within the enlisted MOS structure is reviewed. This research has consisted of needed measures of human factors not yet provided by the ACB, including measures of physical proficiency, techniques for identifying career-oriented personnel at entry into service, and techniques for identifying, among men with moderately low general mental ability, those with special abilities the Army can use to advantage.

In recent efforts, updated operational forms of Automotive Information and Army Clerical Speed tests have been developed and introduced (see Abstract No. 1 on TRR 1122). A tool knowledge test and two trade knowledge tests were constructed, all designed to afford better differential prediction within the broad mechanical domain. Two information tests--biochemistry and chemistry--were prepared as a means of differentiating prediction of performance in medical and chemical MOS from other MOS selected on the General Technical Aptitude Area. Reenlistment prediction studies are also described.

As the extensive body of data collected for successive stages in the development of the various experimental tests is analyzed, results are applied as follows: new tests are introduced as operational instruments; findings are integrated with a view to generating new hypotheses regarding classification problems; ultimately, aptitude area composites are reconstituted through the realignment of new and existing tests in relation to Army job families.

6. **TRR 1127. Medland, Francis F. Selection of NCO Leaders--Status Report, 30 June 1962. June 1962.**

This report summarizes USAPRO ongoing research to develop techniques for the identification of those soldiers potentially capable of becoming good NCO's in the combat branches. In the past, the problem of finding and developing

the potential NCO leader was met on the basis of judgment over a period of two or more years, a satisfactory method where numbers were small and turnover light. But it permitted promotion of too many individuals into NCO grades who lacked the requisite knowledges and leadership skills. Mobilization needs dictate the development of objective methods of obtaining information about individuals to supplement the judgment of the CO in identifying those with leadership potential.

Research effort on a projected two-stage screening program is described--evaluation of all trainees assigned to combat MOS at the time of entry into the Army, and intensive evaluation of EM in the combat MOS in terms of military training and experience acquired during initial enlistment.

Since cognitive aspects of NCO leadership potential are measured by the ACB, research effort has been directed largely toward measures of non-cognitive variables, including background, practical judgment, reaction to stress, military competence, interpersonal relations, and acceptance as a leader.

Steps to identify a suitable framework for conduct of the research are receiving considerable emphasis. Thus far, it appears that the NCO academy system satisfies requirements. The basic design for the conduct of the research effort is outlined.

7. **TRR 1128. Boldt, Robert F. and Wiskoff, Martin F. Selection of Anti-Tank Missile Gunners--Status Report, 30 June 1962. June 1962.**

This report summarizes the background and progress of the Anti-Tank Guided Missile Task, including a pilot study by HumRRO on SS-10 gunner selection in March 1954, USAPRO research initiated in June 1959 to develop a preliminary battery for selecting personnel for SS-10/11 training (in conjunction with HumRRO's Firepower VII effort), and development of a final selection test battery by USAPRO.

The major problem encountered was determination of a criterion measure of gunner success. Since proportion of hits did not differentiate among individuals, other approaches were employed, mainly the statistical equating of the influence of extraneous factors on each shot and analysis of rater's critiques of each shot.

Statistical analysis is under way to select the final test battery from among a large number of predictors: group-administered paper-and-pencil tests measuring such attributes as eye-hand coordination; individually-administered apparatus tests; the ACB and aptitude areas; and background information variables against three criterion variables--overall rating of each gunner on each round, missile hit and miss, missile hit and miss for each round corrected for the difficulty of the environmental conditions on the round.

TECHNICAL RESEARCH NOTES

8. **TRN 115.** **Rosenberg, Nathan, Skordahl, Donald M., and Anderson, Alan A. Development of experimental selectors for Army helicopter pilot trainees--Personality constructs. August 1961.**

Technical Research Note 115 describes the fifth in a series of studies concerned with the development of improved measures to predict which trainees will successfully complete pilot training in the Army's Primary Helicopter School. This study dealt with development of a personality measure or measures, designed primarily to predict leadership in operational units. Four personality questionnaires were built for try-out, containing in all 698 items grouped around 57 different "constructs"--general areas of personality in which people may be expected to differ, such as "physical activeness" or "liking for order". There was also an overall a priori judgment key. The questionnaires were given to 242 helicopter pilot trainees constituting six entering classes of the Army's Primary Helicopter School.

Data were obtained on the trainees on various aspects of pilot training. The validity of each construct was estimated by correlating scores on each construct with scores on each criterion aspect. A score based on items judged relevant to preflight training was found to have validity of $r = .39$ for successful completion of the preflight training course. Of the 57 constructs, 15 were found related to preflight training success and 4 to the leadership rankings. These results were useful in identifying promising predictor content for further analysis.

9. **TRN 116.** **Brown, Emma E. and Walton, Ruth T. Abstracts of HFRB research publications--FY 1961. August 1961.**

The abstract listing includes Technical Research Reports 1120 and 1121, Technical Research Notes 107 through 114, Research Studies 60-3, 61-1 and 61-2, and Research Memorandums 60-14 through 60-24 and 61-1 through 61-5.

Also included are descriptions of twelve research tasks to which the 29 abstracted publications pertain and a list of the libraries in universities and metropolitan centers in which these publications are routinely deposited.

10. **TRN 117.** **Sadacca, R., Castelnovo, A., and Ranes, John E. Human factors studies in image interpretation: The impact of intelligence information furnished interpreters. August 1961.**

Developing techniques to improve the speed, accuracy, and completeness of intelligence reporting by the Army's image interpreters is a continuing research effort. In this study, two related experiments were conducted to find (1) how extra intelligence information given the interpreter influenced the speed, accuracy, and certainty of his reporting, and (2) whether

performance was differentially affected by officer-enlisted status or class standing in the Army's Image Interpretation course. Tactical and strategic photographs were used in both experiments.

A larger proportion of the group receiving the extra information than of a matched group receiving only the usual background data was consistently above the median in correctly identifying objects appearing in the photos. Those receiving the extra information also reported more objects where no such objects appeared in the photos. The level of confidence interpreters placed in their reporting was apparently not affected by the extra information. However, interpreters tended to have greater confidence in those identifications which proved to be correct than in those which were incorrect, regardless of what extra information was furnished.

When the additional information given nine matched groups was accompanied by systematically varied statements of reliability, such as "confirmed", or "improbable", no significant differences were found among the groups in accuracy nor in interpreter confidence in identifications. Performance was not differentially affected by officer-enlisted status or class standing.

These initial exploratories indicate that information from intelligence sources can suggest the presence of content in imagery to be searched. The extent to which the suggestion influences interpreter performance under varying conditions remains to be determined through experimentation in which such variables as photo quality, time requirements, target characteristics, and interpreter experience are systematically varied.

11. TRN 118. Dobbins, D. A., Tiedemann, John G., and Skordahl, Donald M. Field study of vigilance under highway driving conditions. December 1961.

In critical Army jobs where sustained vigilance is essential to detect and respond to specific signals, error often occurs as a result of fatigue, monotony, isolation, noise, and similar distractors. Opportunity for a field study of vigilance was afforded Army personnel research scientists by a road test sponsored by the American Association of State Highway Officials (AASHO) and administered by the Highway Research Board of the National Academy of Sciences. Research Note 118 describes a portion of the field study. Army drivers operated trucks over experimental highways from November 1958 to November 1960 under conditions of monotony and in a restricted environment characteristic of many Army monitoring jobs.

The vigilance study, conducted during the second year of the road test, utilized a specially constructed Vigilance Tester set in the cab of each truck. The Tester flashed varied patterns of critical and non-critical signals at random intervals. Drivers were instructed to respond only to critical signals. Records of responses were kept for each of the 42 drivers over 6 consecutive 7-hour driving shifts to determine both average and individual response levels. Average levels were high and remained high throughout the 7-hour shifts (83% of all critical signals were detected).

These findings were contrary to the hypothesized decrease in detection as driving progressed. The wide individual differences in detection levels remained and increased with driving time. Results suggest that laboratory studies of passive vigilance may underestimate performance capability.

12. **TRN 119.** Dobbins, D. A., Skordahl, Donald M., and Anderson, Alan A. Prediction of vigilance: AASHO road test. December 1961.

TRN 119 describes the second of two studies of vigilance conducted by USAPRO in connection with a road surface test sponsored by the American Association of State Highway Officials (AASHO) and administered by the Highway Research Board of the National Academy of Sciences. Army drivers were used in the test which presented conditions of boredom and fatigue characterizing many Army monitoring jobs. The first study (TRN 118) established that vigilance performance varied widely among individuals. The second study was an exploratory attempt to identify measures of individual differences predictive of vigilance.

A wide variety of psychologically predictive measures were administered to the 111 drivers before they began driving for the road test. Scores on these measures were correlated with the driver's signal detection performance level measured by the Transportation Corps Vigilance Tester. In general, both reliability and validity coefficients were low. The most promising predictors were personality, personal history, driver aptitude, and perceptual speed measures. Cognitive, physical, psychomotor, and attitudinal measures were least promising. The highly specific nature of the criterion and the possibility of interaction between vigilance responses and the non-related task of driving appears to restrict the usefulness of the more general psychological predictors. Specifically developed measures more closely approximating the components of the criterion task might result in better prediction.

13. **TRN 120.** Sadacca, Robert, Ranes, John E., and Schwartz, Albert I. Human factors studies in image interpretation: Vertical and oblique photos. December 1961.

The value to image interpreters of examining both vertical and oblique views of a target area rather than views of either type alone was explored. 109 recent graduates from the Image Interpretation Course, Ft. Holabird, Md. were divided into five experimental groups matched on final course grades and on general aptitude test scores. Tasks required of the several groups were varied so as to provide a basis for comparing performance when two types of photos were used in combination.

No significant differences were found in number of correct identifications made when interpreters had both types of photos or either type alone. More misidentifications were made when a second type of photo was provided after an initial viewing period of a single type. Changing the order of presentation of the imagery did not appear to affect performance. Thus, results of

this exploratory study indicated that having both vertical and oblique photos of a target area does not necessarily make for improved interpreter performance. More definitive results would be expected from a more comprehensive study in which such factors as scale, quality, and content of photos are systematically varied.

14. **TRN 121. Ringel, Seymour and Smith, Paul F. Tracking performance in the Missile Master--Target load, tracking time, and rated proficiency. May 1962.**

To explore the effects of target load, duration of tracking time, and tracker proficiency upon tracking performance in the Missile Master system, trackers of high, average, and low rated proficiency were required to track real targets on operational tracking consoles. Tracking performance during six contiguous 10-minute periods was recorded photographically. The number of targets assigned to be tracked varied from 3 to 18 for the six periods. Two accuracy indexes were computed: percentage of instances trackers' 'tags' were on target and number of targets tracked with perfect accuracy in relation to number assigned.

No statistically significant differences in tracking performance were found among groups differing in rated proficiency nor across time periods. Within 10-minute periods, a small decrement in mean accuracy score was found. Mean accuracy score and mean percentage of targets tracked with perfect accuracy decreased as target load increased. However, the average number of targets tracked with perfect accuracy increased with increased target load. Individual trackers were found to differ appreciably in performance.

15. **TRN 122. Birnbaum, Abraham H. Human factors research in image systems--Status Report, 30 June 1962. June 1962.**

The effort of the IMAGE SYSTEMS Task is closely tied to the development of a number of systems designed to meet the Army's needs in the eventuality of future war. Examples are the Tactical Image Interpreter Facility (TIIF) and drone systems with their electronic image transmittal subsystems. In addition, the Task is also concerned with research on systems currently in the planning stage--those dealing with TV as a possible real-time sensor as well as with computer devices for the storage, retrieval, and dissemination of information.

In planning the research, psychological requirements of the interpreter have been viewed in two ways: interpreter skills, abilities, and techniques necessary for the extraction of information from images; and image interpreter performance in the context of Army operations--that is, how can the Army best take advantage of the its interpreter resources and talents to improve intelligence information output?

Four approaches have been planned in response to these requirements:

1. The identification of basic human factors in the development of the TIIF

2. Procedures for extracting information from image displays of near real-time systems

3. Techniques for interpreting TV imagery

4. Improved procedures in communication of intelligence information

In the status report, background and progress of the Image Systems Integration Task is summarized in some detail, particularly with respect to exploration of the problems encountered in performance measure development.

RESEARCH STUDIES

16. RS 61-3. Ringel, Seymour. Human factors research in complex electronic systems. July 1961.

Effectiveness of the Army's complex electronic weapons systems ultimately depends upon human components. There is critical need for human factors research in an effort to bring about best personnel utilization. Research Study 61-3 reports a preliminary analysis of the total problem and delineates the general research approach and progress. The effort consists in a joint attack on selection and utilization problems, directed toward (1) development of performance measures for systems, subsystems, and individuals; (2) delineation of the characteristics of human performance within the system; (3) identification of optimum work methods and operating procedures; (4) improvement of selection and assignment of appropriate personnel to critical positions.

A comprehensive survey was undertaken in approximately 25 weapons, communications, and related systems in CONUS and USAREUR. Battlefield Air Defense Systems (Missile Monitor) were selected as meriting immediate intensive study. Objective performance measures are being designed to take into account total system, subsystem, and individual performance simultaneously so that improved performance at one level will not be at the expense of another. The experimental Electronics Selection Battery was designed to identify personnel who will succeed in electronics occupations of high complexity. The battery is being evaluated for effective prediction with emphasis on job performance as a criterion.

17. **RS 61-4. Hammer, Charles H. Survey of noncommissioned officer academies for criterion development purposes. December 1961.**

To determine the feasibility of the NCO academy system as a framework in which to conduct research to develop improved techniques for identifying potentially successful NCO's, a survey of 26 NCO academy courses was conducted. Data collected concerned mission of the academy, prerequisites, enrollment, course content, grading systems, and attrition.

Nine academies subject to standardization of course length, course content, and assessment procedures appeared to be potentially useful as research settings. The academies are located at Ft. Benning, Fort Dix, Fort Carson, Fort Meade, Fort Campbell, Fort Bliss, Fort Eustis, Fort Jackson, and Fort Leonard Wood.

18. **RS 62-1. Dobbins, D. A. and Skordahl, Donald M. Survey of U. S. Army monitor jobs. April 1962.**

Three aspects of Army monitor jobs were surveyed: number, types, and distribution of duty positions; major characteristics of each job; and relative importance of the job in achieving unit missions. Questionnaires were devised and sent to various elements of the combat arms and technical services requesting information about non-classified duty positions potentially vigilance-type positions. 1528 duty positions were so examined by respondents.

102 duty positions were designated by operational personnel as having sufficiently heavy proportions of monitoring duties to be designated as vigilance jobs: 72 in the combat arms and 30 in the technical services. Monitor jobs were found to involve predominantly equipment monitoring (usually instrument panels), visual rather than auditory monitoring, uncontrollable signal rates rather than self-paced situations. Other characteristics of monitor jobs concerned length of work period, frequency and duration of rest periods, proportion of monitoring to non-monitoring time, accuracy checks, and annoying human factors problems reported. 84 percent of the monitor jobs were rated as critically or extremely important to the achievement of unit missions.

19. **RS 62-2. Sternberg, Jack. Fighting Vehicles Task--Status Report, 30 June 1962. June 1962.**

The Fighting Vehicles Task was established in response to a USCONARC requirement for a coordinated effort on human factors research to improve quality of personnel assigned to armor and to improve work methods and procedures so as to bring about better utilization of personnel in armor systems. On the basis of this requirement and the interest of the Army, major emphasis was directed toward those human factors considerations relevant to mid-range and long-range planning.

Planning and work accomplished as of 30 June 1962 is described for the five subtasks comprising this effort. A draft report has concluded effort under subtask a, Identification of Psychological Factors and Personal Characteristics Associated with Effective Fighting Vehicles Personnel. For subtask b, efforts to develop or locate a criterion of effective performance in fighting vehicles are described. Selection and development of tests to comprise an experimental selection battery for fighting vehicles personnel constitutes the primary emphasis of subtask c. Subtask d, Evaluation of the Relation between Characteristics of Group Composition or Interpersonal Relations and Successful Performance in Fighting Vehicles, was planned for FY 1963. For subtask e, Analysis of Voice Radio Communication Procedures for Armor Platoons, the collection and preliminary analysis of tape recordings of typical communications traffic during simulated combat maneuvers of an armed cavalry platoon and troop is described.

20. **RS 62-3. Willemin, Louis P. Prediction of effective officer performance. July 1962.**

Responsiveness to the Army's need to reevaluate policies and procedures relating to the commissioning of officer personnel has generated research into the selection and utilization of officers with regard to the differential suitability of individuals for major types of officer assignment.

Research Study 62-3 describes activities involved in validating the Differential Officer Battery of tests designed to measure a wide variety of abilities and personal characteristics. The hypothesis is that different tests will relate to performance in the three major officer job areas--combat, technical, and administrative. The Officer Evaluation Center has been activated to provide a yardstick of actual performance of officers previously administered the Differential Officer Battery. In a realistic setting, each officer in the sample of 900 will participate in 13 standardized performance situations simulating a wide range of military operations. Predictors, performance situations, and the organization and facilities of the Officer Evaluation Center are described. Payoff potential is estimated in terms of long-range Army gains to be realized through improved utilization procedures.

RESEARCH MEMORANDUMS

21. RM 61-6. **Berkhouse, Rudolph G., Mendelson, Martin A., and Cook, Kenneth G. Development of performance measures of individual proficiency in Special Forces. June 1961.**

Analyses were made of all aspects of Special Forces training to develop a criterion of successful individual performance. Nine separate performance tasks were constructed, tried out, and refined until they were judged adequate for use. In combination, the tasks appear to yield an integrated measure of performance.

22. RM 61-7. **Berkhouse, Rudolph G., and Cook, Kenneth G. Development of preliminary screening measures for Special Forces trainees. June 1961.**

Appropriate measures were selected for inclusion in an experimental Special Forces Selection Battery for subsequent full-scale validation. Predictor scores, background data, and criterion data collected from approximately 250 Special Forces trainees are described.

23. RM 61-8. **Berkhouse, Rudolph G., Kaplan, Harry, and deJung, John. Construction of two experimental short forms of the General Information Test. June 1961.**

Item selection procedures are described for the construction of GIT-2QX and GIT-3QX, experimental short forms of the General Information Test. The 30-item forms were developed for inclusion in an experimental battery designed to be used as alternate to the Army Qualification Battery.

24. RM 61-9. **Berkhouse, Rudolph G., Katz, Aaron, and deJung, John. Construction of an experimental long form and two short forms of the Classification Test. July 1961.**

Two preliminary short forms and an experimental long form were constructed as part of a research effort to improve screening on the basis of combat aptitude area scores. Alternate short forms, CI-2QX and CI-3QX, each containing 45 self-description items, were designed for use as components of the Army Qualification Battery. The long form, CI-2X, a personality questionnaire containing 125 items, was designed for use as an alternate to the single form of the Classification Inventory in operational use at the time of the present study.

25. **RM 61-10. Graham, Warren R. Construction of the Electronics Picture Test and the Electronics Knowledge Test. July 1961.**

Construction of two new experimental electronics tests, developed to improve differentiation of personnel in electronics and electrical MOS, is described. The 120 items of the Electronics Picture Test, all newly constructed, can be classified by content into six categories. The 140 items of the Electronics Knowledge Test, all verbal, cover eight content categories. New items were constructed and "old" items selected from previous electrical tests on the basis of difficulty indices and validity coefficients.

26 **RM 61-11. Katz, Aaron. Construction of an experimental self-description questionnaire for combat. August 1961.**

The Self-Description Questionnaire (SDQ), a personality instrument, was designed to predict combat performance. Part 1 (PT 3687) and Part 2 (PT 3688) of the SDQ each contain 165 items. Items were constructed or selected on the basis of specific rationales to reflect personality characteristics judged to be related to combat performance.

27. **RM 61-12. Medland, Francis F. and Hammer, Charles H. Construction of the experimental NCO leadership aptitude battery. August 1961.**

Six tests are included in the experimental NCO Leadership Aptitude Battery. Designed to measure non-cognitive aspects of leadership, the variables include level of adjustment, practical judgment, reaction to stress, military competence, interpersonal relations, and acceptance as a potential leader. Items were constructed and selected from existing instruments.

28. **RM 61-13. Denton, Barnett. Construction and administration of experimental medical and chemical information items for the ACB. September 1961.**

Initial research to develop medical and chemical test items to improve differential classification is reported. Completed research includes preparation of a large item pool, organization of items into four experimental forms, development of experimental keys, and administration of the forms to a total of 1420 recruits and trainees. Final forms will be developed from analysis of data obtained from the recruit and trainee samples.

29. **RM 61-14. Graham, Warren R. Evaluation of proposed method of estimating work output of Army personnel for use in optimal regions allocation. September 1961.**

The method of optimal regions is an allocation technique based on the concept of maximizing the output of personnel entering the Army as estimated by aptitude area scores. This Research Memorandum covers the development and evaluation of a proposed technique for equating work output measures for differences in time spent in each Army occupation.

30. **RM 61-15.** **Berkhouse, R. G., Mellinger, J. J., and Cook, K. G. Establishing cutting scores for Army Language Proficiency Tests. October 1961.**

Validation studies were undertaken for three experimental language tests to determine if validity coefficients and cutting scores could be generalized to all tests of the revised Army Language Proficiency Test. Obtained validity coefficients were both high (r's, 166 to .87) and comparable. Misclassification estimated to result from a common set of cutting scores varied from 0% to 13%. It was concluded that validity and comparability assumptions had been met and common cutting scores could be generalized.

31. **RM 61-16.** **Katz, Aaron and Trump, James B. Revision of the WAC OCS Biographical Information Blank and Applicant Evaluation Report. October 1961.**

Changes made in the WAC OCS BIB and in the WAC Officer Candidate Applicant Evaluation Report are described in the present Research Memorandum. Changes in scoring of the two instruments and newly established cutting scores for selection to WAC OCS and to the WAC Officer Reserve are also reported.

32. **RM 61-17.** **Graham, Warren R. Aptitude area scores as predictors of the time served in Army occupations. December 1961.**

Results indicate that aptitude area scores can significantly predict time-in-occupation, both before classification (for the total group), and after classification (within occupational groups). Also, differential prediction of the time-in-occupation criterion is likely to be quite high, since the range of obtained validity coefficients was .42 to -.53 for the total of 710 cases.

RESEARCH TASKS

U. S. ARMY PERSONNEL RESEARCH OFFICE

USAPRO Research Tasks, including those on which publications were issued during the past fiscal year, are briefly described. Task Statements are grouped according to the USAPRO Laboratory in which the research was accomplished. The numbers appearing at the conclusion of each Task Statement designate USAPRO publications abstracted or listed on pages 3 to 16.

Military Selection Research Laboratory

RESEARCH TASK: Methods for Improving Enlisted Input Quality. FY 1962.

Research on screening and induction techniques is a continuing effort which must reflect developing military policy and organization involving all the Armed Services. Current Army induction and recruitment policy bases acceptance in large part upon measures of aptitudes related to likelihood of successful performance in different kinds of Army jobs. The periodically developed Armed Forces Qualification Test (AFQT-7 and -8 were put into use 1 July 1960) has been designated by Congress as the overall screening test to provide both a measure of general military trainability and measures of specific aptitudes corresponding to certain of the Army's aptitude area scores. A group of short tests (Army Qualification Battery, put into use on 11 September 1961), permits identification of specific abilities of AFQT Category IV personnel (those with scores ranging in the 10th to 30th percentile).

Once research has been completed and new testing devices have been put into use, a continuing need exists to check on operating problems for the purpose of distinguishing between those which may be solved by administrative action and those which point up problem areas requiring research. The Task focuses attention on the need for methodological research and also on the development of technical information that will lead to improvements in conventional devices already in use. Current research embraces the following activities: (1) devising methods to increase effectiveness of overall screening through new tests and test content; (2) improving effectiveness of short tests for the differential measurement of aptitude areas for the middle ability level; (3) exploring the feasibility of very short, limited-range tests, and applying the methods to the development of new forms of tests already in use;

(4) devising new approaches to the detection of deliberate failures. First steps are being taken to explore the promise and feasibility of using programmed testing machines for input screening. In addition, increased attention is being given the study of the mobilization base with a view toward providing a method for estimating availability of usable personnel from the civilian manpower pool. 4.

RESEARCH TASK: New Techniques for Enlisted Classification. FY 1962.

The importance to the Army of personnel decisions being made on the basis of the Army Classification Battery (ACB) makes it necessary that these tests be kept current. Under this task, new test content is explored and new instruments devised which will measure factors not yet differentially measured by the ACB. To this end, a large number of newly constructed information-type job oriented tests, intended to replace or supplement current ACB selectors, are constructed and tried out. The direction is toward tests of more specific experiential factors related to success in specific types of Army jobs, particularly in the mechanical domain where current prediction tends to be general over a wide range of jobs. Another approach is a large-scale factorial study. Many factors isolated in previous military and civilian research, which are apparently relevant to Army jobs, are being validated in a longitudinal study. In addition, new forms of existing ACB tests are developed in order to maintain the established validity of the operational battery.

A special requirement involves determination of combinations of measures to best evaluate applicants for enlistment and selective service, particularly those applicants who are low in general ability. An experimental reenlistment inventory is also under development to identify at the time of entry those Army career oriented personnel with potential for military achievement. Success in this effort will help in assigning potential career personnel to long-term job training. 1, 5, 25, 28, 32.

RESEARCH TASK: Matching Ability Resources of Enlisted Men to Critical Army Technical Jobs. FY 1962.

The problem of identifying men who can be trained to perform in critical jobs and technical specialties has become critical as the requirements for the proper selection, allocation, and utilization of such trained manpower have increased. The research involves analysis of factors contributing to attrition in courses of training, particularly behavior patterns unrelated to skills and aptitudes.

To meet the Army's long-range manpower utilization objectives of making personnel available, in the required numbers, with the necessary mental, physical and occupational qualifications for both combat units and support services, research into problems of utilization of enlisted women for selected jobs during mobilization is being undertaken.

A continuing requirement for current information regarding the validity of the Army Classification Battery for predicting success in school training and on the job involves long-range data collection to be used as a basis for revising Aptitude Area test composites and score prerequisites. This research is tied in with a requirement of the New Techniques for Enlisted Classification Task to provide new test content and instruments which will measure factors not yet measured by the ACB. 3, 31.

Combat Systems Research Laboratory

RESEARCH TASK: Identification and Measurement of Psychological Factors Related to Operation of Fighting Vehicles. FY 1962.

Successive advancements in the technology of warfare have dictated the development of increasingly complex systems for the conduct of mounted combat. With each new development in tactics, materiel, or doctrine are introduced new demands upon the human element in the man-machine system. By identifying the psychological factors critical to the successful operation of the new systems, the human factors psychologist is able to contribute to maximizing the performance of individual vehicles and of units. Such new developments as improved tracking, guidance, and propulsion subsystems as well as reorganization of combat forces dictate a reevaluation of current selection and utilization procedures in the armor area.

In this task, major emphasis is being directed toward those human factors considerations which will be relevant to mid-range and long-range Army planning. The following areas, which are considered critical and researchable, are believed to be areas in which contributions can be made to more effective armored vehicle performance: criterion development, crew composition, interpersonal relations, personnel selection, voice radio communications procedures in armored systems. 19.

RESEARCH TASK: Selection of Anti-Tank Missile Gunners. FY 1962.

With the adoption of direct fire guided missiles (SS-10 and SS-11), a need arose for development of gunner selection standards, since cost per round is high and training expensive. The projected end-products of this task were (1) identification of the types of predictor test useful for selection of SS-10 and similar missile system gunners and (2) development of an operational selection battery. 7.

RESEARCH TASK: Dependable Performance in Monitor Jobs. FY 1962.

Various critical weapons and communications systems demand a high degree of performance reliability. The reliability of any man-machine system ultimately depends upon human performance. Individuals vary in the extent to which their performance deteriorates as a result of internal factors such as fatigue, boredom, poor morale, and anxiety, and as a result of external factors such as emergency pressure, isolation, weather extremes, methods of supervision, and other environmental factors.

There is critical need to identify the psychological factors that relate to consistent dependable performance. Previous research suggests that both the type of job and the characteristics of the individual are important factors in performance error. Therefore, this task has the dual objective of (1) identifying the jobs in which error or performance decrement could lead to costly, serious consequences, and (2) attempting to reduce the occurrence of errors through experimental research and/or personnel selection techniques. 2, 11, 12, 18.

RESEARCH TASK: Assignment and Allocation of Combat and Combat Support Personnel. FY 1962.

The increasing complexity of combat performance resulting from new weapons and systems requires that emphasis be given to the quality of manpower trained for and assigned to combat and combat support activities. Previous research has indicated a new differential classification procedure that will yield substantial gains in the quality of combat manpower. The procedure accomplishes the simultaneous consideration of numerical requirements and input in terms of measured aptitudes. The primary objective of this task is to develop the new classification technique to make it adequate and available for operational use. 29.

RESEARCH TASK: Selection of Army Helicopter Pilots. FY 1960.

Extensive and long-term research has been conducted to reduce attrition among helicopter pilot trainees through the use of improved selection instruments. As instruments were developed, they were incorporated in interim operational selection batteries in response to the urgent need to reduce attrition. Recommendation of a six-test provisional selection battery in FY 1959 was the result of a series of validation studies involving a substantial number of experimental measures of varied factor content. A selection battery for operational use has been developed based on the validation of experimental instruments for prediction of school success and job performance as helicopter pilots. 8.

Support Systems Research Laboratory

RESEARCH TASK: Psychological Factors in Image Interpretation. FY 1962.

The primary objective of this task is to maximize the information extracted from images in terms of accuracy, completeness, and speed. A secondary objective is to determine the capability of the image interpretation system. Accomplishment of this objective will provide the commander with human factors guidelines or standards to apply in planning aerial reconnaissance missions, assignment of workloads, and in evaluating the confidence to be placed in intelligence reports received under a variety of conditions such as interpretation time, stress, and type of image used. 10, 13.

RESEARCH TASK: Image Systems Integration. FY 1962.

Future warfare is expected to place particular emphasis upon the need for very rapid information feed-back to the tactical commander. The introduction of new sensors, platforms, transmission systems, 'real-time' (TV-type), and near 'real-time' image systems will extend the commander's ability to obtain timely and accurate information. Although each is best suited to a particular purpose, the ultimate effectiveness of each new tool, device, or system rests in part on the ability of appropriately assigned personnel to use it.

The primary objective of this task is to determine the best ways in which personnel can be integrated within new image systems, such as the Tactical Image Interpreter Facility (TIIF) and real-time and near real-time systems. 15.

RESEARCH TASK: Selection and Utilization of Electronics Personnel. FY 1962.

New concepts of warfare have brought about the introduction into the Army of unique and complex electronic systems of far reaching impact. Various staff and field organizations are charged with responsibility for maximizing the operational effectiveness of these systems. Since the effective operation and maintenance of these new electronic man-machine systems depend ultimately on human components, the need for human factors information is paramount.

The objective of this task is to bring about the best utilization of personnel in these systems. This can be accomplished through improved identification and assignment of personnel to critical positions and through the development of optimum work methods and techniques for the operations that must be performed. 14, 16.

Behavioral Evaluation Research Laboratory

RESEARCH TASK: Prediction of Effective Officer Performance. FY 1962.

Efficient utilization of command capabilities to carry out the Army's mission requires proper consideration and integration of human factors within modern weapons systems. Development of improved techniques and criteria for selection and assignment of commissioned officers with aptitudes and personal characteristics conducive to their success in combat, administrative, and technical areas is essential. To this end, DCSPER requires development of psychological tests and techniques for differential prediction of officer performance.

An extensive battery of experimental measures, shortened and refined by analysis in relation to job performance ratings of over 5500 Regular and Reserve officers, is being administered to a new sample of officers as they enter active duty. To provide a performance-type criterion, 13 situational tests were developed to measure performance in situations commonly occurring in officer jobs. Review and tryout of these tests was accomplished at appropriate branch schools. To administer the situational tests to the experimental sample of officers tested with the Differential Officer Battery, the U. S. Army Evaluation Center was established as a Class II activity at Fort McClellan, Alabama, effective 1 March 1962. Shakedown administration of the 13-test criterion exercise is scheduled to take place at the Center in the fall of 1962. Complete analysis of test results and criterion data obtained at the Center will constitute a final test of the major hypothesis of the Task, namely, that combat, administrative, and technical officer jobs have differing psychological requirements and that suitability for meeting these requirements is predictable. 20.

RESEARCH TASK: Psychological Measures for Use in Primary Officer Selection and Evaluation Programs. FY 1962.

A continuing need exists in the Army to improve the selection procedures for primary officer selection programs, particularly with respect to the problems of identifying leadership potential and career motivation among applicants for United States Military Academy, Officer Candidate School, and among Reserve Officers Training Corps trainees.

As a consequence, research is being directed toward (1) development of measures to identify cadet leadership characteristics and to predict attrition at the Academy, (2) continuing follow-up of the validity of USMA measures to predict performance of the cadet as an officer and the probability of his remaining on active duty following graduation, (3) prediction of leadership potential of ROTC graduates, and (4) improvement of procedures for OCS selection.

Expected military research end-products and results include increased quality and career motivation of USMA, ROTC, and OCS graduates through the use of improved selection and evaluation measures of cadets and officer candidates.

RESEARCH TASK: Selection of NCO Leaders. FY 1962.

A requirement exists for techniques to identify, upon entrance into the Army, those men in the combat branches who are potentially capable of becoming noncommissioned officers who will be effective combat soldiers and good leaders. Research has shown that certain factors in the soldier's experience and personality can be used to predict future performance in leadership positions.

Since no opportunity exists for tryout of selection techniques against actual combat experience, it is necessary to find a criterion which approaches, as closely as possible, the battle situation. Research efforts in this Task are directed to: (1) Determination of the validity of experimental predictor tests against such criteria as ratings of potential noncommissioned officer performance obtained during training and administrative evaluations of later on-the-job performance; (2) Construction of situational tests as predictors of later measures of combat performance potential; (3) Development of a criterion framework within the NCO Academy program for the experimental validation of these measures of combat performance potential; and (4) Development of a criterion which approximates combat. 6, 17, 27.

RESEARCH TASK: Army Classification Tests for Combat Selection. FY 1962.

Inherent in the problem of combat selection is the need to identify a greater number of those Army personnel who possess fighter potential. The ultimate objective is to raise the quality of the Army generally by improving classification across the board. Research under this Task will improve or supplement the Classification Inventory and General Information Test which were the first measures introduced into the Army Classification Battery for the specific purpose of selecting men for combat unit assignments.

Major emphasis is being given the development of simulated combat situations to be used with Battle Groups as the combat criterion of performance. These simulated combat situations emphasize realistic psychological stress based on fatigue, hunger, and physical hardship. Research is also being conducted on the evolvement and validation of measuring instruments which tap motivation, interests, and other pertinent aspects of personal make-up that relate to fighter potential in the soldier of the future. Other efforts include research on early ratings (3d and 5th week of basic training) as predictors of combat potential and on selection of measures to predict success in Ranger training. 23, 24, 26.

RESEARCH TASK: Selection and Utilization of Special Warfare Personnel. FY 1960.

This research task was based upon a requirement that measures be developed which would select those individuals who possess mental, emotional, and other personal characteristics required for success in Special Forces operations, with particular emphasis on mobilization requirements. The specific aim was to reduce the failure rate in Special Forces training.

As a result of arrangements made by Director of Special Warfare, 250 men were selected for assignment to Fort Bragg for advanced individual training during FY 1959. During training, these individuals were administered all experimental selection instruments and were subjected to extensive evaluation; upon completion of training they were administered the performance assessment instrument.

Potential military research end-results included a set of predictor measures and the necessary evaluation techniques for selecting personnel for Special Forces training, and the development of performance assessment tasks that may serve as prototype measures for the evaluation of performance in a variety of combat type assignments. 21, 22.

RESEARCH TASK: Measurement of Foreign Language Aptitude and Proficiency. FY 1959.

Improvement in the selection and classification of linguists in the Army has come about through (1) tests of ability to use a foreign language by which qualified personnel are identified for assignment to Army jobs requiring language skills, and through (2) tests of aptitude for learning a foreign language by which qualification for assignment to the Army Language School is in part determined. Research continues to be required at times on problems arising in the operational use of the aptitude and achievement tests. 30.

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USAPRO Research Publications

USAPRO Technical Research Reports and Research Notes are on file in each of the following libraries, listed by state.

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Rockville, Maryland

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U. S. ARMY PERSONNEL PROGRAMS
utilizing psychological research test products of the U. S. Army Personnel Research Office

PROGRAM	NUMBER OF APPLICANTS TESTED FY 62
Pre-enlistment Screening of Male Enlistment Applicants	
To screen men enlisting or reenlisting from civilian life who must be tested prior to traveling to Armed Forces Examining Stations for Armed Forces Qualification Test (AFQT) administration.	
Tests: Enlistment Screening Test, EST.	364,800
Screening of Male Enlistment Applicants	
To screen men on mental acceptability prior to enlistment at AFES.	
Tests: Armed Forces Qualification Test, AFQT.	282,400
Army Qualification Battery, AQB.	197,700
Pre-enlistment Screening of Female Enlistment Applicants	
To screen women enlisting or reenlisting from civilian life who must be tested prior to traveling to Armed Forces Examining Stations for Armed Forces Women's Selection Test (AFWST) administration.	
Tests: Women's Enlistment Screening Test, WEST.	8,100
Screening of Female Enlistment Applicants	
To screen women for mental acceptability prior to enlistment.	
Tests: Armed Forces Women's Selection Test, AFWST.	
Women's Army Classification Battery, WACB.	5,400

PROGRAM	NUMBER OF APPLICANTS TESTED FY 62
Enlistment Screening of Male Reserve and National Guard Applicants	
To screen men for mental acceptability prior to enlistment in the Army Reserve or the Army National Guard.	
Tests: Armed Forces Qualification Test, AFQT (Reserve Components Edition). Army Qualification Battery, AQB (Reserve Components Edition).	290,000
Screening of Selective Service Registrants	
To screen Selective Service Registrants for mental acceptability prior to induction.	
Tests: Armed Forces Qualification Test, AFQT.	885,300
Army Qualification Battery, AQB.	178,400
Detecting Deliberate AFQT Failures	
To aid personnel psychologist in verifying AFQT failures among Selective Service Registrants with percentile scores of 0 through 9 on AFQT.	
Tests: Included within Terminal Screening Procedures	44,100
Screening of Insular Puerto Rican Selective Service Registrants	
To screen Selective Service Registrants in Puerto Rico who must undergo mental acceptability testing in Spanish prior to induction into the Army for training, including English language training.	
Tests: Examen Calificación de Fuerzas Armadas, ECFA. English Reading Test, ER.	12,900
Initial Classification of Enlisted Male Personnel	
To determine MOS appropriate for direct award or MOS recommended for training for replacement stream enlisted personnel processed through Reception Stations.	
Tests: Army Classification Battery, ACB. (Standard Scores on 11 tests are converted into 8 Aptitude Area composites.)	370,500

PROGRAM	NUMBER OF APPLICANTS TESTED FY 62
Initial Classification of Motor Vehicle Drivers To screen individuals during Reception Station processing as a prerequisite to licensing for driver vacancies. Tests: Motor Vehicle Driver Selection Battery I, MDB-I.	370,500
Classification of Personnel for Arctic Assignment To select enlisted personnel (fully qualified in the MOS for which selected) for duty at Fort Churchill, Canada. Tests: Self-Description Blank-SA. (Used if Aptitude Area IN is not available.)	50
Selection of Basic Trainees for Training as Acting NCOs To select basic trainees for training as acting NCOs. Selection is based on peer ratings of leadership potential obtained during the fifth week of Basic Combat Training. Individuals selected are given two weeks of NCO training upon completion of their Basic Combat Training, and serve as acting NCOs during Advanced Individual Training. Tests: Leadership Potential Rating, LPR. (This procedure consists of a ranking procedure within training squads, followed by a rating of leadership potential on a seven-point scale.)	184,800
Licensing Drivers of Army Motor Vehicles To determine qualifications of military personnel, civilians, and indigenous personnel for standard driver licenses. Tests: Motor Vehicle Driver Selection Battery II, MDB-II (unless previously qualified on MDB-I). Testing Procedures for Licensing Drivers of Army Motor Vehicles: Includes physical evaluation and driving performance test.	216,000

PROGRAM	NUMBER OF APPLICANTS TESTED FY 62
Selection of Personnel for Foreign Language Training	
To screen personnel for foreign language aptitude as a prerequisite for application for training at the Army Language School.	
Tests: Army Language Aptitude Test, ALAT.	72,500
Selection of Insular Puerto Ricans for Basic Military Training	
To determine English fluency level and aptitudes of Insular Puerto Rican inductees as a basis for decisions affecting the individual's further training or retention in the Army.	
Tests: English Fluency Battery, EFB. Army Classification Battery, ACB.	5,500
Measurement of Foreign Language Proficiency	
To determine the extent to which military personnel meet qualifying standards of proficiency in specified foreign languages.	
Tests: Army Language Proficiency Tests in the following languages: Albanian, Arabic Iraqui, Bulgarian, Burmese, Chinese Cantonese, Chinese Mandarin, Czech, Danish, Dutch, Finnish, French, German, Greek, Hebrew, Hungarian, Icelandic, Indonesian, Italian, Japanese, Korean, Lithuanian, Norwegian, Persian, Polish, Portuguese, Romanian, Russian, Serbo-Croation, Slovenian, Spanish, Thai, Turkish, Ukrainian, Vietnamese, Yiddish.	49,500
Selection of Enlisted Recruiters	
To screen potential enlisted recruiters on the basis of - sales adaptability as a prerequisite for appearance before an interviewing board.	
Tests: Recruiter Self-Description Blank, Form II (Sales Adaptability).	900

PROGRAM	NUMBER OF APPLICANTS TESTED FY 62
Measurement of Skill in Shorthand and Typing To obtain typing and dictation scores for those enlisted personnel undergoing reception station processing who claim skill in typing and shorthand. Scores obtained are used in determining the individual's most appropriate training and assignment. Tests: Typing and Dictation Test.	Not available
Selection for Training and Assignment in Special Forces Organizations To determine the aptitude of enlisted volunteers in the Active Army and in the Army Reserve for training and assignment in Special Forces organizations. Tests: Special Forces Selection Battery, consisting of a. Special Forces Locations Test, SFL. b. Critical Decision Test, CDT. c. Special Forces Suitability Inventory, SFI.	3,500
Selection for Fixed-Wing Avaiation Training To select male officer personnel for fixed-wing aviation flight training. Tests: Army Fixed-Wing Aptitude Battery, AFWAB-2.	100
Selection of ROTC Cadets for Fixed-Wing Aviation Training To select ROTC Cadets for fixed-wing aviation flight training. Tests: Army Aviation Test Battery.	1,000
Selection for Helicopter Pilot Training To select Warrant Officer and enlisted male volunteers in the Active Army and members of Reserve components for helicopter pilot training. Tests: Army Rotary Wing Aptitude Battery.	100

PROGRAM	NUMBER OF APPLICANTS TESTED FY 62
Selection of Cadets for Junior College ROTC Training To select students at Military Schools Division Army ROTC units established at secondary level and junior college educational institutions for MST-5 and MST-6 ROTC training. Tests: General Screening Test, GST. (Testing occurs during senior high school year.)	1,000
Selection of Cadets for Senior Division Advanced ROTC Training To select cadets for Senior Division Advanced ROTC training from among students who are successfully completing or receiving credit for basic course (first two years college). Tests: ROTC Qualifying Examination, RQ. (Testing occurs during sophomore college year.)	50,000
Leadership Evaluation of ROTC Summer Camp Trainees To utilize situational performance measures administered at ROTC summer camps for cadet and faculty evaluation of leadership potential. Tests: The Field Problems Test, FPT, ROTC.	12,400
Selection for Admission to U. S. Military Academy Entrance Examinations To select from members of the Regular component of the Army and Air Force applying for a competitive appointment to the USMA personnel to take the USMA entrance examination. Personnel so selected attend a Preparatory Training Facility for a period of approximately six months prior to taking the examination. Tests: West Point Selection Battery, consisting of a. West Point Prequalification Test, WPT, Part I, Language. b. West Point Prequalification Test, WPT, Part II, Mathematics. c. West Point Prequalification Inventory, WPI.	900

PROGRAM	NUMBER OF APPLICANTS TESTED FY 62
Selection of Male Personnel for Officer Candidate School	
To screen Warrant Officers and enlisted men in the Active Army and in the Army Reserve not on active duty who are applying for Officer Candidate School. Minimum scores on Aptitude Area GT and Officer Candidate Test, OCT are required as a prerequisite to administration of the Officer Candidate Selection Battery to Active Army Applicants.	148,200
Tests: Officer Candidate Selection Battery, consisting of:	
a. Officer Leadership Qualification Report, OLR-1.	
b. Officer Leadership Qualification Inventory, OLI-1.	
c. Officer Leadership Board Interview, OLB-1.	1,620
Selection of Female Personnel for Officer Candidate School	
To screen Warrant Officers and enlisted women in the active Army and in the Army Reserve not on active duty who are applying for Officer Candidate School.	
Tests: WAC Officer Candidate Selection Battery, consisting of:	
a. WAC OCS Biographical Information Blank.	
b. WAC Officer Candidate Applicant Interview.	
c. WAC Officer Candidate Applicant Evaluation Report. (Minimum scores on Aptitude Area GT and WAC Officer Candidate Test, WOCT, required as a prerequisite to administration of the WAC Officer Candidate Selection Battery to Active Army applicants.)	50
Appointment of Male Personnel as Reserve Warrant Officers	
To select enlisted men in the Active Army and in the Army Reserve not on active duty for appointment as Reserve Warrant Officers.	
Tests: Officer Leadership Qualification Inventory, OLI. Officer Leadership Board Interview, OLB. Interview Appraisal Sheet S.	1,700

PROGRAM	NUMBER OF APPLICANTS TESTED FY 62
Appointment of Female Personnel as Reserve Warrant Officers To select enlisted women in the Active Army and in the Army Reserve not on active duty for appointment as Reserve Warrant Officers. Tests: WAC OCS Biographical Information Blank. WAC Officer Candidate Applicant Officer Interview. Interview Appraisal Sheet S.	20
Appointment of Male Personnel to Commissions in the United States Army Reserve To select male personnel in the following categories for appointment to commissions in the United States Army Reserve: Warrant Officers and enlisted men currently serving in any component of the Army; Reserve Warrant Officers and enlisted men who are currently serving in an active status in the Army Reserve; and former warrant officers and enlisted men. Tests: Officer Leadership Qualification Inventory, OLI. Officer Leadership Board Interview, OLB. Interview Appraisal Sheet M (for use with all applicants except technical experts or specialists) or Interview Appraisal Sheet S (for use with technical experts or specialists).	200
Appointment of WAC Personnel to Commissions in the United States Army Reserve To select female personnel in the following categories for appointment to commissions in the United States Army Reserve: Warrant Officers and enlisted women currently serving in any component of the Army; Reserve Warrant Officers and enlisted women who are currently serving in an active status in the Army Reserve; and former warrant officers and enlisted women. Tests: WAC OCS Biographical Information Blank. WAC Officer Candidate Applicant Interview. Interview Appraisal Sheet M (for use with all applicants except technical experts or specialists) or Interview Appraisal Sheet S (for use with technical experts or specialists).	100

PROGRAM	NUMBER OF APPLICANTS TESTED FY 62
Measuring Educational Achievement of Officer Applicants	
To measure the educational achievement of the following categories of personnel when such personnel do not meet the formal educational standards required for appointment: female applicants in the active Army applying for OCS, officers on active duty applying for commissions in the Regular Army, enlisted personnel and warrant officers applying for commissions in the Regular Army, Distinguished Graduates of Army Officer Basic Course or WAC Officer Basic Course applying for commissions in the Regular Army, former Regular Army officers and Reserve Component commissioned officers not on active duty applying for commissions in the Regular Army.	
Tests: Educational Requirements Test, ERT.	120
Appointment of Male Personnel to Commissions in the Regular Army	
To select male personnel in the categories indicated below for appointment to commissions in the Regular Army.	
Tests: 1. For administration to officers on active duty, to former commissioned officers, and to applicants for commissions in Corps of the Army Medical Service: a. Interview Blank, Form 4. b. Biographical Information Blank, Form F.	
2. For administration to Warrant Officers and enlisted men on active duty and to former Warrant Officers and enlisted men: a. Officer Leadership Qualification Inventory, OLI. b. Officer Leadership Board Interview, OLB. c. Officer Leadership Qualification Report, OLR.	
3. For administration to ROTC Distinguished Military Graduates: a. ROTC Inventory, RI. b. ROTC Evaluation Report, ROE-2.	

PROGRAM	NUMBER OF APPLICANTS TESTED FY 62
Appointment of Male Personnel to Commissions in the Regular Army (Continued)	
4. For administration to technical specialists possessing advanced degrees or possessing bachelor's degree with appropriate experience: a. Interview Blank, Form 4. b. Biographical Information Blank, Form F. c. Interview Appraisal Sheet S.	
5. For administration to scholastically outstanding graduates of accredited colleges and universities who did not take ROTC training for valid reasons: a. ROTC Inventory, RI. b. Officer Leadership Board Interview, OLB.	6,770
Appointment of Female Personnel To Commissions in the Regular Army	
To select female personnel in the categories indicated below for appointment to commissions in the Regular Army.	
Tests: 1. For administration to officers on active duty and to former commissioned officers: a. WAC Officer Interview. b. WAC Officer Biographical Information Blank.	
2. For administration to warrant officer and enlisted women on active duty and to former warrant officers and enlisted women: a. WAC Officer Candidate Applicant Interview. b. WAC Officer Candidate Applicant Evaluation Report. c. WAC OCS Biographical Information Blank.	
3. For administration to applicants for Regular Army commissions in the Army Nurse Corps, the Women's Medical Specialist Corps, and the Medical Corps: a. Board Interview for Officers in the Army Medical Service. b. Biographical Information Blank for Women Officers in the Army Medical Service, BIB-AMS.	100