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Technical Research Report

PRB 1107

PERSONNEL RESEARCH FOR OFFICER CANDIDATE SCHOOL

DEPARTMENT OF THE ARMY

THE ADJUTANT GENERAL'S OFFICE

PERSONNEL RESEARCH AND PROCEDURES DIVISION

PERSONNEL RESEARCH BRANCH

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PRB Technical Research Report 1107

PERSONNEL RESEARCH FOR OFFICER CANDIDATE SCHOOL

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November 1957

PRB Technical Reports are intended primarily for research agencies in the Armed Forces as a means of guiding further research in the area of human resources. As research findings accumulate and suggest official action, recommendations are made separately to appropriate military agencies. Information of more general interest is presented in the first part of this report. The Technical Supplement contains details primarily of interest to research scientists.

BRIEF

PERSONNEL RESEARCH FOR OFFICER CANDIDATE SCHOOL

Requirement:

To review research conducted on OCS selection and evaluation problems.

Procedure:

The present report describes the present OCS selection devices and discusses their operational use in selecting Officer Candidates. Important details of research design and findings are presented.

Findings:

The selection systems in operational use for the past several years have been effective in selecting candidates who will be effective OCS candidates and officers. Use of instruments to predict resignations and a more precise identification of the kinds of officer performance to be predicted are expected to lead to further improvements in the selection of officer candidates.

Utilization of Findings:

The present selection battery, described in this report, was recommended to DCSPER early in 1956 for use in selecting candidates for Infantry and Artillery OCS. The battery was introduced to the field through DA Circular 611-17, dated 17 August 1956, to become effective 26 November 1956.

PERSONNEL RESEARCH FOR OFFICER CANDIDATE SCHOOL

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THE PROBLEM OF LEADERSHIP MEASUREMENT IN OFFICER CANDIDATE SCHOOL

I. INTRODUCTION

A. OCS and Officer Procurement

The Army Officer Corps varies in size as the needs of the country change. Immediately prior to the Korean conflict, the Corps numbered about 63,000 officers. But at the peak of the conflict, this figure had more than doubled. With the cease fire it started declining until, by 1956, it had dropped to a little over 100,000.

Much of this fluctuation has been possible because of the flexibility of the OCS program. Since its modern-day beginning in 1941, OCS has traditionally produced a substantial proportion of active duty officers in time of mobilization, decreased its officer output to only a slight trickle in the absence of open conflict. The bulk of the 78,000 non-Regular Army Officers on active duty today originated from Officer Reserve Corps and Reserve Officer Training Corps sources of officer procurement. Only about 12,000 were trained in OCS.

The story of OCS since 1941 illustrates the flexibility required of OCS officer output. At the beginning of World War II, when OCS programs were started at the Infantry School, Ft Benning, Georgia, classes were reporting at 5-week intervals. In response to a need for more officers, classes were quickly stepped up to the point where the Infantry OCS was graduating a class every day. With the end of World War II, the Army's need for new officers subsided; the OCS for all branches was transferred to Ft. Riley, Kansas, where it became part of the Ground General School. Again, to meet the urgent need for trained combat leaders that had arisen as a result of the Korean outbreak, many of the branches reactivated their Officer Candidate Schools, so that by late 1951, OCS's were in operation for Infantry, Artillery, Signal, Ordnance, Engineers, Anti-Aircraft and Guided Missiles, Armored, and Branch Immaterial. Of those reactivated at that time, however, only the Infantry and Artillery OCS's were still in operation in early 1957 and those operated at drastically reduced rates of officer output.

B. Research Contributions to OCS Operations

With OCS thus called upon to provide a quick source of junior officer material in the event of mobilization, it has been highly important that OCS selection and training techniques be always up to date, despite low manpower requirements in peacetime. Since the activation of The Infantry OCS, research scientists of the Personnel Research Branch, The Adjutant General's Office, have conducted a continuous program of research to provide the Army means of identifying those enlisted men who through short training periods in OCS will perform effectively as officers.

The improvement of OCS selection has been an important enough problem to justify the participation of approximately 15,000 officers, officer candidates, or officer candidate applicants in some phase of experimentation. Nearly 50 separate experimental or operational instruments have been prepared and tried out. These instruments have given representation to a wide variety of concepts and techniques related to leadership as hypothesized by military and psychological experts: leadership opinions and attitudes, leadership interviews, mental ability tests, life history information, activity preferences, self-descriptive material, reports and ratings of demonstrated leadership ability, recommendations and recommendation blanks, measures of interest, measures of motivation, measures of personality attributes important to leadership, autobiographies, academic grades, situational or performance tests.

Resulting selection techniques have provided the Army with an administratively feasible Officer Candidate selection system geared to officer leadership requirements. The first leadership test selection battery was introduced in November 1946. This battery and later revisions have proved effective in helping select candidates for OCS training even in the face of severe operating difficulties.

The purpose of the present report is twofold:

1. To describe the present OCS selection devices and to discuss their operational use in selecting Officer Candidates.

2. To present important details of the OCS personnel research effort. These details will be found in the Technical Supplement to this report.

II. HOW OFFICER CANDIDATES ARE SELECTED

A. Current Selection Requirements

An applicant for officer training is highly select; to demonstrate his quality, he must satisfy numerous requirements. Basically, he must possess the necessary mental ability to meet the academic requirements of OCS training and to perform in the capacity of an officer. But further, he must have attributes and personal characteristics such as poise, emotional stability, self-confidence, and the willingness and ability to shoulder responsibility for accomplishing the mission of an officer in the United States Army. These help identify him as a potential officer leader.

Selection for OCS starts with mental eligibility screening based upon general ability measures (Aptitude Area General Technical and the Officer Candidate Test). Physical, educational, and moral requirements must also be met. Applicants who meet these basic requirements are then selected competitively on the basis of scores on a test battery designed to predict leadership performance.

3. What the Leadership Tests Measure

An immediate objective of the OCS selection instruments is to provide effective means of identifying which candidates will perform successfully in OCS and which will not. This the instruments do. But does success in OCS also mean success as an officer? It is pertinent to inquire into the kinds of officers our Officer Candidate Schools are producing, for officer performance is, of course, the ultimate payoff.

The following facts have been determined as a result of research:

<u>One</u>: Leadership test scores of OCS applicants compare favorably with the way candidates are later evaluated in OCS by their tactical officers and fellow candidates. Moreover,

> the manner in which candidates are regarded by their tactical officers and fellow candidates give fairly accurate indications of their leadership ability and potential as an officer, both in garrison and in combat.

<u>Two</u>: Tests of general mental ability used in the selection of officer candidates compare favorably with grades made in OCS. However, <u>unlike</u> leadership evaluations,

> grades in officer training do not appear to have direct correspondence with quality of later performance as a junior officer, either in garrison or in combat. (This is a finding that holds both for OCS and for the U. S. Military Academy officer training programs.)

Thus, applicants who make high scores on leadership tests required for OCS selection are more likely to be the better leaders in OCS training. As the better leaders in OCS, they are more likely to perform successfully as officers. Therefore, the higher the leadership test scores of applicants, the better the expectations of success as an officer.

The same analogy does not hold true for mental ability, year of education, and academic grades achieved at OCS. Applicants with scores above the minimum requirements of 110 on Aptitude Area I, 115 on OCT, and with more than 2 years of college education have <u>not</u> been found to perform any better or any worse as junior officers than others satisfying minimum requirements only. Similarly, candidates with high academic records at OCS do not necessarily perform any better or any worse as junior officers than those who just get by. The analogy may not, however, hold for <u>senior</u> officers in assignments where intellective requirements may be considerably more important. Unfortunately, no research information is available concerning the relevance of these factors to performance of OCS graduates as <u>senior</u> grade officers because of the scarcity of data for an appropriate research study.

The leadership selection instruments found most successful for OCS selection purposes since 1945 have included an objectively scored report of officer potential (evaluation report), an inventory of personal and

background factors, and a standard board interview procedure. Each of these instruments was introduced for operational selection of OCS applicants after thorough research study. General descriptions of each type are given in the following paragraphs.

1. *The Evaluation Report.* One of the best indicators of future leadership performance has repeatedly been past or present leadership performance. The evaluation report in the OCS selection battery is not a test in the traditional sense. It is a carefully devised form by means of which the performance of the applicant as an enlisted man is evaluated with respect to his present leadership performance and his judged leadership potential. This report is made out by the immediate superior NCO, endorsed by the immediate superior commissioned officer, and forwarded.

2. *The Inventory.* The inventory is a paper-and-pencil test taken by the applicant. It consists of test questions covering a wide area of personal factors. These factors have been picked as those which most consistently have identified successful from non-successful candidates. Examples are:

a. Factual background and personal history of the applicant.

b. Self-evaluation on officer requirements.

c. Annoyance--extent to which the applicant is annoyed by others and by situations.

d. Attitude toward various leadership practices and principles.

e. Judgments as to the desirability of various characteristics in officers.

f. Self-evaluation of interests, skills, and reactions with respect to various activities.

3. *Examining Board Procedures.* The third leadership portion of the OCS battery consists of the appearance of the applicant before a panel or board of 3 to 5 officers. The first half of these procedures is an interview, which marks a departure from the traditional Army board interviews in that only carefully delimited aspects of the applicant are considered. Only in the second half of the Examining Board procedures do the officers comprising the Board make an appraisal of the applicant in terms of his complete record for determining his overall qualifications for a commission in the Army Reserve. The Board then submits a recommendation to the major commander of the Army Area to reject or accept the applicant.

The purpose of the interview portion of the Examining Board procedures is to observe and measure one general aspect of behavior that is best observed and measured by a panel of officers in the 30 minutes allotted--the applicant's ability to deal with people. An interview of this type has been demonstrated through research to be valid for such a

purpose, but not for most other purposes. For example, the interview is not legitimately employed to obtain information that is available elsewhere, such as an estimate of intelligence, amount of education, or the number of positions of leadership held in school.

In a very real sense, this interview constitutes a series of miniature officer situations. The applicant is placed at his ease, and then presented informally with problem situations for discussion. The manner in which he handles each problem gives the Board opportunity to observe and to evaluate him in terms of such specifics as self-assurance, appearance, voice control, ability to organize ideas, etc. Board members make independent evaluations of the applicant. These are later combined and added to scores on the evaluation report and inventory to provide the final numerical indication of the applicant's fitness to enter OCS training.

Although a valid instrument for OCS selection, the interview is probably the most subject to misuse of all the OCS leadership selectors. It is carefully structured and objectively scored, but no method has yet been devised to insure that examining boards follow exactly the prescribed procedures. For some examining board members, the temptation to inject untested personal theories of leadership required in an officer is overpowering. The danger in straying from established procedures in the interview lies in the possibility of unduly weighting certain aspects of the candidate already measured by other means. The net effect may be to reduce validity. In fact, it may appear surprising that the interview instrument has any validity at all under the circumstances, except for one saving feature--a set of standardized evaluation ratings that form the basis for the final score. Despite these difficulties of field use and control, some of which are also present for other OCS selector tests, however, the OCS battery continues to be an effective means of selecting officer candidates.

C. Need for a High Applicant Rate

The OCS selection battery can operate effectively only so long as the need for personnel selection is present in the operating situation. The presence or absence of that need is not always obvious. If the major weeding out of unacceptable applicants is being accomplished before formal testing, or if the number of qualified applicants falls below the number needed for a class, then the use to which the selection battery can be put may be severly limited, however superior it is to all other selection methods.

The Army intends that Officer Candidates be from the elite of the enlisted ranks. High selection standards are the most logical means of achieving these ends. But do high selection standards insure quality? The reader's attention is invited to Figure 1, where is shown the number of a typical group of 1000 men entering the Army who qualify to apply for OCS, and the number who actually do apply. The use of a cutting score of 110 on Aptitude Area GT makes about 335 eligible to take the Officer Candidate Test. The cutting score on this test leaves about 250 who would have the requisite mental ability to apply for OCS training.

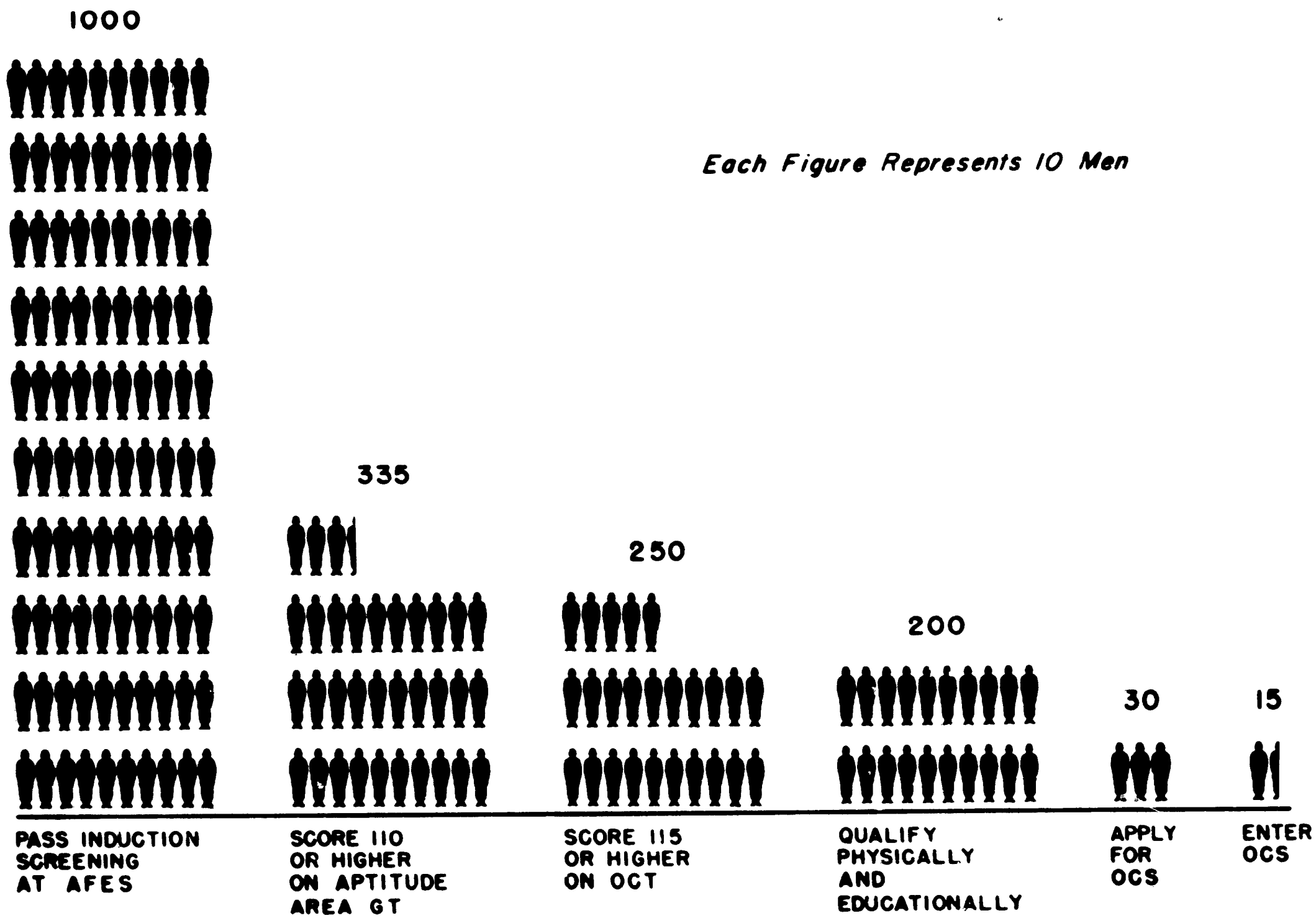

Figure 1. Successive Screening, Selection, and Self-Selection for Officer Candidate School 1000 Typical Army Input

The physical and educational mandates would limit those who pass the Aptitude Area and OCT hurdle to about 200, still a healthy proportion of the original group. However, and this is the crux of the matter, only about 30 of the 200 choose to apply for OCS. Many of these 30 will also fall by the wayside since the selection of applicants by means of the OCS battery typically reduces by approximately one-half the number available for assignment to OCS. Of the original 1000, only about 15, or 1 1/2% of the Army's input, will enter OCS.

A final word, however, on the caliber of those who apply is in order, lest an incorrect impression be given. In the extreme case, the 30 who apply for OCS would be numbers 171 to 200, or the bottom of the list of those qualified physically and educationally, when that list is arranged in order of leadership potential. Thus, even the 15 who finally enter OCS from the original 1000 may not be as select as the successive elimination implies. Herein may lie, in fact, the basic reason for the large OCS attrition and failure rates occurring during the past several years.

III. MOTIVATION, ATTRITION, AND OCS SELECTION

Low applicant rates and high resignation rates are frequently explained as resulting from lack of proper motivation. But despite Department of the Army efforts to discourage the acceptance of resignations during the first half of OCS training, resignation rates have been distressingly high. It may be assumed that most applicants are initially "well-motivated", desiring OCS training. But for many, motivation, goals, and values change during training, for various reasons. For example, some men undoubtedly apply for OCS without full realization of the adjustment effort required for the course or the active duty obligations which follow, notwithstanding OCS orientation talks, pamphlets, and films to which they have been exposed.

A. Predicting Resignation

Some of the factors underlying the motivation of the candidate cannot be identified or predicted in advance because of their temporal and/or circumstantial nature. Examples are illness or injury to the candidate or financial or domestic crises--factors requiring the candidate's earlier release from the service or resulting in a break in training. However, other motivational factors lie within the candidate and are, through special testing devices, both theoretically and practically identifiable at the time he applies for OCS.

Part of the research effort that has gone into the development of officer leadership measures has been devoted to the development of a "resignation key", to be administered as part of the operational OCS inventory. As in the inventory, the questions on the resignation instrument require the examinee to make self-estimates and self-reports. In this instance, the self-estimates may be with respect to the applicant's typical reactions to the requirements of officer training and of officer duties. Self-reports may be required on questions concerning his

persistence, stability of personal goals, intensity and direction of his goals, etc. All questions have been carefully selected from among those which successfully identified resignees and nonresignees in an experimental group of OCS applicants who later became candidates. By and large, questions in the instrument are those whose relevance to the topic of potential resignation is not too apparent to the examinee. Thus far, research studies have indicated that the resignation instrument has excellent promise for use in the identification of those likely to resign before they are selected as candidates. Before introduction of this instrument into the present selection requirements can be justified, however, a much more favorable applicant rate than now exists will undoubtedly be necessary.

B. The Role of the OCS Evaluation System

Motivation failures in OCS are not confined exclusively to resignations. Attrition rates continue to be high for reasons of leadership deficiency. What connection is there between the selection battery and attrition rates?

Army officers responsible for procurement and training typically gauge the effectiveness of selection procedures in terms of attrition rates at OCS. To do so is to expect too much of the selection procedures. As already pointed out, motivational failures are partly unforeseeable and hence unpredictable. For another thing, it is not altogether clear whether OCS today is intended as a further officer screening and selection program or as strictly an officer training program. If OCS is a further screening program, then attrition should be regarded as an inevitable and necessary step in developing good officer potential for the Army. If OCS is a training program only, then attrition must be attributed at least partly to failure of the OCS to meet it's responsibility to see that the candidates' levels of motivation and effort are maintained.

Success or failure in OCS may very well be a matter of some arbitrariness because attrition rates and causes have typically varied with individual schools and with individual tactical officers within a school. Moreover, attrition rates have also reacted very sluggishly or not at all to radical refinements in selection techniques and procedures. Undoubtedly, peer and tactical officers note differences in characteristics among candidates and evaluate on the basis of them. Since the original selection techniques assured adequate levels of relevant leadership characteristics of the candidates, it might be well to inquire into the relevance of these differences of candidates to later officer performance. An important need for OCS is a set of standardized evaluation devices, reflecting both uniform leadership concepts and measurement techniques, so that OCS evaluations in the future will be more constant. Current effort in the Personnel Research Branch is now being undertaken to introduce such devices.

Finally it has been suggested that attrition may be a function of the evaluative process itself. If a philosophy and resulting practice of "grading on the curve" is followed, with an arbitrary bottom percentage automatically lopped off, some attrition of course is inevitable.

IV. SUMMARY

The present OCS selection devices discussed in the foregoing section of this report consist of two mental ability screens to insure that applicants have a basic minimum level of ability to perform officer duties, and three techniques to assess officer leadership potential--an evaluation of enlisted performance with respect to officer potential, scores on a leadership potential inventory, and evaluations of ability to deal with people as demonstrated before an officer examining board. The leadership selection battery is effective in terms of ability to predict OCS training performance, which in turn bears close relevance to later performance of OCS graduates as officers. Operational effectiveness of this battery has been shown to be in part dependent upon continued similarity of OCS training to officer requirements, constancy of OCS evaluations, and availability of a sufficient number of OCS applicants to justify a selection procedure. The problems of attrition in OCS are seen as highly complex, since much of OCS applicant and candidate motivation is circumstantial and hence unpredictable. Use of a resignation predictor, demonstrated to have considerable promise, is seen as a partial solution to the problem of high attrition; introduction of a standardized evaluation system at OCS as another.

TECHNICAL SUPPLEMENT

Technical Supplement

I. RESEARCH DURING WORLD WAR II

A. Mental Ability Tests

1. *AGCT.* The first task in OCS research in 1941 was not a leadership prediction task as such. It was the development of a uniform educational examination for selecting candidates. Research was then in progress to develop high level mental examinations for selecting Air Force Cadet trainees. Two forms of the Higher Examination, H-1 (DA PRT 172) and H-2 (DA PRT 175) were found to yield fairly good prediction of OCS academic performance, but the emphasis on speed in these tests operated to the disadvantage of older applicants. The Army General Classification Test (AGCT), (DA PRT's 11 and 14), did not have this disadvantage. Because it predicted OCS grades and because it was already a part of the enlisted man's record, it was put into use for OCS selection in June 1941, with a required Army Standard Score of 110 for eligibility. This score of 110 insured that anyone selected for OCS would be from the top third of the selective service input in terms of mental ability. Persons scoring above 110 were then screened further by means of the Officer Candidate Test.

2. *OCT.* The Officer Candidate Test (OCT) was developed as a result of a contract to The American Council on Education to construct the Army Officer Training Examination (AOTE). This test, requiring over 4 hours to administer, contained subtests of comprehension, expression, reasoning, and current affairs. From analysis of results it was noted that maximum prediction of academic course grades could be obtained by using a combination of three of the several subtests. Two forms of the experimental Officer Candidate Test were consequently constructed from 3 of the AOTE subtests. The forms were of equal difficulty. Each contained 16 interpretation of data items, 23 arithmetic reasoning items, and 31 reading comprehension items. Validation of these tests yielded quite satisfactory prediction of OCS academic performance ($r = .49$ to $.68$, average of $.60$) (2). Consequently, in 1942 the OCT-1 and OCT-2 were adopted for operational use. In subsequent validation studies from 1942 to 1955, OCT-1 and OCT-2 had validity coefficients equal to those of the best college entrance examinations--.65 (6), .60 and .61 (7), .35 to .69 (10), .56 to .80 (14).

B. Early Leadership Selection Instrument Experimentation

1. *Life History Data Form.* Mental ability and academic aptitude were not enough to insure a high quality OCS product; the problem of leadership selection was singled out for study in 1941. One of the earliest attempts to predict leadership performance was the development of a life history data form. Entries from the Soldiers Qualification Card were correlated with tactical officers' evaluation in OCS. However, none of the available measures provided sufficient discrimination for selection purposes. In 1942 the National Research Council Committee on Classification of Military Personnel recommended that projective measures (The Rorschach ink-blot test, and the TAT) might provide fruitful leads for

leadership prediction. Accordingly, such techniques were tried out at the Engineer OCS, but scores on these tests bore virtually no relationship to evaluation of leadership in OCS (4).

2. *Activity Preference.* In 1942 another attempt to develop a test predictive of leadership produced the Preference Inventory, PL-1 X-1, a paper-and-pencil test based on the hypothesis that potential leaders could be identified by analyzing their activity preferences. This test contained 100 groups of three types of activities, each presumably preferred by the combat leader, by the administrative leader, or by the non-leader. The test was administered by nearly 800 officer candidates at Engineer and Infantry Officer Candidate Schools. Analysis yielded discouraging results, and the test was not considered further (9).

3. *The Leadership Test.* Still another approach to leadership prediction was the tryout of the Leadership Test, L-1, X-1. This was a 150 item paper-and-pencil test consisting of statements expressing opinions about leaders, leadership techniques, attributes of leaders, and situations involving needs for leadership. The test was administered to 808 officer candidates at Engineer and Infantry Officer Candidate Schools. Subsequent item analysis was performed to determine how each item differentiated among candidates in the upper, middle, and lower groups on the basis of leadership grades. Few of the items differentiated these leadership groups; an experimental scoring key provided inadequate prediction of leadership rankings in OCS (5).

II. PREDICTING OCS PERFORMANCE

Prior to 1945, OCS research was exploratory, scattered, and tended to treat leadership in the abstract, as was typical of much leadership research in the early 1940's. Later effort by research scientists of the Personnel Research Branch showed a concentration on the development of selection techniques bearing more obvious relevance to psychological requirements of junior grade officers. The result was a research effort which first accepted, and then sought to refine, the three types of leadership instruments still operational today, and which examined new types of instruments as possible adjuncts to the selection battery.

A. The OCS Selection Battery

Previous negative findings with respect to the prediction of leadership emphasized the need for developing new instruments or techniques for such a purpose. Among the more promising new instruments considered for OCS selection purposes were those that had proved predictive of officer success in the officer retention program (13). A research plan was formulated to adapt the officer retention instruments to the problem of OCS selection for tryout at the Signal Corps OCS in a pilot study in 1945 (14, 15).

1. *Pilot Study*

a. *Variables.* The following instruments were adapted from the officer retention program and tried out at Ft. Monmouth:

(1) Biographical Information Blank (BIB, Form 1) DA PRT 400, a self-description questionnaire containing items covering a wide area of personal characterization.

(2) Standard Interview Procedures (INT) DA PRT's 358, 403, and 413. These interview procedures operated within well structured situations, presenting the applicant informally with problem situations for discussion.

(3) The Military Report (OCS-1) DA PRT 534, an evaluation of the performance of the applicant as an enlisted man, which, in its final form as determined in the study, included only reports by the immediate superior NCO, confirmed by the immediate superior officer.

(4) Recommendation Blank (OCS-1) DA PRT 532, an instrument designed to gather information about the applicant from civilian "friends of the family".

b. *Results.* Validity coefficients of the 4 instruments against a "personal leadership" criterion based on ratings by fellow students and tactical officers, were as follows:

Instrument	r
Recommendation Blank	.50*
Biographical Information Blank	.46
Military Report	.33
Interview Blank	.24

Although based on only 82 cases, these findings indicated considerable promise for future research on the prediction of leadership, especially in the light of previous negative findings.

2. *Implementation.* Upon the basis of Army-wide studies extending to larger and more heterogeneous groups of OCS applicants, this battery, minus the Recommendation Blank (which failed to continue its early promise), was adopted operationally in November 1946. Although successively revised and experimented upon (11, 12, 16, 17, 18, 19, 21, 22, 23), the instruments of this battery have continued to be used operationally in the general form in which originally adopted.

*No validity coefficients reported here or on the following pages were corrected for restriction in range.

The present battery was revised and introduced operationally in 1956. New empirical keys derived from three previous instruments developed and analyzed during the Korean conflict (26) were combined into the Officer Leadership Qualification Inventory (OLI-1). This instrument had a validity coefficient of .34, based on 1300 cases (30). To accompany the OLI, the interview and the evaluation report were modernized and retitled the Officer Leadership Board Interview (OLB) and the Officer Leadership Qualification Report (OLR), respectively. There has as yet been no opportunity to validate the new battery as a whole.

Research undertaken in developing the OLI included the construction of a special key to predict resignation from OCS. In 1953, over 20% of entering candidates were resigning in the early stages of the course. A short scoring key of 65 items was developed through item analysis of experimental OCS self-description blanks on a sample of 1000 officer candidates from 5 OCS's in operation in 1952. Using a 600-case validation sample, a validity coefficient of .50 was obtained against a pass-resign criterion. A probable reason for this high validity coefficient was that the relationship was between self estimates and later self-initiated action, i.e., resign from or stay in OCS. The resignation key, which is part of the OLI, is expected to be very useful when a favorable selection ratio justifies its use in screening potential resignees from OCS training.

B. Predicting OCS Evaluations

During 1947, a research study was conducted at Branch Immaterial School, Fort Riley, Kansas, to determine if any relationships could be established between selection and screening tests on the one hand and graduation-nongraduation from OCS on the other. For the second phase of this study, intensive analysis was made of the evaluation procedures. Attrition data analyzed for 7 classes revealed considerable variation from class to class, both in validity of the composite and in attrition rates. Validity coefficients ranged from $r = -.10$ to $r = .40$. Validity coefficients for the AGCT and OCT fluctuated similarly. Attrition varied from 40% to 63% for the 7 classes (23). For the analysis of evaluations procedures, it was found that fellow candidate ratings were the best predictors of graduation vs. nongraduation, and that early fellow candidate ratings were the best predictors of later tactical officers' evaluations. Relationships between academic and leadership evaluations were low. The selection battery showed higher relationship to leadership rather than to academic criteria, but both sets of relationships were low. It was concluded that the school requirements and standards were lacking in stability, to judge by the varying attrition rates and varying efficiency of prediction of the selection tests from class to class. Also, the prediction of academic grades by the AGCT and OCT was atypically low, although high validity of these two tests had been demonstrated many times previously against similar criteria.

C. Autobiography

An attempt was made in 1953 to devise a method for scoring autobiographical materials which would result in prediction of leadership

performance. Although two experimental scoring methods did show positive correlation with leadership ratings in OCS (r = .20), this validity was not sufficiently high to warrant further exploitation. Because most of the scored items were of a biographical nature, it was concluded that the same information could be obtained more economically by incorporation of appropriate items into self-description questionnaires.

D. Assessment Center

A study conducted jointly by PRB and HumRRO involved a proposal to send OCS applicants to an experimental two-week assessment center prior to entering OCS. At the assessment centers, students were given OCS orientation and training, and were observed and rated. A battery of experimental tests was administered. Eventually 208 subjects were sent to OCS, and test scores and assessment center ratings were correlated with success in OCS. The highest validity coefficients obtained were for rankings or success in the assessment center when the basis for observation and the rating situations were almost identical to those in OCS. (Quite different situations designed to tap the same personality factors were not effective predictors.) Validity coefficients for experimental tests were low, none exceeding r = .20. The operational selection battery had lower validity coefficients than those obtained in previous studies involving much more substantial samples (28). In terms of operational feasibility, the use of assessment centers would have been very costly and hence not justified in view of the small applicant rate in recent years.

III. PREDICTING OFFICER PERFORMANCE OF OCS GRADUATES

The relationship of evaluations in training to later officer performance was the subject of a number of research studies involving not only OCS graduates, but also graduates of ROTC and of the U. S. Military Academy (20, 24). In the OCS situation, principal impetus was given to this type of analysis through the need to establish evidence concerning the stability and relevance of OCS evaluations as a criterion for developing OCS selection instruments.

A. Garrison Follow up Research

The first such analyses were conducted using Fort Riley data in 1949. To check on the stability of OCS evaluations in the Fort Riley study, school evaluations were studied with respect to their ability to predict later officer performance measures. Officer Efficiency Reports for graduates of the first 9 classes of the Branch Immaterial OCS who had attended between July 1947 and November 1948 were examined. Only 594 cases for whom two or more complete Officer Efficiency Reports were available were included in the follow-up. The group was narrowed further by limiting the study to those cases for whom matched selection data were available. This left 414 cases out of 1712 who had entered OCS initially.

The obtained validity coefficients illustrated fairly clearly that final peer ratings of candidates and final evaluations of tactical officers were the best predictors of later performance as a junior officer (.25 and .22 respectively). Candidate ratings were slightly superior to tactical officer evaluations, probably because the candidate ratings were made by many observers and thus tended to be more reliable. Conduct and academic grades had low but positive correlation coefficients with OER (.14 and .09), while physical efficiency test scores gave negligible prediction of OER (.06).

The major follow-up study of OCS graduates in garrison duty assignments was conducted in 1952 on graduates of 37 OCS classes. School evaluations and Officer Efficiency Report data were obtained on approximately 500 of the 1700 graduates. These junior officers had served from 12 to 18 months' commissioned service. The results of this study were highly similar to those obtained in the Fort Riley Branch Immaterial OCS follow-up. Fellow candidate evaluations had highest validity coefficients for predicting OER (.29), with tactical officers' evaluations being next best (.26). Final academic grades correlated .10 with OER, and physical efficiency test correlated -.02 with OER.

B. Combat Follow up Research

In World War II, despite several proposals for combat follow-up studies, suitable arrangements could not be made. However, during the Korean conflict, various research teams were able to conduct testing and evaluation sessions in front line areas. The information gained in these studies has been invaluable in the study of both officer and enlisted performance under fire. The development of research technology for engaging in such studies also has been a major result.

1. *Personnel Research Branch Studies.*

a. Follow-up of OCS Graduates. In 1951 the Personnel Research Branch sent a research team to Korea to obtain performance data on officers and enlisted men in combat. Superiors' ratings were obtained on 900 company grade officers, but the number of OCS graduates in this sample was too small to constitute the basis for a research study. Therefore, an attempt was made to obtain Officer Efficiency Reports rendered to cover performance of OCS graduates while in a combat zone. School evaluations and OER's were obtained for 90 graduates of the Infantry Officer Candidate School. These officers were graduates of the first five classes of the new Infantry OCS, established in early 1951.

In this combat study it was found that, among the school evaluations tested, fellow candidates rankings made early in OCS correlated .26 with combat OER's while tactical officer's early rankings of candidates had a validity coefficient of .17. However, final (end-of-course) fellow candidate rankings and final tactical officers' rankings of candidates yielded validity coefficients of .41 and .34, respectively. Academic grades in OCS were unrelated to combat OER's, with first academic and final academic grades showing validity coefficients of -.01 and -.05, respectively (29).

For a larger sample of 386 Infantry OCS graduates, noncombat OER's were obtained and correlated with OCS evaluation measures. The obtained validity coefficients revealed the same, although lower, pattern of validity coefficients (29), thus suggesting that these leadership evaluations in OCS were probably better predictors of combat OER's than of noncombat OER's.

b. Follow-up of USMA Graduates. Major evidence of the superiority of leadership evaluations by peers and tactical officers for predicting later combat ratings was demonstrated in studies of United States Military Academy graduates (25, 27). A combination of ratings on potential leadership by fellow cadets and tactical officers (Aptitude for Service Rating) consistently showed the best prediction of officer combat effectiveness--.50. Next in predictive efficiency were other nonacademic measures, such as conduct, physical education grades, and physical efficiency test scores. Grades in various academic courses showed only slight relationship to combat ratings.

2. *The HumRRO Study.* In a 1953 study by the Human Resources Research Office of combat ratings of 259 Infantry OCS graduates, similar results were obtained. Correlation coefficients between OCS academic grades and combat performance were quite low. Validity coefficients for rankings by fellow candidates completed during the 12th, 17th, and 21st weeks of OCS were .23, .14, and .23; for rankings by OCS platoon officers, the validity coefficients for the same rating periods were .24, .20, and .18 (1).

C. Importance of Peer and Tactical Officer Ratings

On the basis of both the U. S. Military Academy and OCS studies, it has become apparent to the research scientists of the Personnel Research Branch that evaluations by fellow officer trainees are the most valid predictor of later success as an officer, both in garrison and in combat assignment. Evaluations by tactical officers are only slightly less valid, but other evaluations, notably academic grades, have little bearing upon later officer performance, either in garrison or in combat. For OCS selection, these relative findings have this implication: that leadership ratings by officer candidates and OCS tactical officers constitute the most appropriate school standards to be predicted by a selection battery.

The above generalization appears to be better based upon findings from the Military Academy research than upon OCS findings. It should be pointed out, however, that there was severe restriction in range in OCS because of an attrition rate that averaged around 50 percent. Attrition in the Military Academy typically runs much lower, even over a 4-year period. Thus a more representative validity of OCS evaluations against later officer performance might actually be expected to run close to the .50 found in the Military Academy studies in both combat and in garrison.

IV. PRESENT STATUS OF OCS RESEARCH

An OCS leadership selection battery, geared to the psychological requirements of officer performance, has given good prediction of OCS

leadership evaluations which in turn have proved to be excellent predictors of success as an officer, both in garrison and in combat. The current battery now also contains means whereby voluntary resignation from OCS can be predicted with a high degree of efficiency. Research conducted at OCS has provided some insight into the nature of officer leadership and how it can best be identified and evaluated. It is felt that continued improvement in OCS selection will come about through

> achieving a more empirical determination of the requirements of officer training and reflecting them in terms of objective standards of performance,
>
> conducting further work on motivational aspects of officer leadership,
>
> and exploring new techniques recently developed in other research areas.

REFERENCES

1. HumRRO Technical Report 8. Infantry OCS evaluation and combat performance. U. S. Army Leadership Human Research Unit, Fort Ord, California. June 1954.

Publications of the Personnel Research Branch, Personnel Research and Procedures Division, The Adjutant General's Office, Department of the Army.

2. Technical Research Report 380. Validity of Officer Candidate Test, OCT-1, X-1. October 1942.

3. Technical Research Report 389. Use of WOT, X-1 as an Officer Candidate Selection Test: Evaluation of War Orientation Course. June 1942.

4. Technical Research Report 444. Selection of leaders: The status of the measurement of leadership. April 1943.

5. Technical Research Report 446. Selection of Officer Candidates: Validation study of "Leadership Test" L-1, X-1 at Forts Belvoir and Benning. June 1943.

6. Technical Research Report 455. Prediction of academic success at the Transportation Corps Officer Training School, Camp Stoneman, California. July 1943.

7. Technical Research Report 484. The validity of the Officer Candidate Tests for predicting academic success at the Tank Destroyer and Transportation Corps Officer Candidate Schools. January 1944.

8. Technical Research Report 498. Recommendations for further research on leadership. April 1943.

9. Technical Research Report 500. Selection of Officer Candidates: The validity of Preference Inventory, PL-1, X-1 for prediction of leadership ratings at the Infantry and Engineer Officer Candidate Schools. March 1944.

10. Technical Research Report 651. Evaluation of predictors of success in Officer Candidate Schools. October 1945.

11. Technical Research Report 703a. Construction and selection of items for the Biographical Information Blank. July 1945.

12. Technical Research Report 703c. Investigation of validity of the BIB two-level Officer Candidate Key for an officer population. (Supplement II to 703). August 1945.

13. Technical Research Report 704. Validation of a program for selection of officers for retention in the peacetime Army. July 1945.

14. Technical Research Report 711a. Predictions of leadership qualifications of officer candidates in the Signal Corps. March 1946.

15. Technical Research Report 711b. Prediction of tactical performance of officer candidates in the Signal Corps (Supplement to 711a). March 1946.

16. Technical Research Report 723. Development of predictor instruments used in study of selection of candidates for officer training. August 1946.

17. Technical Research Report 741. Procedures for determining OCS composite scores for use with civilian applicants. April 1947.

18. Technical Research Report 752. Procedures for selection of enlisted men for officer training. February 1948.

19. Technical Research Report 954. Report on revision of OCS interview and Biographical Information Blank. March 1948.

20. Technical Research Report 767. Follow-up study of officer performance of West Point graduates. October 1948.

21. Technical Research Report 794. Development of procedures for classification of male Officer Candidate School graduates to Arm of Services. August 1949.

22. Technical Research Report 813. Partial revision of Civilian Recommendation Blank, OCR, based on OCI-2. September 1949.

23. Technical Research Report 819. Validation of male OCS selection instruments. I. Validation against graduation. September 1949.

24. Technical Research Report 977. Improvements of tests and techniques used to select ROTC students. August 1952.

25. Technical Research Report 1077. Personnel research for the United States Military Academy, 1942-1953. October 1953.

26. Technical Research Report 1091. A self-description blank for Officer Candidate School applicants. November 1954.

27. Technical Research Note 32. Prediction of combat effectiveness of Military Academy graduates. November 1954.

28. Technical Research Note 49. Assessment ratings and experimental tests as predictors of performance in Officer Candidate School. October 1955.

29. Technical Research Note 50. Prediction of combat effectiveness of Officer Candidate School graduates. November 1955.

30. Technical Research Note __. Development of the Officer Leadership Qualification Inventory. (In Preparation).

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