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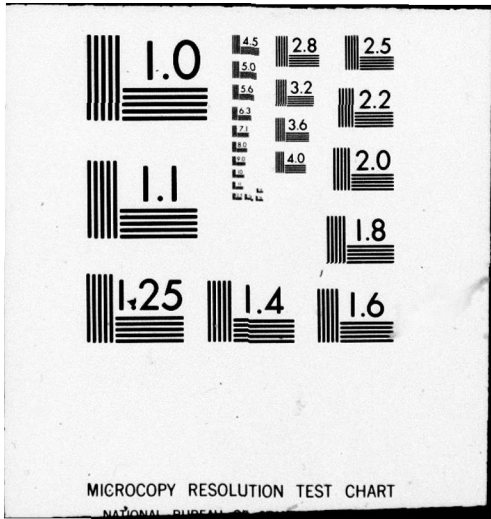
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RESEARCH TO IDENTIFY POTENTIAL NCO LEADERS

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RESEARCH TO IDENTIFY POTENTIAL NCO LEADERS

BRIEF

Requirement:

DCSPER has a requirement for means of selecting from among enlisted trainees those with the greatest likelihood of developing the combat leadership abilities needed for NCO assignment.

Accomplishments:

A battery of experimental selection tests has been developed and administered to a sample of 400 enlisted men beginning basic training. Criterion ratings of leadership performance in AIT and on the job have been collected. Data are being analyzed to derive screening techniques for identifying at entrance into the Army men possessing potential for combat leadership.

Peer ratings (5th-week BCT) were evaluated for stability of the scores. Ratings in 15-man groups were highly consistent over 4 to 16 weeks, whether the men were in stable groups and rated by the same men a second time or in changing groups and rated by different men. Peer ratings were more reliable than cadre ratings in either intact or reorganized groups.

The feasibility of simplified methods of obtaining peer ratings was investigated. Both the Army Personnel Rating Machine (automated) and the Army Rating Punch Card (manual) gave definite indication of practicability.

Utilization of Findings:

Peer ratings obtained during BCT are used in selecting trainees for assignment to NCO preparatory course.

A device for shortening the time and clerical effort involved in obtaining and scoring ratings would facilitate the use of peer ratings not only in the selection of NCO trainees but in other Army selection programs as well.

RESEARCH TO IDENTIFY POTENTIAL NCO LEADERS

ORIENTATION OF THE RESEARCH PROGRAM

The primary objective of the NCO LEADERS Task is the development of measures which can be used to evaluate the leadership potential of enlisted men in the combat branches early in their military career--preferably during Basic Combat Training. Such evaluations are needed to identify a source of talent from which to select men who can become effective combat soldiers and who, as NCOs, would be capable of generating a fighting spirit in the men they lead. The individuals selected could then be assigned to act in NCO positions in which they would be trained as leaders and also serve to supplement cadre in the conduct of training. A further gain: an identified pool of leaders and potential leaders would be available as a nucleus for expansion in the event of mobilization.

SCOPE OF THE PRESENT REPORT

Goals and the research design of the study for identification of trainees having NCO leadership potential were described in a previous Technical Research Report^{1/}. As stated in that report, an experimental battery of selection tests was developed and administered to a sample of trainees shortly after they had begun their basic training. The selection battery is being evaluated on a longitudinal basis for its effectiveness in predicting leadership performance in Advanced Individual Training and on-the-job performance as rated after completion of about two years of military service. At the present time, all criterion data on performance have been collected, and statistical analysis is under way.

During the past year, effort toward the primary Task objective has centered on evaluation of peer ratings with respect to (1) their stability as psychometric measures, and (2) their usefulness as predictors of leadership performance.

With the introduction of peer ratings on an operational basis throughout Army training centers, research on the effectiveness of automated procedures for obtaining and scoring ratings has continued. The Army Personnel Rating Machine, previously developed to the point of

^{1/} Medland, F. F., Hammer, C. H., and Frankfeldt, E. Selection of NCO Leaders--Status Report, 30 June 1962. Technical Research Report 1127. U. S. Army Personnel Research Office. 1962.

experimental use, is undergoing field tryout on a small scale, and is being compared in efficiency and cost with other methods designed to simplify the process of obtaining multiple ratings and computing a rating score.

STABILITY OF PEER RATINGS

Previous research had demonstrated that peer ratings of leadership potential are useful predictors of subsequent performance in positions of leadership in the Army. Findings from a number of studies led to introduction of the current operational rating program. Ratings of each individual are obtained from the members of the group in which the individual is serving. Looking to the projected use of these ratings, however, individuals selected for positions as acting leaders are likely to be assigned in a group other than that in which they were originally rated. Even though the same group goals and environmental constraints may prevail, there is some question as to whether the selected individual will have the same level of acceptability in a second group. The answer to this question is of considerable practical significance. If acceptance as a leader varies with group membership, then ratings would have limited utility for operational purposes.

PROCEDURE

A study was conducted at the Army Training Center, Fort Ord, to explore the stability of ratings across time and across groups. Peer ratings were obtained in each of four training companies at the end of the fourth week of Basic Combat Training and again at the end of the eighth week. Each of the four companies was made up of 275 trainees organized into twenty squads, the squad of about 15 trainees being the rating unit. Concurrently with each peer rating session, the platoon sergeant rated all trainees in his platoon.

In two companies--designated the control companies--membership in each squad was maintained without change throughout the eight-week training cycle. In the other two companies--the experimental companies--squad membership was maintained without change only until completion of the fourth-week rating session. On the basis of the fourth-week rating scores, the original squads were reorganized into new squads. Each reorganized squad was formed from the entire range of peer rating scores; that is, each squad included one man with the highest score in his original squad, one man with the second highest score, and so on to the man with the lowest score in his original squad. No two members from the same original squad were placed in the same reorganized squad.

RESULTS

In the companies in which the membership composition was changed after four weeks, there was substantial correspondence between the fourth- and eighth-week peer ratings (correlation coefficients were .80 and .82). Correspondence was somewhat closer in the ratings for companies which were left intact (correlation coefficients .89 and .90). The close correspondence between sets of ratings obtained in the reorganized companies indicates that peer ratings reflect the perception of stable aspects of personality make-up rather than fortuitous factors of a particular group. The individual who is considered to be acceptable as a leader by one peer group will likely achieve similar acceptance in another peer group.

Cadre evaluations exhibited considerably less consistency from 4th to 8th week than did peer ratings in both intact and reorganized companies. (Correlation coefficients for the intact companies were .57 and .48; for the reorganized companies, .60 and .45.) These results indicate that cadre in somewhat limited contact with a group of about 60 men (the platoon) are apparently unable to formulate reliable assessments of their men in a period of eight weeks or less.

VALUE DETERMINANTS OF ACCEPTABILITY AS A LEADER

As a secondary objective of the rating study, the relationship between the individual's value system and his perceived leadership potential was explored by means of a personality measurement tool, the Personal Assessment Blank (PT 4344), in order to identify individual value concomitants of acceptability as a leader.

Of the six scales in the Personal Assessment Blank, two showed consistently significant correlation with peer ratings. The Leadership scale (aspiring to be in a position of leadership) correlated positively with peer ratings, while the Support scale (desire to be treated with kindness and understanding and to receive encouragement from others) showed negative correlation with peer rating scores. While the results did not approach the level of practical significance, they offered promising leads in pursuing the motivational determinants of leadership choice.

An additional study based on the Personal Assessment Blank was an attempt to identify value concomitants of motivation for military service and for attaining a position of leadership. Cuban national undergoing initial training in the U. S. Army were administered a Spanish language version of the Blank after five weeks of service. Their scores were analyzed in relation to decision to remain in the service beyond the obligated period. Three scales showed a significant relationship to a decision to remain in the service. Two, Support (desire to be treated with kindness and understanding) and Independence (being free to do whatever one wants to do, being free to make one's own decision), showed a

negative relationship to the decision to remain in the Army; a third scale, Benevolence (doing things for other people, sharing with others), showed a significant positive relationship to the decision to remain.

FEASIBILITY OF AUTOMATION PROCEDURES FOR OBTAINING AND SCORING PEER RATINGS

Peer ratings were introduced operationally in Army Training Centers in late 1961 as part of a procedure for identification of basic trainees having NCO leadership potential. Because use of the ratings is limited, results need to be processed only for recruits assigned to combat MOS. These results are made available locally at the Training Center at any time within three or four weeks after the rating session. Thus, clerical requirements have not created an insurmountable workload for classification and assignment personnel.

However, increasing emphasis on the utilization of peer ratings--as a selection instrument for personnel for unique assignments, for example--and the possibility that such ratings will be made a routine part of basic classification procedures, raise two problems of concern. First, since rating scores would be computed and recorded for all trainees, there would be a significant increase in the work requirement; second, the rating scores would be needed immediately for use in classification and assignment, and there would be a sharp deadline for completion of the processing. In an effort to reduce costs and labor in obtaining and processing peer ratings, several procedures involving automation have been considered. Two kinds of rating equipment, the Army Personnel Rating Machine and the Army Rating Punch Card, have been developed in prototype and subjected to field trial at the Army Training Center, Fort Ord in order to assess their feasibility.

THE ARMY PERSONNEL RATING MACHINE

The Army Personnel Rating Machine is a digital computer with a capability for recording and computing both rank order and graphic ratings by multiple raters. The machine was designed by engineers of the National Bureau of Standards following specifications outlined by APRO staff members. Each rater is given a rating panel equipped with plugs (up to 20) numbered and identified to correspond to the individual members of the rating group, and sockets into which the plugs are inserted. Individual identification is shown on the rating plugs; rank or rating placement is established by placement of the sockets. The rater considers each of the other individuals of his group in turn, makes his rating, and completes his task by inserting the plugs representing the ratees in the appropriate socket.

Each of the individual rating panels is wired to a central computer, and results on the group can be determined immediately. When the entire group has completed the rating procedure, the console panel shows, for

each member of the group, his "man number", the number of individuals who rated him, and the average of the ratings he received from the other members of the group. Although not included in the prototype rating machine, provision can be made for a print-out of the results and/or a punched tape record for use in subsequent statistical processing. On the basis of a field tryout, the advantages and disadvantages of the rating machine were summarized as follows:

Advantages:

Scores can be processed extremely fast--about two minutes per squad compared to one man hour by manual processing.

Time required of trainees making up the rating group is reduced from about one hour to about 20 minutes.

Scoring is accurate, with clerical error eliminated.

Disadvantages:

Present equipment requires close proctoring to maintain good control of procedures during a session.

A high degree of maintenance skill is required to identify and correct machine malfunctions.

Cost is high, both initially and in upkeep, to establish a facility for rating an entire training company at one time.

There is a heavy workload in preparing the equipment for a rating session and clearing the rating panels at completion of the session. This task makes consecutive scheduling of sessions impracticable unless standby equipment is provided--at additional cost.

THE ARMY RATING PUNCH CARD

The Army Rating Punch Card is an adaptation of the standard 20-column machine tabulating card, with prescored punch positions which permit manual punching with a stylus or even an opened paper clip. Each rater is provided with a rating card in which certain identifying information--installation and company, for example--has been punched. The card has provision for rating as many as 20 individuals on a seven-point graphic rating scale. The rater punches additional identifying information--platoon and squad number and his own "man number"--in the card. Then, considering each of his fellow squad members in turn (identified by name and man number columns on the rating card), he indicates his rating by punching the appropriate number from 1 to 7 in the man number column. Completed rating cards are forwarded to a central computing facility for processing and scoring.

On the basis of a field tryout, advantages and disadvantages of the punch-card method were summarized as follows:

Advantages:

Rating punch cards can be utilized with groups as large as a training company at one time.

There is no requirement for tabulating equipment beyond that now available, and no additional expense except for the cost of the cards.

No maintenance skill is required beyond that currently available for maintenance of tabulating equipment.

Clerical error is eliminated in the scoring and recording of results.

Disadvantages:

Time of the rating session is increased by 15 to 30 minutes beyond that required for the current operational procedure.

Additional demands are placed on the proctors to assure accuracy in punching.

Errors in punching frequently create a chain reaction--one punch in a wrong column leads to mispunching in following columns.

Correction of punching errors is difficult, usually involving the time-consuming procedure of punching a new card.

The advantages of automated rating procedures seemed to warrant further investigation of the two techniques described. Subsequent investigation of variants of the two methods and the implications of each method for data processing requirements will be continued. Alternative methods will be explored as well. Future research into the feasibility of computerized rating procedures will be conducted by members of the Statistical Research and Analysis Laboratory of the U. S. Army Personnel Research Office rather than in the NCO LEADERS Task.

SUMMARY OF OPERATIONAL OBJECTIVES

The expected end products of NCO Leaders research are:

1. A short economical screening device for administration to trainees upon entrance into the Army to identify those having NCO leadership potential for use in making training assignments or in the event of mobilization.

2. Simplified procedures for obtaining peer ratings, increasing the potential utility of these ratings in Army classification and assignment procedures.

3. Techniques for identification of potential leaders--both officer and enlisted--in non-English language situations, for use in cross-cultural military assistance programs.

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