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PREDICTION OF EFFECTIVE OFFICER PERFORMANCE.(U)
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Army Personnel Research Office

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RESEARCH STUDY 62-3

Prediction of Effective
Officer Performance

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U.S. ARMY
PERSONNEL
RESEARCH
(continued)

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Army Project Number
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Officer Prediction d-00

⑨ Research Study 62-3

⑥ PREDICTION OF EFFECTIVE OFFICER PERFORMANCE

⑩ Louis P. Willemin

⑭ AGO-PRO-RS-62-3

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⑪ June 1962

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Research Studies are special reports to military management. They are usually prepared to meet requests for research results bearing on specific management problems. A limited distribution is made--primarily to the operating agencies directly involved.

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PREDICTION OF EFFECTIVE OFFICER PERFORMANCE

THE TASK -- OFFICER PREDICTION

The demands of future warfare require that Army personnel management planning reflect the ever increasing challenges posed by new concepts, missions, and weapons. It is believed that selection, assignment and utilization of newly commissioned officers can be considerably improved and thereby increase career effectiveness.

The Officer Prediction Task is an approved R and D research effort which was first initiated in 1955 in response to the DCSPER requirement for a re-evaluation of the policies and procedures relating to the commissioning of new officer personnel.

Under the direction of the Behavioral Evaluation Research Laboratory, U. S. Army Personnel Research Office, the research has progressed to the point where the hypotheses developed may be subjected to a final field test. In a report to DCSPER, the Human Factors Subpanel of the Army Scientific Advisory Panel indicated that selection of officers, especially selection of the combat officer, is one of the most important human factors problems facing the Army today. The Panel further agreed that the research design of the Officer Prediction Task represented a most satisfactory experimental approach to this problem.

OFFICER PERFORMANCE -- THE GENERALIST CONCEPT

In the past years, procedures for selection and assignment of officers have been based largely on the generalist concept. The prevalent assumption was that an officer is one who is broadly trained and capable of performing equally well in almost any assignment.

This concept must now be evaluated in terms of the ever-increasing complexity of officer assignments resulting from the devices and tactics of modern warfare which create greater diversification in officer jobs.

✓ The present research is an attempt to develop tests which not only will be predictive of officer performance in general, but which also will be predictive of performance in specific assignment areas. These tests will permit identification of potential officers with various abilities that relate to performance in military assignments. The research represents an attempt to evaluate the hypothesis that the generalist concept must now be modified to recognize unique officer abilities and thus achieve maximum utilization of officer talent.

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PREDICTION OF OFFICER PERFORMANCE -- THE CONCEPT OF DIFFERENTIAL ABILITIES

The research being conducted in the area of predicting officer performance is intended to answer the question:

Is it possible to achieve an early identification of individuals who possess certain specific abilities which are effective in predicting performance in specific officer job areas? (Figure 1)

Research with such an objective is described as concerned with DIFFERENTIAL abilities or performance. The search is for abilities which relate to success in one job area but do not relate to success in a different job area. If carried to an extreme, one could hypothesize a separate configuration of abilities for each unique military assignment. Such an extreme approach is neither desirable nor feasible at the present time.

Intensive examination of 400 officer job assignments identified three major categories of performance -- COMBAT-TECHNICAL-ADMINISTRATIVE-- which describe a maximum number of officer assignments in today's modern Army. (Figure 2) The greatest possibility for differential prediction of officer performance appeared to be in these three areas. Consequently, these areas have been selected for the present research effort.

RESEARCH PLAN

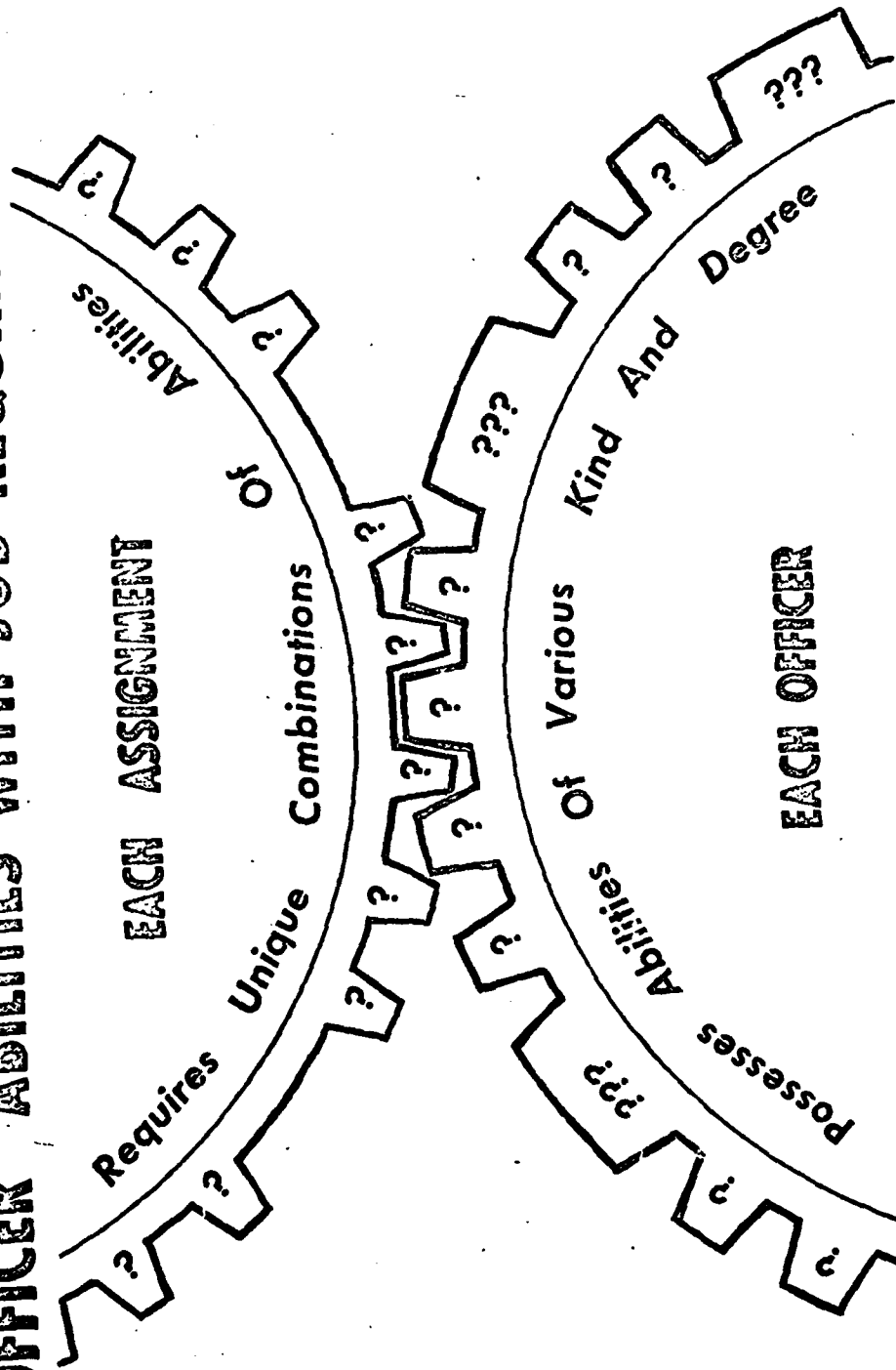
1. Develop Experimental Psychological Predictors
2. Develop Criterion to Measure Performance

THE RESEARCH DESIGN -- EXPERIMENTAL TESTS AND A YARDSTICK OF PERFORMANCE

Differential Officer Battery. The DOB is a set of tests of psychological characteristics and abilities which previous studies have shown to hold promise for predicting effectiveness in the area of officer performance. Present officer procurement programs already screen potential officers on the basis of general mental ability. The experimental test battery is concerned with a much wider variety of abilities and is largely concerned with personal characteristics rather than cognitive abilities such as verbal or arithmetic skills.

Officer Evaluation Center. The Officer Evaluation Center is designed to provide the yardstick of actual performance for those officers who were previously administered the DOB experimental tests. After on-the-job Army experience, the officers will be sent to the Evaluation

HOW CAN THE ARMY MATCH OFFICER ABILITIES WITH JOB REQUIREMENTS

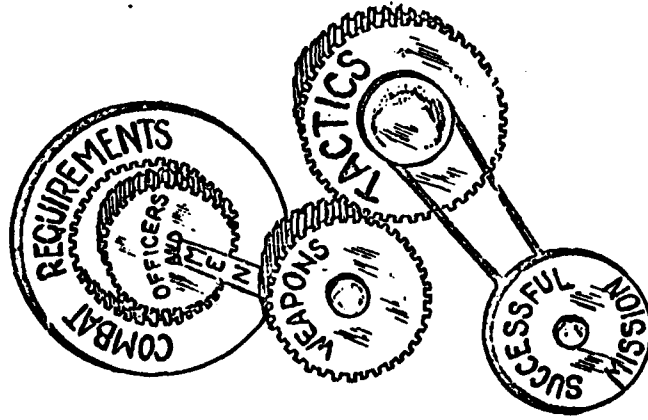


RESEARCH PROBLEM: WHAT CRITICAL ABILITIES ARE REQUIRED?

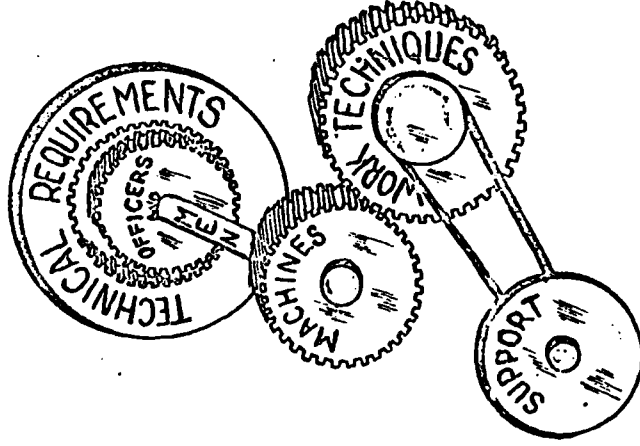
WHICH CRITICAL ABILITIES CAN BE MEASURED FOR PREDICTION PURPOSES?

Every Officer Performs In A System

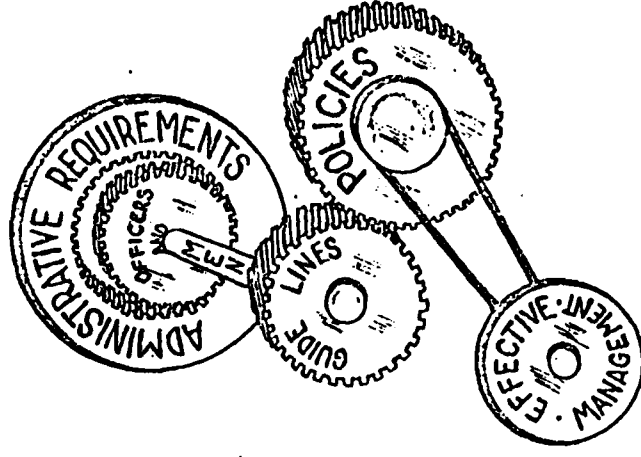
COMBAT



TECHNICAL



ADMINISTRATIVE



....But, Can EVERY OFFICER Perform Equally Well
in EVERY TYPE OF SYSTEM?

Center where they will demonstrate their performance capabilities. During three days and two nights each officer will participate in 13 major performance situations. The performance situations and the operation of the Center are designed solely for the purpose of providing a yardstick of performance to validate the experimental tests. The center will be deactivated when the research data have been collected.

Validation of Experimental Psychological Tests. The scores of each officer on each DOB test will be compared with his demonstrated Combat, Technical, and Administrative performance at the Officer Evaluation Center. These data will indicate which tests will predict the level of subsequent performance. The greater the relationship between tests and later on-the-job performance, the greater the value of the tests for use in officer career programs. It is hypothesized that different tests will relate to successful performance in the three major job areas --COMBAT-TECHNICAL-ADMINISTRATIVE. (Figure 3)

GENERAL PLAN -- PHASES OF THE RESEARCH PROGRAM

EXPERIMENTAL PREDICTOR TESTING

The two-fold purpose of the DOB is to secure tests that (1) may be used in early identification of potentially effective officers at some time before commissioning and (2) may be used as an aid in the career development program for newly commissioned officers. These objectives dictate that the research administration of the experimental psychological measures be made at the earliest possible time in the career of newly commissioned officers. This requirement is most efficiently fulfilled at each branch school before orientation training. The present battery consists of approximately 2 days of testing. Already completed research has reduced the battery by almost half of the originally required 3 full days of testing. (Figure 4)

SELECTING AN OFFICER SAMPLE

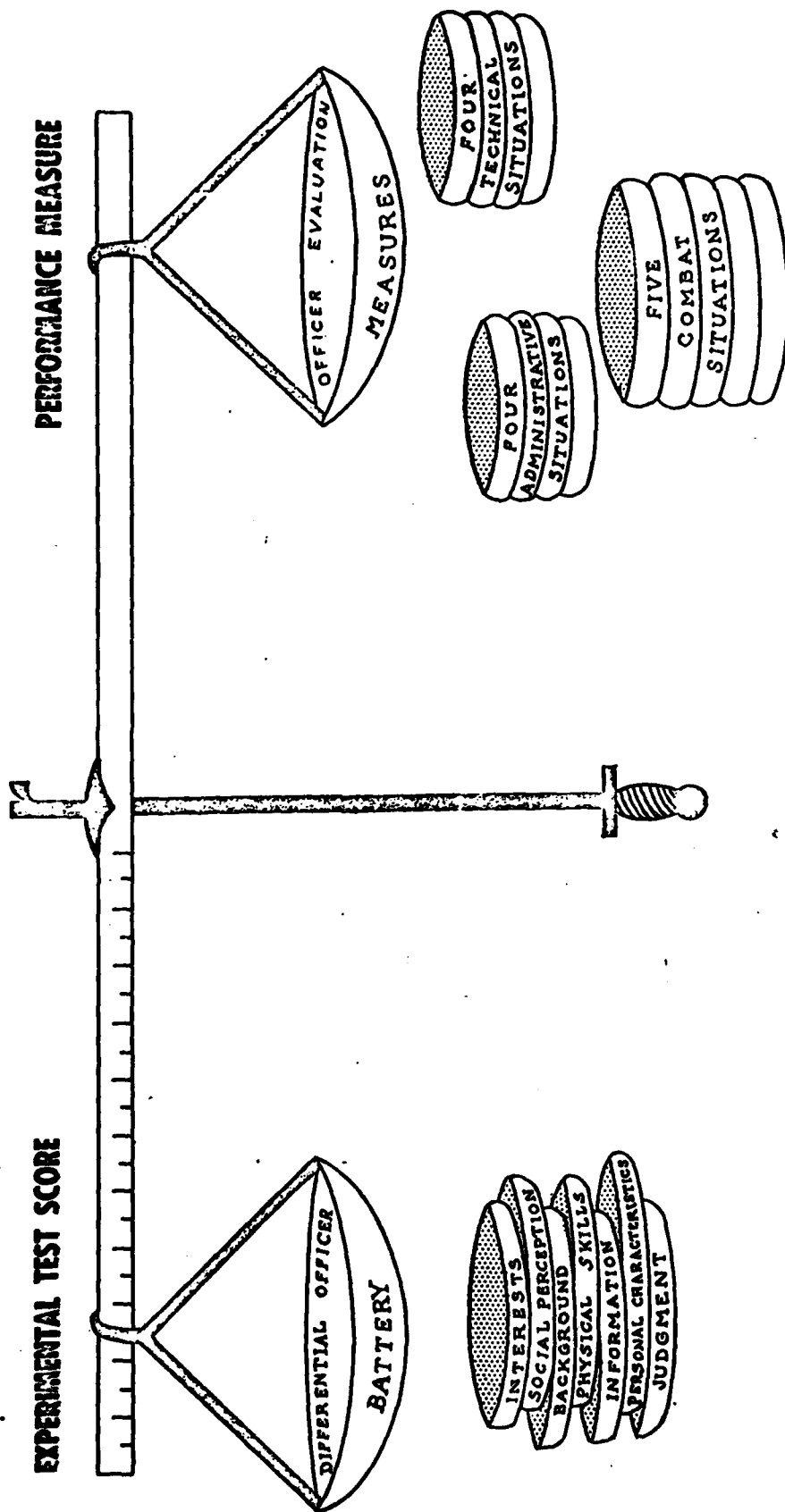
The ultimate objective is a 900-officer sample to participate in performance measurement at the Officer Evaluation Center. The 900 officers will all have completed a year or more of military duty. Three hundred officers will be drawn from each of Combat, Technical and Administrative Areas, to provide statistical controls on various aspects of acquired on-the-job skills. To facilitate this objective, it will be necessary to test approximately 3,000 newly commissioned officers at the branch schools. The normal assignments for the officers participating in the study will not be affected. Determination of those officers to be given the DOB will be made at DA to minimize the amount of unnecessary testing.

THE RESEARCH DESIGN

EACH

ANALYSED AGAINST

EACH



GENERAL PLANS - PHASES OF THE RESEARCH

DIFFERENTIAL OFFICER BATTERY

Approx. June 1961
Through December 1962

Each Branch School

3,000 Officers

2 Days of Testing

OFFICER EVALUATION CENTER

WHEN?

Approx. July 1962
Through January 1964

WHERE?

Fort McClellan, Ala.

HOW MANY?

900 or more Officers

HOW LONG?

3 Days of Evaluations

Figure 4

ESTABLISHING AN EVALUATION CENTER

The detailed complexity and thoroughness of the 13 performance situations require that the Evaluation Center operate for 1 1/2 years to obtain the necessary size sample. The Center is located at Fort McClellan, Alabama. This location, in the Southeastern part of the United States, was selected to minimize travel costs, since large numbers of officers have their duty stations in that general area. The actual operations of the Center will be under the control of an assigned military staff. Research scientists will provide only necessary consultative guidance in the conduct of the situations.

OFFICER EVALUATION CENTER -- AN OVERVIEW

REALISTIC SIMULATION

Realistic simulation of officer performance requirements was of considerable concern in the development of the Evaluation Center concepts.

This objective can most readily be achieved in a setting which provides realism in an atmosphere equally unfamiliar to all examinees. For this purpose, all situations occur at a MAAG Headquarters in a mythical country. Such a Headquarters is designed to support a wide range of military operations and affords an opportunity to prepare an integrated script for the conduct of the 13 evaluation situations. (Figure 5)

THE MAAG CONCEPT

The use of the MAAG concept permits the introduction of a wide variety of hypothetical situations without an overall loss of continuity and without creating a county-fair testing atmosphere. The use of actual foreign maps in certain problems is not only realistic but insures no advantage to examinees with familiarity of certain sections of the U. S. Briefings and reports to be accomplished by the examinee will be forwarded through his MAAG Section Chief to the Commanding Officer. He will at all times be performing on tasks involving assigned superiors and subordinates. All 13 situations were initially prepared and developed with the assistance of qualified personnel in the appropriate Arms and Services. All situations have received extensive additional review and revision by qualified military personnel.

THE COMBAT REQUIREMENTS

The most difficult simulation is in the area of Combat and the greatest amount of effort has been devoted to this problem. All 13 tasks are performed in an atmosphere of typical stress and tension. The combat problems are last in the cycle, therefore, and added to the typical stress and tension are the elements of fatigue and harassment. Many of the emotional and physical elements of combat will be represented and it is hoped the situations will provide the fullest combat simulation achievable in peacetime. (Figure 6)

PREDICTING OFFICER PERFORMANCE -- THE POTENTIAL PAYOFF

It is frequently difficult to establish a tangible basis for estimating the worth of human factors research. Only when measurable aspects of quality, production figures, or attrition from training are involved can the research gain be measured in actual dollars and cents. At other times the gain must be estimated by relating it to an accepted standard of performance in the past or present.

The basis for judging gains from Officer Prediction research is the current level of officer performance. Theoretically dividing 100,000 officers into an upper, middle, and lower third on current level of job performance, it is possible to estimate the potential increase or decrease in the number of officers performing in each third. (Figure 7)

AN UNFAMILIAR SETTING...

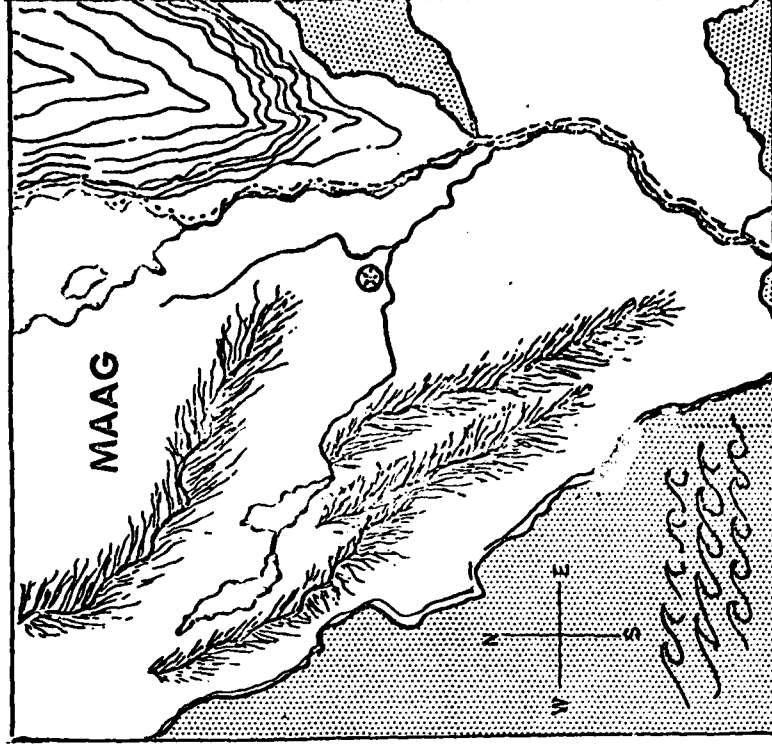
...FOR REALISTIC PERFORMANCE

**EVALUATION CENTER IS A
MYTHICAL MAAG HQ WITH:**

**FOREIGN MAPS
"INDIGENOUS" TROOPS**

**ALL SITUATIONS BUILT AROUND
MAAG PROBLEMS BUT NO MAAG
EXPERIENCE REQUIRED!**

**COMBAT PROBLEMS BASED ON
SIMULATED INVASION!**



**THIS PAGE IS BEST QUALITY FRAGRANCE
FROM THE VINTAGE TO DHC**

CONTINUITY OF THE PERFORMANCE SITUATIONS

DAY ONE	ADMINISTRATIVE & TECHNICAL PROBLEMS
NIGHT ONE	At 2300 hours the country is invaded CONDUCT RADIATION & ROAD DAMAGE SURVEY
DAY TWO	PICK DEPOT SITES & MAKE HIGHWAY PLANS
NIGHT TWO	At 1800 hours MAAG Hq must be evacuated FORCED MARCH TO NEW HQ
DAY THREE	FIVE FIELD COMBAT PROBLEMS

Figure 6

POTENTIAL PAYOFF
FOR OFFICER PREDICTION RESEARCH

ON-THE-JOB PERFORMANCE OF 100,000 CURRENT OFFICERS

USING CURRENT SELECTION PROCEDURES	LOW 33,000	MIDDLE 34,000	HIGH 33,000
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ON-THE-JOB PERFORMANCE OF 100,000 FUTURE ARMY OFFICERS

PROCEDURES BASED ON DIFFERENTIAL ABILITIES	LOW 20,000	MIDDLE 35,000	HIGH 45,000
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GAIN IN THE HIGHEST THIRD:	\$12,000 \$36%
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Figure 7

Conservative estimates have been made of the anticipated relationship of tests in the Differential Officer Battery and subsequent on-the-job performance. These estimates are based on many years of research involving psychological tests and the empirical data which have been collected to validate them. On the basis of these estimates of test validity it is possible to determine that:

The number of officers performing in a manner characteristic of those officers currently in the Upper Third may be expected to increase by 36% with a simultaneous reduction of 39% in the number of officers performing in a manner characteristic of the officers in the Army's current lowest third.

It must of course be realized that gains to the Army will occur over a period of many years as more and more new officers are commissioned.

MAJOR AREAS MEASURED BY THE DIFFERENTIAL OFFICER BATTERY

SOUNDNESS OF JUDGMENT

The ability to make sound decisions with speed and accuracy in situations involving relationships with subordinates is considered a desirable attribute of a military officer.

EVALUATION OF PERFORMANCE POTENTIAL

There is considerable evidence to support the validity of evaluations by peers as an index of future job success. As the evaluation of others is an ability required in officer job duties, possible value may also be found in the assessment of an officer's ability to rate his peers.

INTERPERSONAL PERCEPTION

Insight into the reaction of other people and understanding of one's own attitudes is considered important to group effectiveness and may be related to Army officer performance.

PERSONAL INSIGHT AND SELF ATTITUDES

The manner in which an individual perceives his own interests and temperament is considered relevant to his adaptability to different types of jobs.

GROUP AWARENESS

An individual's ability to identify the opinions and standards of various groups and to discern the nature of the relationship between leaders and followers is hypothesized to be an important factor in the individual's ability to influence the actions of his own group.

BACKGROUND AND PERSONAL EXPERIENCES

The personal history and background of an individual have demonstrated great value in the selection and placement of individuals in both industrial and military settings.

PHYSICAL SKILLS AND STAMINA

Physical proficiency has been found to be significantly related to certain military performance, particularly combat performance. The importance of requirements for such factors as coordination, agility and ruggedness is expected to vary from one job to another.

INTEREST AND MOTIVATION

- Incidental knowledge is acquired through conversations, hobbies, informal reading and recreation even where there has been no formal training or work experience. The amount of such knowledge that an individual has acquired in particular areas is expected to reflect the interest he has in those areas. As interest is a strong factor in motivation toward achievement, this measure is expected to be predictive of motivation to succeed in different areas of assignment.