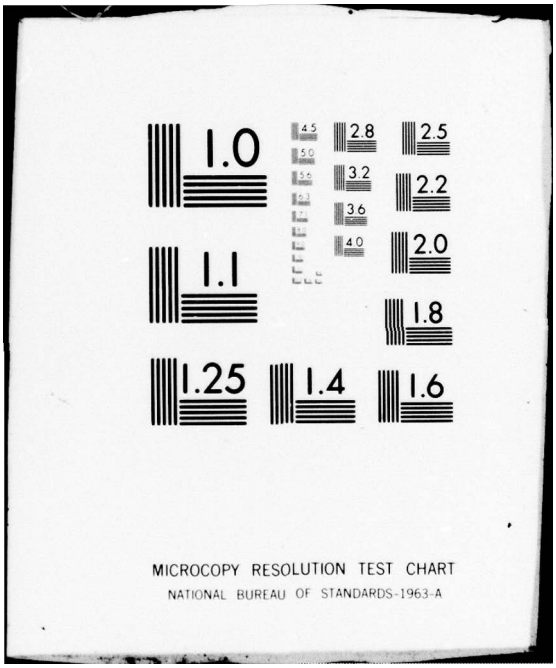
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RESEARCH FOR SELECTION AND CLASSIFICATION IN THE KOREAN ARMY

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New Classification Techniques Task

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(6) RESEARCH FOR SELECTION AND CLASSIFICATION IN THE KOREAN ARMY

(10) Leo J. Kotula
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Submitted by
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Approved by
J. E. Uhlaner
Director of Laboratories

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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FOREWORD

Current research to improve selection and classification for the Army of the Republic of Korea (ROKA) had its origin in a staff study conducted in 1960 by the Senior Advisor to The Adjutant General of the Korean Military Advisory Group (KMAG). Procedures for induction processing and classification of ROKA recruits were found to be in need of substantial revision.

The U. S. Army Personnel Research Office (U. S. APRO) responded to the expressed need of advice and assistance by an offer to provide guidance and consultative assistance to ROKA research personnel in developing an appropriate classification system. Early in the development of the U. S. Army personnel system, APRO had found that measures of specific abilities and aptitudes predictive of performance in broad groups of Army jobs affords the most efficient basis for the initial classification of enlisted men. The Aptitude Area system, in effect since 1949, represents continuing development and application of the principles of differential classification. Instruments and procedures modeled on the Aptitude Area system--modified to reflect the characteristics of the Korean manpower pool and geared to ROKA requirements--were considered by ROKA and APRO personnel to offer practicable means of improving ROKA classification and assignment.

During the fall of 1962, two research psychologists of the Office of the Chief of Research and Development--Dr. E. K. Karcher, Jr. (HFORD) and Mr. Jack J. Sternberg (U. S. APRO)--visited selected elements of ROKA and KMAG to study feasibility of OCRD support to research on military human factors problems in Korea. Their recommendations were followed by the formation of the U. S. Human Factors and Operations Unit in Korea. The Unit, sponsored by OCRD, was activated in January 1964 with Dr. Karcher as director. Dr. Leo J. Kotula of the Military Selection Research Laboratory, U. S. APRO was assigned to the unit to act as professional consultant to ROKA. When Dr. Karcher returned to KONUS, Dr. Kotula became acting chief of the OCRD unit in Korea, serving in that capacity from 28 June to 1 September 1964.

Dr. Kotula's mission was to provide guidance and assistance in research to develop a selection and classification system appropriate to the Korean culture and the personnel management needs of ROKA. During the year of his mission (January 1964--January 1965), a comprehensive research program was formulated which is designed to yield effective test batteries for selection and classification of ROKA enlisted personnel.

That program is described in the present publication. The author also presents some broader implications of research to develop a military selection and classification system in a cross-cultural setting. The substantial progress made in research to develop classification tests has also been reported in publications of the ROKA Adjutant General's Office listed as references in the present research study.

From the outset, it was recognized that primary responsibility for conducting research concerned with ROKA personnel problems would rest with the appropriate agencies within ROKA. Research requirements were coordinated with personnel in the Division of Conscription, ROK Ministry of National Defense, the Eighth U. S. Army (G-1 and AG), and the Office of the Senior DCSPER/AG Adviser, KMAG. The U. S. APRO research consultant worked directly with the ROKA AG research staff in the Classification Branch, Research and Development Division, headed by Lt. Colonel J. W. Kim, who had visited the U. S. APRO in December 1962 for general orientation on selection and classification research. The research staff included three civilian psychologists, Mr. Y. M. Chung, Miss Hioh-il Choe, and Mr. Y. K. Ban.

Concomitant with actual assistance in the planning and conduct of research, a systematic effort was made by the U. S. APRO representative to provide opportunity for ROKA research personnel to achieve increased competence in psychological measurement. U. S. APRO personnel continue to be available for consultative assistance in the ROKA research effort.

J. E. UHLANER
Director of Laboratories

RESEARCH FOR SELECTION AND CLASSIFICATION IN THE KOREAN ARMY

BRIEF

Objective:

To provide professional assistance to research personnel of the Republic of Korea Army (ROKA) in developing an effective enlisted selection and classification system appropriate to ROKA personnel management needs.

Procedure:

A senior research psychologist of the U. S. Army Personnel Research Office, OCRD, DA spent a year (January 1964 to January 1965) in Korea working with ROKA research personnel. Following an analysis of the effectiveness of current operational tests and procedures, a comprehensive research program was formulated, to include development of new and revised tests for selection and classification and their organization on a scientific basis into an integrated enlisted personnel system, broadly adapted from the U. S. Army personnel system. Initial phases of the research, including much of the test development, were completed in 1964, and detailed plans were made for subsequent validation, standardization, and implementation of the research products.

Accomplishments:

A comprehensive research program designed to produce a new classification testing system was initiated in February 1964. Research plans were based on a reexamination of ROKA operational classification tests and analysis of current data on their effectiveness.

A qualification battery was developed for identifying illiterates and personnel of marginal ability who would be ineffective in the military service.

A new classification test battery is under development, with validation studies currently in progress. The following tests are included in the battery:

Korean Attention to Detail Test, KATD-1

Korean Spatial Test, KST-1

Korean Clerical Aptitude Test, KCAT-2

Korean Transport Test, KTT-1

Korean Arithmetic Reasoning Test, KART-2

Korean Personnel Inventory, KPI-1 and KPI-2

Korean Job Specialties Test, KJST-1

Korean Vocabulary Reading Test, KVRT-2

Korean research personnel were indoctrinated on requirements for test validation and standardization scheduled for 1965.

RESEARCH FOR SELECTION AND CLASSIFICATION IN THE KOREAN ARMY

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RESEARCH FOR SELECTION AND CLASSIFICATION IN THE KOREAN ARMY

OVERVIEW

Early psychological tests used by the Army of the Republic of Korea (ROKA) were closely patterned after operational instruments used in selection and classification by the U. S. Army. The Korean Classification Battery (KCB), for example, consisted of tests parallel to tests of the U. S. Army Classification Battery (ACB) current at the time the Korean Army tests were instituted.

Application of the ACB model had resulted in an over-emphasis on verbal and technical skills--this in a country characterized by a relatively low educational level and by limited development of technical knowledge and skills. Much of the effectiveness of the ACB tests, particularly the information tests, was lost in translation. Also, the special aptitude tests could not function as intended since they were inappropriate to the experience and background of the young Korean whose opportunity to become familiar with modern mechanical and electrical equipment--hence with mechanical principles--is limited. Measures less dependent on schooling and mechanical experience were needed for effective assessment and placement of available personnel.

Further, the procedural framework in which the tests were used did not correspond even roughly to the U. S. Army selection and classification system for which the test batteries had been designed. In the Republic of Korea, acceptance or rejection has rested almost entirely on medical and occupational grounds. In practice, because of heavy input demands, almost the only basis for rejection is failure to meet minimum physical standards. Initial classification procedures have been applied at the local level where a man's experience and capabilities are most likely to be known. There was no mental screening prior to induction testing. At induction, the tests were administered as prerequisites to training in the various branches rather than as a basis for assignment of individuals in terms of their ability to learn different kinds of jobs. There was clear need for a system of classification appropriate to the Korean culture which would enable the Korean Army to make better use of its available human resources.[1]

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[1] Sternberg, J. J. Human factors research needs in Korea. U. S. Army Personnel Research Office Research Study 63-1. March 1963.

To achieve this goal, technical assistance was needed in defining research problems, formulating a research program, and conducting the research. This assistance was provided by a research psychologist of the U. S. Army Personnel Research Office (U.S. APRO) who was assigned for a year as consultant to the Classification Branch, Research and Development Division of the ROKA Adjutant General's Office. His specific mission was to advise on ROKA classification procedures and to assist ROKA research personnel in designing and conducting research to develop new classification tests. Studies were to be so designed that they could be continued by ROKA personnel following the departure of the APRO representative.

With technical assistance from the APRO research consultant, the ROKA Adjutant General's Office, in February 1964, initiated a broadly conceived research program leading to the development and validation of a new system of classification testing. At that time, research emphasis in test development shifted from close adherence to the ACB as a model to the objective of modifying test and battery content to greater responsiveness to the selection and classification problems of ROKA. The present report summarizes progress in the conduct of research and research planning during the year the U. S. APRO research psychologist spent as consultant to the ROKA Adjutant General (January 1964 to January 1965). Findings and observations influencing the broadening in objective and guiding subsequent steps in test development are emphasized. For the reader who desires to follow these steps in detail, a fuller account of the individual studies on which test development and battery composition were based is presented in Appendixes A through E.

Cultural factors affecting the selection and classification of military personnel in Korea and the impact of these factors on the research program as it evolved have implications for attempts to achieve more effective utilization of military manpower in other cross-cultural settings. Some of these implications are discussed in the final section of this Research Study.

The U. S. APRO consultant worked directly with the ROKA AG research staff. As occasion arose, the ROKA research personnel were indoctrinated on requirements for test development--design of validation studies, data collection and processing, statistical analysis, and reporting of results. During the year, a firm base was established for research scheduled for 1965. However, the research capability of the ROKA Adjutant General's Office was limited by the small size of the staff--an officer and three civilian psychologists--and by scarcity of equipment. There were no calculators, no test scoring machines, no computers. Under the circumstances, a limited amount of statistical analysis could be considered in planning research for 1964 and 1965. There is at present no indication that the research capability will be strengthened. Technical assistance on the part of U. S. APRO continues to be needed, particularly with respect to heavy statistical analysis requirements of test validation studies in progress.

ROKA SELECTION AND CLASSIFICATION SYSTEM IN 1964

Historically, the testing program for ROKA began in 1955 with the development of a general classification test, the Korean Mental Qualification Test, KMQT-1.[2] On the assumption that the skills and abilities required for ROKA jobs are much the same as for U. S. Army jobs, the early tests were close adaptations of ACB tests. Priorities for construction of the tests, and the extent to which each ACB test was to be adapted, as well as the method of standarization to be used, were decided on a judgmental basis.

Considerable progress had been made in the development of the Korean Classification Battery (KCB) by January 1964. At that time, six tests were in operational use and four additional tests were being developed. With these ten tests, all tests of the U. S. Army Classification Battery were represented except the Classification Inventory and the General Information Test developed as predictors of combat potential following the Korean war. Table 1 shows the history of the KCB as it was developed and applied from 1955 to 1964.

The KCB has been used primarily as a classification battery with men who have met no prior mental screening or selection requirements. This in spite of the fact that the ACB--on which the KCB was modeled--is designed for use as a differential classification battery following initial mental screening. In practice, heavy input requirements preclude screening other than on medical grounds. Deferments are limited to certain groups such as college students and family hardship cases. With respect to illiterates--who constitute about 6 percent of the total preinduction input--those who fail a non-standardized literacy test are provided lesson booklets and textbooks by the National Movement for Reconstruction so that they can raise their literacy level before their induction call.

Prior to March 1964, initial classification was accomplished by local classification units representing villages and city districts. Preinductees were given branch assignments on the basis of what was known about their civilian work experience. Allocation requirements governed the number of men in each province who could be assigned to each branch of service (Table 2).

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[2] Most of the research which went into the development of this and subsequent Korean Army tests was conducted by the Research and Development Division of the ROKA AG. Some assistance was given by the Korean Military Advisory Group (KMAG), by faculty members of Korean universities, and by civilian consultants working part time for the Army.

Table 1

OVERVIEW OF KCB TESTS AND THEIR APPLICATION

	Tests	Work Initiated	Completed	Implemented	Type of Selector
A.	Operational Tests Given at Induction (1964)				
1.	Korean Mental Qualification Test (KMQT-4)	10 Sep 58	30 Sep 59	15 Nov 59	General selector for advanced school training in all branches.
2.	Korean Mechanical Aptitude Test (KMAT-2)	30 Apr 60	30 Nov 60	15 Jun 62	General selector for advanced mechanical training in all branches in conjunction with KMQT.
3.	Korean Shop Mechanics Test (KSMT-1)	10 Sep 58	20 Nov 59	1 Feb 60	Selector for Ordnance Branch input qualifying on KMQT.
4.	Korean Automotive Information Test (KAIT-1)	10 Mar 57	5 Dec 58	2 Feb 59	Selector for Transportation Branch input qualifying on KMQT.
5.	Korean Clerical Aptitude Test (KCAT-1)	18 Jun 60	Sep 62	1 Jan 64	Selector for AG and Finance input qualifying on KMQT.
6.	Korean Electrical and Radio Information Test (KERIT-1)	4 Apr 58	Oct 60	1 Jan 62	Selector for Signal Branch input (selected MOS) qualifying on KMQT.
B.	Tests Under Development		Work Initiated		Standardization Schedule
7.	Korean Vocabulary Reading Test (KVRT-1)		20 Jun 60		March 64
8.	Korean Arithmetic Reasoning Test (KART-1)		10 Nov 61		March 64
9.	Korean Pattern Analysis (KPAT-1)		10 Nov 61		March 64
10.	Korean Transport Test (KTT-1)		Sep 63		July 64

Table 2

ALLOCATION REQUIREMENTS FOR 1964 INDUCTION INPUT
BY BRANCH OF SERVICE

	Branch	Percentage
1.	Signal	7.9
2.	Engineer	9.5
3.	Ordance	7.8
4.	Artillery	9.0
	Artillery	7.8
	Armor	1.2
5.	Transportation	10.2
	Transportation	10.2
	Army Aviation	0.1
6.	Medical	3.2
	Medical	2.8
	Chemical	0.4
7.	Infantry	52.8
	QM	7.6
	AG	7.0
	JA	0.0
	TI and E	0.3
	MP	1.7
	Special Services	0.2
	Finance	0.5
	Intelligence	0.4
	Infantry	33.4
	Replacement for short term personnel	1.0

Tests of the KCB were applied later at induction as successive hurdles. All inductees took the Korean Mental Qualification Test and the Korean Mechanical Aptitude Test. Other tests of the battery were then given as a check on qualifications for training in the various branches--the Automotive Information Test for the Transportation Corps, the Shop Mechanics Test for Ordnance, etc. About 30 percent of the branch assignments made at the local level had to be changed because, on KCB testing at induction, individuals did not meet mental standards for the branch to which they were originally assigned. All in all, the selection-classification system was not efficient. There was no assurance that ROKA was using its recruits in jobs for which their aptitudes best qualified them. A man qualifying easily for a routine mechanical job, for instance, might have the potential needed for a higher level job in a critical specialty. Scores on the tests were not used to predict trainability in broad occupational areas, nor were they used in multiple prediction of criterion performance.

Beginning in March 1964, substantial changes were made in the classification system and applied to 1964 preinduction input. Preinduction processing, including initial classification, was centralized at Manpower Administration Units located in the provinces. An occupational area system corresponding generally with the U. S. Army Military Occupational Specialty (MOS) structure replaced the branch classification system. Preinductees were classified by occupational area on the basis of their score on the Korean Mental Qualification Test (previously not given until after men had been inducted) and related experience and background factors. Assignments of preinductees in each province were made with due regard to allocation requirements (Table 3). The other tests of the KCB continued to be used at induction during 1964, to determine qualifications for branch assignments. The occupational area classification system was to become effective at induction stations in 1965.

CLARIFICATION OF RESEARCH NEEDS AND OBJECTIVES

By February 1964, expansion of the KCB to provide test coverage comparable to that of the U. S. Army Classification Battery was well under way, and a long-range validation study was planned to include both the six operational tests and the experimental tests which had been constructed (Table 1).

While both the operational and the experimental tests had been constructed without benefit of systematically obtained item statistics, some test and item data were available to the U. S. APRO consultant soon after his arrival. These data provided general indications that the mechanical information tests--Automotive Information, Shop Mechanics, Mechanical Aptitude, and Electrical and Radio Information--were inappropriate for ROKA induction input, since less than 1 perent of the 1962 preinductees had had any experience related to critical MOS in the mechanical domain. Further, norms for the Automotive Information Test and the Electrical and Radio Information Test had been based on samples that had already been partially trained in the military service and that were not therefore representative of induction input.

Table 3

ALLOCATION REQUIREMENTS FOR 1965 INDUCTION INPUT
BY OCCUPATIONAL AREA

	Occupational Area	Percentage
1.	Combat	
	Infantry - Engineer	38.1
	Artillery - Armor	8.0
2.	Electronics	0.9
3.	Electrical Equipment Maintenance	4.0
4.	Military Precision Maintenance	4.2
5.	Crafts	
	Construction	2.7
	Chemical	0.2
	QM	1.0
	Barber	0.02
6.	Motor Maintenance	14.0
7.	Administrative	17.0
8.	Medical	
	Sanitation	3.6
	Medical	2.9
9.	Graphics	
	Drafting	0.3
	Photography	0.1
	Printing	0.2
10.	Special Assignment	
	Band	0.3
	MP	1.5
	Intelligence	0.9

In the opinion of the U. S. APRO consultant, a complete reevaluation of the classification system and the KCB was advisable before proceeding with plans to validate old and new tests for an integrated battery. ROKA plans for the validation study were postponed until a refined test battery could be developed which would be more appropriate for ROKA induction input than the current battery. To this end a research program was formulated to include the following phases: (1) a systematic evaluation of the current KCB (2) development of a qualification battery for identifying illiterates and personnel of marginal ability for the military service; and (3) development and validation of a refined classification battery to replace the current KCB. An additional project, a study of the selection problem for assignment to the Korean Augmentation to the U. S. Army (KATUSA), was included in the research program in the fall of 1964.

Research to evaluate the ROKA classification testing system included a statistical analysis of item and test data obtained in induction samples and in a preinduction sample, and an analysis of KCB test validity in school samples.

Definite guidelines emerged from this preliminary analysis: Most of the tests were too difficult. The KMQT-4 test was more highly correlated with years of education and with other KCB tests than is its counterpart in the U. S. Army personnel system, the Armed Forces Qualification Test (AFQT). The high correlation with other KCB tests indicated that most of the predictive effectiveness of the KCB tests was associated with verbal, technical, and numerical skills acquired by education and measured by KMQT-4. Findings from a study of three operational KCB tests in ROKA school samples supported these conclusions.

On the basis of these studies, the "successive hurdles" system of administering the tests served no useful objective. The main hope of improving the system lay in the development of new tests which could be effectively combined with KMQT-4 as special selectors for the various schools.[3]

SPECIAL CLASSIFICATION PROBLEMS IN ROKA INFANTRY

Improving selection for the Infantry was perhaps the most critical personnel problem in ROKA in view of numbers of men involved and the minimal selection standards in effect. ROKA policy was to assign to the Infantry the bulk of inductees in the low range on KMQT-4 with little or no consideration to any special skills or abilities required for combat-type duty.

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[3] KMQT expectancy charts showed that some improvement in selection would result if new KMQT qualifying scores were established. Revised cutting scores were in fact implemented during 1964. For most courses, the revision was upward.

In a study to identify possible selectors for Infantry assignment, data were collected in April 1964 on operational KCB tests, background factors, and personal characteristics as they related to Infantry performance. The sample, which consisted of nine rifle companies and three weapons companies from a division, was almost exclusively rural in composition (96.3 percent came from predominantly rural provinces). The bulk of the division strength was found to be in the mental category IV and V range. Mean years of education was 4.0 as compared with 7.0 for ROKA input in general. Criterion groups of effective and ineffective personnel were identified by ratings obtained from NCOs and officers, as were also data on personal characteristics associated with effective and ineffective personnel.

In general, the validity coefficients were low, indicating that the measures would not be useful in screening ineffective personnel in the low mental category range. Also of interest was the indication that selection for Infantry could not be materially improved by setting screening standards on KMQT-4 or years of education because of low validity in the range of concern. For screening purposes, KMQT-4 needed to be supplemented by tests which had greater discrimination in the lower mental categories.

In general, characteristics relating to general military adjustment and level of ability were considered by raters to be more important in distinguishing between effective and ineffective squad members than were special qualities such as physical strength and stamina, getting along with others, staying out of trouble, and behavior in emergency situations. Similar results were obtained in the analysis of data collected on the personal characteristics of effective and ineffective NCOs, as judged by officer raters--with one notable exception: Leadership ability was judged to be more important than motivation in both groups. Motivation, judged to be an important characteristic for the lower grades, appeared to lose its importance at higher grades and was supplanted by leadership ability. Since leadership ability appears to be a requirement for high grades but not for low grades, leadership measures might be more effectively applied as a basis for promotion than in initial screening or selection, particularly in the case of low mental category personnel.

Considering the type of input currently available for the Infantry, then, heavy reliance must be placed on tests specifically designed to discriminate between effective and ineffective personnel in the low mental category range. Three types of tests were suggested as being potentially useful as supplements to KMQT-4 for screening Infantry personnel:

1. A basic ability test affording greater discrimination in the lower mental ranges.

2. A test measuring general military adjustment for use in identifying individuals likely to be effective in the Infantry.

3. A basic mechanical ability test (possibly a test of simple tool knowledge).

DEVELOPMENT OF NEW SELECTION AND CLASSIFICATION TESTS

BASIC CONSIDERATIONS IN TEST DEVELOPMENT

The transition in March 1964 from a branch classification system to an occupational area classification system was a major improvement in the ROKA personnel system. Greater control and standardization of preinduction processing was achieved by organizing preinduction centers in the provinces. At the same time, KMQT-4, the most effective test in the KCB, was removed from the KCB and designated for use in initial classification. The KCB continued to be applied in classification at induction. The stage was set for use of KMQT-4 as a qualification test rather than as a classification test and the transfer of all classification activities from preinduction to induction. A prerequisite to the satisfactory implementation of this system was the development of effective replacement tests for KMQT-4 and other tests of the KCB. The immediate problem, however, was to develop tests which could fit into the current successive hurdles classification system, replacing existing KCB selectors for specific occupational areas.

The research program included the development of a qualification battery consisting of two tests and a classification battery consisting of eight tests. The qualification battery was designed for use in preinduction to check on qualifications for the military service. The classification battery was designed for use either within the current successive hurdles framework or within the framework of an aptitude area system. In addition, several tests were developed for possible use as selectors for assignment to the KATUSA program.

DEVELOPMENT OF THE QUALIFICATION BATTERY

Rationale for Test Development. Because of the necessity of meeting heavy annual input requirements, no screening standards have been established on KMQT-4 except for the identification of illiterates. KMQT-4 is being used primarily as a test for grouping preinductees into five mental categories:

Category	Standard Score
I	130 and above
II	110-129
III	90-109
IV	70-89
V	Below 70

General ability requirements are set in terms of mental categories for the different occupational areas. In the 1963 input, there was heavy concentration of cases in the Category IV and V range (43 percent). These were mainly personnel of limited education, including illiterates--6 percent of total input--who had not been represented in the standardization of KMQT-4 and individuals with less than five years of education--another 20 percent of total input--for whom KMQT is very difficult. A more normal distribution of KMQT scores is expected in the future. Compulsory education of six years, in effect since 1958, should result in a gradual rise in the literacy level in the country as a whole. Also, increased government support of private schools should augment enrolment in middle school (7 to 9 years) and in high school (10 to 12 years). A substantial drop in percentage of Category IV and V individuals from 43 to 33 percent was noted in the 1964 preinduction input.

In content, KMQT-4 resembles the U. S. Army General Classification Test used in World War II. Items are of three types: vocabulary and arithmetic reasoning (both verbal) and cube counting (nonverbal). The emphasis on verbal and numerical skills is undoubtedly responsible for the high correlation of the test with years of education ($r = .79$) and its lack of precision in measurement of Category IV and V personnel. In its present form, KMQT-4 would have limited value for mental screening because of its ineffectiveness in discriminating between effective and ineffective personnel in the lower mental categories.

Progress in Test Development. Two tests have been developed for use in mental screening: KMQT-5, a revision of KMQT-4, and the Korean Basic Ability Test, KBAT-1, designed to provide finer discrimination of basic abilities among men of relatively low mental level than does KMQT-4. Screening norms will be established on both tests when the necessary phases of tryout administration, validation, and standardization have been completed.

The development of KMQT-5 is nearing completion. The preliminary form[4] contains items of four types: vocabulary, arithmetic reasoning, and cube counting as represented in KMQT-4, and nonverbal spatial relations items similar in format to items in the Spatial Relations Test of the U. S. Army Qualification Battery[5]. Addition of the Spatial Relations subtest was expected to lower KMQT correlation with years of education and with tests of the KCB and to improve precision of measurement in the low mental categories. The preliminary form was

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[4] Constructed in August 1964 under contract with the Psychology Department, Chung-ang University in Seoul.

[5] Booklet B, DA PT 3692.

refined on the basis of item analysis conducted in an induction sample tested in September 1964. Items for each subtest were selected on the basis of item-subtest correlation to maximize the internal consistency of each subtest. A standardization run for the final form was scheduled for March 1965.

The Basic Ability Test is being prepared for validation and standardization. This test is designed to identify illiterates and to measure basic ability in the Category V range. The literacy check is based on two subtests: Rotated Characters, which requires identification of Korean characters that are printed upside down or backward; and Basic Reading, which requires identification of simple words commonly displayed on street and building signs. A third subtest, Chart Memory, measures ability to memorize figures in a chart--specifically to decide whether two given figures appear in the same row or in the same column on the chart. All subtests are administered as speed tests to provide an index of general ability. In the case of the literacy subtests, timed administration was considered necessary in order to obtain an adequate test ceiling. The preferred solution would be to increase the difficulty level of the two subtests and to administer them as power tests. The test has been scheduled for an additional administration to determine its effectiveness in discriminating between effective and ineffective personnel in the low mental category range. Contrasting samples consist of NCOs and squad leaders in an infantry division on the one hand and stockade prisoners on the other. A major purpose of the analysis is to determine whether one of the subtests, Chart Memory, contributes sufficiently to total test validity to be included in the final form.

DEVELOPMENT OF THE CLASSIFICATION BATTERY

A total of eight tests was considered necessary for classification purposes in ROKA. Progress made in the development of the tests, including the various phases of instrument preparation, trial administration, and standardization, is summarized in Table 4. The eight tests were designed to provide coverage of ability and skill requirements in six broad occupational areas: General Maintenance, Motor Maintenance, Technical Maintenance, Clerical, General Technical, and Combat Arms. The final goal was to constitute an aptitude area system covering the six areas and providing maximal discrimination of abilities and skills required in each area.

Two-test composites hypothesized to be applicable to each area are presented in Table 5. Composites for the Clerical, General Technical, and Motor Maintenance aptitude areas are comparable to U. S. Army composites for those areas. The composite for the Combat Arms area includes a personal inventory designed to measure general military adjustment and an information test similar in measurement objective to the General Information Test found to be an effective selector for combat assignment in the U. S. Army. The General Maintenance and Technical Maintenance composites include subtests of mechanical ability, spatial relations, and attention to detail designed to discriminate between trade-level and technical-level ability in the mechanical domain. This discrimination was considered necessary

Table 4

STATUS OF EXPERIMENTAL CLASSIFICATION BATTERY AS OF JANUARY 1965			
A.	Tests which have been standardized		
	1. Korean Attention to Detail Test	KATD-1	New selector for General Maintenance MOS.
	2. Korean Spatial Test	KST-1	New selector for Technical Maintenance MOS.
	3. Korean Clerical Aptitude Test	KCAT-2	To replace KCAT-1 as a selector for Clerical MOS
B.	Tests in standardization phase or ready for standardization		
	4. Korean Transport Test	KTT-1	To replace KAIT-1 as a selector for Motor Maintenance MOS.
C.	Tests in trial administration and analysis phase		
	5. Korean Arithmetic Reasoning Test	KART-2	To replace KART-1 as a selector for General Technical MOS.
	6. Korean Personal Inventory	KPI-1 & KPI-2	New selector for Combat Arms MOS.
	7. Korean Job Specialties Test	KJST-1	To replace KSMT-1 and KMAT-2 as a selector for Motor Maintenance, General Maintenance, and Technical Maintenance MOS.
D.	Tests in instrument preparation phase		
	8. Korean Vocabulary Reading Test	KVRT-2	To replace KVRT-1 as a selector for Clerical and General Technical MOS.

Table 5

OCCUPATIONAL AREAS FOR WHICH KCB TESTS WERE DEVELOPED

Occupational Aptitude Area	MOS Series	Tests
1. General Maintenance	300 - 590	1. KJST-1 (GM Key)
		2. KATD-1
2. Motor Maintenance	600 - 690	1. KJST-1 (GM Key)
		2. KTT-1
3. Technical Maintenance	200 - 290	1. KJST-1 (TM Key)
	900 - 990	2. KST-1
4. Clerical	700 - 790	1. KVRT-2
		2. KCAT-2
5. General Technical	800 - 890	1. KVRT-2
		2. KART-2
6. Combat Arms	100 - 190	1. KJST-1 (CA Key)
	950	2. KPI-1 and KPI-2

before any attempt was made to define more specialized or refined areas, such as Graphics, Military Crafts, Electronics, and Radio Code.

In the test development effort, two procedures were used to minimize test correlation with KMQT-4 and years of education: heavy reliance was placed on pictorial item content; and where verbal tests were considered necessary, reading requirements were kept to a minimum. In general, procedures represented a simplification of testing procedures used in the U. S. Army system. A brief description of each test in the battery, current or projected, appears in Appendix A.

A comprehensive validity analysis of the experimental classification battery was undertaken in 13 school samples of approximately 400 cases each. All school courses were represented. Data collection was initiated at the schools in October 1964 with experimental testing of men in their first week of training. Arrangements were made to collect school performance data (final course grades) upon completion of training. Data collection was completed by the end of January 1965. The school samples and courses covered in each school are presented in Appendix Table D-3.

Data collection was designed to permit evaluation of the tests as selectors for the occupational area for which they were specifically developed. The final goal is to identify tests and test composites useful either for increasing the effectiveness of the current successive hurdles system or for the constitution of an aptitude area system. Results of the validation study should lead to implementation of new selectors for the various occupational areas. Operational considerations favor a gradual rather than an abrupt transition to a differential classification framework. New selectors will replace current selectors for specific occupational areas until major difficulties in implementation of the framework can be resolved. These are some of the problems to be dealt with: Increased demands which an altered system would impose on replacement training centers--processing, testing, test scoring; enlarged and improved testing facilities to permit administration of a large battery of tests; and provision of increased funds for the transition and for maintenance of the system.

While the transition is being effected, research to refine experimental and operational tests will continue. In the future, research will also be required to maintain the classification efficiency of the refined battery as part of an aptitude area system.

SELECTORS DESIGNED FOR USE IN KATUSA ASSIGNMENT

A large segment of the Korean Army serves in the Korean Augmentation to the U. S. Army (KATUSA). In addition to increasing the strength of the U. S. Eighth Army, the KATUSA program provides a source of skilled personnel for ROKA when personnel are released from the program. Current procedure is to select half the yearly input from NCOs and the other half from recruits completing advanced basic training. NCOs serve 24 months in KATUSA, recruits 18 months. Input is selected primarily on the basis of education--a minimum of nine years for NCOs, six years for recruits. Educational standards are occasionally lowered in the case of NCOs. A nonstandardized English test, requiring free translation from English to Korean and from Korean to English, is used in the selection of recruit input. No problem appears to exist with respect to motivation for the KATUSA program. Most ROKA personnel consider assignment to the program highly desirable.

A special study was undertaken in the fall of 1964 to identify useful selectors for the program. Main objective was to determine whether any additional tests should be included in the new classification battery as special selectors for the KATUSA program, particularly tests of English proficiency and attitudinal factors which might relate to performance in KATUSA. Three experimental tests were constructed: (1) Basic English Test; (2) Personal Preference Test in which the examinee is asked to check characteristics he associates with foreigners; and (3) General Association Test in which examinee is asked to check characteristics he associates with Americans. The characteristics had previously been identified as favorable or unfavorable. The assumption was that personnel who attribute unfavorable characteristics to foreigners or Americans would tend to be less effective in KATUSA assignment. Sample questions from the two forms are shown below:

Personal Preference Test	Which type of foreigners would you prefer to work with?
	A. rich B. proud
General Association Test	Which term do you associate most with Americans?
	A. rich B. proud

It was in the research for the development of these measures that cross-cultural differences basically affecting the conduct of research were encountered.

Planned validation procedure called for collection of peer ratings to identify effective and ineffective criterion groups. The sample consisted of ROKA personnel assigned to three U. S. Army battalions--engineering, signal, and artillery. In rating their peers, the ROKA recruits and NCOs were to include both the ROKA and U. S. Army personnel in their units.

During data collection, general resistance was encountered in all units with respect to identifying the most ineffective personnel in a given platoon or gun section, as required on the rating form. Considerable prodding from examiners was necessary to insure that the item in question was completed by most raters. Even so, many individuals who were rated BEST by several raters were also rated WORST by other raters, and many ratings were found to be incomplete. The resistance was so strong and so generalized as to indicate that peer ratings are inappropriate in the Korean culture. Although the peer ratings collected were supplemented with NCO ratings (which were readily provided), the rating data obtained were of questionable value for test validation.

Main reliance in the analysis of experimental selectors had to be placed on data collected on the personal characteristics of effective and ineffective personnel as judged by ROKA raters, on data collected on job and unit satisfaction, and on descriptive information obtained on test and background variables.

From these data--admittedly inadequate--it appears that ROKA raters attached much more importance to personal characteristics related to general military adjustment--motivation, obeying orders, military appearance, trust-worthiness--than to special skills such as bilingual ability, social skills, and physical skill and stamina. A similar set of personal characteristics had previously been identified by NCO and officer raters as of most importance in their evaluations of effective infantrymen.

Data collected from ROKA raters in KATUSA also indicated that adjustment problems were more difficult for recruit input than for NCOs. Privates and privates first class were judged to be more ineffective than NCOs. The most critical characteristics of ineffective ROKA personnel in the opinion of the raters, were: Insist on special privileges which can't be justified, drink too much, poorly trained, and get irritated easily. The characteristic poorly trained undoubtedly applies more to recruit than to NCO input, inasmuch as recruits enter the program directly from basic training whereas most NCOs have had special training for their KATUSA assignment.

Results strongly suggested that ROKA personnel consider English proficiency of relatively minor importance in effective performance in the KATUSA program. A test of general military adjustment would therefore seem to be a more useful selector for KATUSA assignment than a test of English proficiency. Also, such a selector would be more appropriate for recruits than for NCOs. Since the ROKA recruit is relatively untrained for any specific assignment in the program, educational requirements for recruits should be comparable to--and preferably higher than--requirements for NCO input. At present, the reverse holds. Main reliance, however, in improving selection for KATUSA will have to be placed on occupational classification tests currently being developed for general input to ROKA.

KATUSA personnel indicated that they were generally satisfied with their job assignments and with the effectiveness of operations in their unit. While they judged themselves less satisfied with their jobs than U. S. Army personnel, 56 percent of them said that ROKA personnel were generally effective (the highest category provided) compared to 31 percent who placed U. S. Army personnel in that category. However, a generally favorable attitude toward Americans emerged from the responses. With a few exceptions, characteristics preferred in foreigners were associated also with Americans, indicating that Americans were regarded as having characteristics relatively acceptable in the Korean culture.

The discovery made in the course of data collection that the peer-rating procedure is not acceptable to ROKA personnel and, from this standpoint, has questionable value for test validation purposes in ROKA, raises questions about the adequacy of rating procedures in general in the Korean culture. In previous attempts at test validation conducted in infantry and basic training samples, no difficulties were encountered in collecting ratings from officers and NCOs, nor was any difficulty encountered in collecting ratings from NCOs in the sample under study. In this respect, supervisory ratings can be considered

more appropriate than peer ratings. However, more research information is needed on the reliability of supervisory ratings and on any cultural factors influencing the ratings before a determination can be made on the adequacy of ratings for test validation purposes. Special problems that need clarification are views existing in the culture concerning peer ratings and supervisory ratings and the weight given by raters to job proficiency factors, grade, age, social status, and other background factors which may be quite different in the Korean culture than in other cultures. No further test validation utilizing ratings was planned until these questions had been clarified. Consideration must also be given in subsequent test validation research to the development and use of other types of criterion measures (proficiency tests, performance checklists, production records, and job satisfaction indices) to supplement information obtained from raters.

GENERAL IMPLICATIONS FOR SELECTION AND CLASSIFICATION RESEARCH IN OTHER CULTURES

Basic research needs for the development of a selection and classification testing system for the military service are similar in all cultures. The most critical need is to develop an adequate general classification test and a differential classification battery, taking into consideration such cultural characteristics as the general educational level in the culture, technological level of development, ethnic origins, language structure, social structure, general economy, military strength and structure, and value systems. To the extent that cultures are similar in these respects, to that extent can comparable selection and classification tests be expected to apply to them. However, when considerable differences exist from one culture to another, as is usually the case, selection and classification tests have to be tailor-made for each culture. There is, in the general case, no immediate solution such as the wholesale adoption of a system found to be effective in another culture. There is no evidence--certainly not from the ROKA research effort--that a common-core selection and classification battery could be developed which would be applicable to all cultures.

Many years of research are needed to develop an adequate selection and classification system adapted to a particular culture. It is hypothesized that a transition from an initial classification system based on general ability, education, experience, and other background factors to a differential classification testing system is necessary in all cultures. The U. S. Army, which started with a general classification test, has found that the differential aptitude area system results in a more efficient use of its available manpower. In ROKA, however, an attempt to go directly to a differential classification testing system, patterned almost entirely after the U. S. Army system, without any basis in research, proved to be premature. The current ROKA system is essentially a general classification system with the Korean Mental Qualification Test (KMQT-4) serving as a general selector for all ROKA training programs, and other tests in the Korean Classification Battery serving as additional selectors.

In ROKA, the transition from the current system to a differential classification system will undoubtedly require several more years of research.

These considerations provide a general framework for classification research in other cultures, particularly cultures characterized by a low educational level and a low level of technological development. In these cultures, initial research could most profitably be expended on the development of an appropriate general classification test. Such a test, in conjunction with background factors, could be applied as an initial selector for all critical military training programs until additional selectors could be developed. The test would also be useful for identifying personnel of marginal ability, who would tend to be ineffective in the military service.

Subsequent work on the development of additional selection or classification tests should be guided for the most part by an intensive study of the culture and the military system operating in that culture. Particular attention should be paid to input and assignment requirements within the military system--for two reasons: First, the military system as structured, staffed, and organized, will necessarily reflect many cultural factors that need to be given special consideration in selection and classification. Second, selection and classification tests have to be specifically designed for use with the population available for military service. Special problems may exist with respect to the classification and assignment of subgroups differing in ethnic composition, language, religion, or education.

In the test development effort, the basic problem will be to determine what types of tests will be most appropriate to measure the mechanical, technical, and clerical abilities of the military input. Tests should be adapted to the level of technological development in the culture, which is necessarily reflected in the language. In an underdeveloped country, there may be a scarcity of technical terms in the language or, if such terms have been assimilated in the language, they may be relatively new and not generally known throughout the culture. An overemphasis on technical content, particularly in the mechanical and scientific domain, will undoubtedly result in high test correlation with general intelligence and education, as was the case in Korea, with little likelihood that the tests would have any value for differential classification.

Special consideration must be given to the value systems operating within the culture, because they have a considerable impact on the type of personality characteristics and even on the type of abilities which are required for effective performance within the culture. Personality tests and ability tests may be valid in one culture and not in another culture simply because different criteria are applied in evaluating performance in the two cultures. In the ROKA research effort, it was found that raters, in their evaluations of effective personnel, relied more heavily on general military adjustment factors (obedience, trustworthiness, and motivation) than on special skills such as intelligence, social skills, leadership ability, and physical skill and stamina.

In other cultures, an entirely different set of values or criteria may be applied in evaluating effective performance. Very little cross-cultural information is available in this area to permit generalizations from one culture to another.

In the development of personality and attitude measures, there is a general need to identify characteristics and values acceptable in the culture. Also, for test evaluation purposes, performance evaluation procedures must be devised which are appropriate to the culture. Limited progress was made in this area in the ROKA research effort. In data collected on personality and attitude questionnaires, it was not possible to identify personality characteristics and values which were unique to Korea and, which consequently would deserve special attention in test development, because of lack of cross-cultural information. In test validation, most reliance is being placed on academic performance criteria until questions pertaining to the usefulness of rating procedures in the Korean culture, particularly peer ratings, have been resolved.

Considering the results obtained in the ROKA research effort, it cannot be assumed that selection and classification tests, or, for that matter, evaluation procedures, have any general applicability from one culture to another. As a pioneer study in cross-cultural research on selection and classification problems, the ROKA research effort provides some general guidelines for similar research in other countries. However, in view of the general need for cross-cultural information in all cultures, it would be extremely desirable to formulate such research so that cross-cultural comparisons could be made with respect to abilities, and to personality characteristics, value systems, and evaluation procedures found to be acceptable in each culture. Such a program would provide additional guidelines for selection and classification research in all cultures involved.

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APPENDIXES

APPENDIX A. Tests Developed or Being Developed for the Korean Classification Battery

B. Evaluation of the ROKA Classification System as of Early 1964

C. Special Studies on Selection Problems in ROKA Infantry

D. Preliminary Analysis of New Tests for ROKA Selection and Classification

E. Development of Selectors for Possible Use in Assignment to KATUSA

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APPENDIX A

TESTS DEVELOPED OR BEING DEVELOPED FOR THE KOREAN CLASSIFICATION BATTERY

TESTS STANDARDIZED BY 1 JANUARY 1965

Korean Attention to Detail Test, KATD-1. This test is a direct translation of the Attention to Detail Test, Form 1, used in the U. S. Army Driver Selection Battery I. It has the same number of items (60) and the same time limit (4 minutes). A relatively simple test of perceptual discrimination, it is designed for use a selector of General Maintenance (trade-level) jobs. It was standardized in an induction sample tested in June 1964.

Korean Spatial Test, KST-1. This 38-item test is a direct translation of the Rotated Figures Test in the Common Core Classification Battery of the U. S. Army. Time limit is 25 minutes. As a test of visualization and discrimination, it is much more complex than the Attention to Detail Test and is considered to be a promising spatial relations selector for Technical Maintenance MOS. It was standardized in an induction sample tested in June 1964.

Korean Clerical Test, KCAT-2. This test is similar in format to the currently operational U. S. Army Clerical Speed Test. There are 75 items in Part I and 55 items in Part II. Each part has a 3-minute time limit. The test is designed to replace the longer KCAT-1 as a selector for Clerical MOS. It was standardized in an induction sample tested in August 1964.

TESTS BEING STANDARDIZED 1 JANUARY 1965

Korean Transport Test, KTT-1. This test is designed to replace the excessively technical Korean Automotive Information Test KAIT-1 as a selector for Motor Maintenance MOS. It contains self-description items measuring interest and experience, or both, related to driving[1]. It also contains standard automotive information items (selected from KAIT-1) which have been found of appropriate difficulty level for induction input. Forty items were selected for the final form following tryout and item analysis. Data necessary for test standardization were collected in an induction sample tested in December 1964. A time limit of 25 minutes was set for the final form.

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[1] In a survey conducted in Korea in 1963, many students selected for driver training, particularly those who had no knowledge of automobiles or any experience with them, indicated that they were afraid of driving or that they lacked confidence in their driving ability.

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TESTS IN TRIAL ADMINISTRATION AND ANALYSIS PHASE

Korean Arithmetic Reasoning Test, KART-2. This test is designed to have a better distribution of item difficulty levels than KART-1. Work on the initial form (100 items) has been completed. Trial administration for item analysis purposes was scheduled for January 1965.

Korean Personal Inventory, KPI-1 and KPI-2. These forms were specially designed for use as personality selectors for the combat arms, the only area in which personality selectors are applied in the U. S. Army aptitude area system. KPI-1 is a word-preference form (Which term, A or B appeals to you most?). KPI-2 is a pictorial preference form (Which item, A or B appeals to you most?) The word preference technique was used to minimize reading requirements. In the development of KPI-1, attempt was made to cover personal characteristics found to be associated with effective infantrymen--motivation for Army life, willingness to obey orders, trustworthiness. Results obtained with these forms in trial administration indicated that they would have little utility as combat selectors. Work on the development of new forms, KPI-3 and KPI-4, was therefore planned for 1965.

Korean Job Specialties Test, KJST-1. This test is designed to replace the Shop Mechanics test KSMT-1 and the Mechanical Aptitude test KMAT-2 as selector for General Maintenance MOS. It is also designed to provide a selector for Combat Arms MOS. In view of its extensive coverage, it was considered to be the most important test in the new classification battery. Technical test content was reviewed for adequacy by staff members of Ham Yang Technical University in Seoul.

Items testing knowledge of automotive, woodworking, and metal working specialties provide the basis for a General Maintenance key. A Technical Maintenance key is based on items dealing with electrical and other specialties for which a higher level of discrimination appears to be necessary. Items are grouped into two subtests, one pictorial (73 items) and one verbal (95 items). The verbal subtest also contains items on athletics and military activities and equipment. A key based on these items is intended as a measure of abilities needed for the Combat Arms.

TEST IN INSTRUMENT PREPARATION PHASE

Korean Vocabulary Reading Test, KVRT-2. Work on this test has been delayed until data or work difficulty levels of a large sample of vocabulary items have been obtained. In addition to the standard items in KVRT-1, the new test will contain items measuring work knowledge in the areas of law and government, banking and finance, agriculture, natural sciences, engineering, art, and social sciences. The examinee will be required to associate a particular work with the appropriate area of specialization. The new format was adopted because the nature of the Korean language made it difficult to duplicate effectively the type of item used in the U. S. Army Reading and Vocabulary test. Use of Chinese as well as Korean characters in the language and the concretistic nature of many concepts (for example, "pole vault" in Korean is spelled out as "jumping over a high bar with a long stick") posed additional problems.

APPENDIX B

EVALUATION OF THE ROKA CLASSIFICATION SYSTEM AS OF EARLY 1964

PRELIMINARY ANALYSIS-ITEM AND TEST DATA

In a general review of test score distributions and item difficulty indices available in induction samples available in March 1964, the following tests were included:

Operational Tests	Tests Newly Developed
1. Korean Mental Qualification Test, KMQT-4	1. Korean Verbal Reasoning Test, KVRT-1
2. Korean Mechanical Aptitude Test, KMAT-2	2. Korean Arithmetic Reasoning Test, KART-1
3. Korean Shop Mechanics Test, KSMT-1	3. Korean Pattern Analysis Test, KPAT-1
4. Korean Automotive Information Test, KAIT-1	
5. Korean Clerical Aptitude Test, KCAT-1	
6. Korean Electrical and Radio Information Test, KERIT-1	

A general need for reducing the difficulty of the items and eliminating ambiguous items was noted. The following specific weaknesses of the tests were apparent from the analysis:

1. On all tests except the Clerical Aptitude Test, there was a large number of omissions of easy as well as of difficult items.

2. A large number of zero or chance scores was noted on the four mechanical information tests and on the Pattern Analysis test.

3. A large number of high scores was noted in the case of the Vocabulary Reading Test and the Arithmetic Reasoning Test indicating need for a higher ceiling on these tests.

Subsequent analysis was undertaken of the correlation of KCB tests with KMQT-4 and years of education. This analysis was conducted in a pre-induction sample (N = 606) tested in March and April 1964.

A stratified sampling procedure was used to obtain a sample representative of the country as a whole in educational level and proportionate to allocation requirements for the various provinces. Three tests (Automotive Information, Electrical Information, and Pattern Analysis) were excluded from analysis because of their excessively high difficulty level when applied to induction input.

An intercorrelation matrix for KCB tests, based on administration to preinduction input, is presented in Table B-1. Corresponding values for counterpart ACB tests in the U. S. Army system are also presented[2]. In general, KMQT-4 correlation coefficients with years of education and with other KCB tests were higher than comparable correlation coefficients obtained for its counterpart in the U. S. Army system, the Armed Forces Qualification Test (AFQT)[3]. The fact that KCB intercorrelations were also higher than ACB intercorrelations was consistent with this finding.

In the case of only one test, Shop Mechanics, was correlation with KMQT-4 comparable to that of the corresponding ACB test with AFQT. However, KSMT-KMQT correlation should actually be lower than SM-AFQT correlation because KMQT-4 has no tool knowledge items whereas both SM and AFQT have a tool knowledge section. The high correlation of KCB tests with KMQT-4 indicated that most of the KCB test variance was associated with verbal, technical, and numerical skills acquired by education and encompassed in KMQT-4. For this reason, little of the KCB test variance is likely to be associated with specific abilities and skills in different occupational areas. The tests therefore did not appear to provide a sound basis for differential classification in ROKA, and appropriate revisions were needed to reduce the emphasis on verbal and technical skills.

Mean standard scores for Automotive Information, KAIT-1, and Shop Mechanics, KSMT-1, were unusually low (93.6 and 90.0), pointing to need for restandardization. A similar need was noted in the case of KMQT-4 in view of the disproportionate number of Category IV and V personnel (43%) in the 1963 preinduction input population.

VALIDATION OF OPERATIONAL KCB TESTS

Three of the five tests operational in 1963 were included in the validation: the Korean Mental Qualification Test, a general selector for all courses; Mechanical Aptitude, a general selector for mechanical courses; and Automotive Information, a specific selector for transportation and mechanical maintenance courses.

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[2] Helme, William H. Research to improve enlisted classification techniques. U. S. APRO Technical Research Report 1137. June 1964.

[3] Bayroff, A. G. Successive AFQT forms--comparisons and evaluations. U. S. APRO Technical Research Note 132. May 1963.

Validity information obtained in 13 school samples, covering all ROKA schools, permitted the first empirical check on the effectiveness of the current ROKA selection and classification system.

Results generally supported the conclusion from the earlier analysis that KCB tests have very little selection or classification value when combined with KMQT-4. KMQT-4 was found to be a very useful general selector for all schools with validity coefficients ranging from .27 to .68 in spite of pre-selection on KMQT-4 (Table B-2). Validity coefficients for KMQT-4 were generally higher than for the Mechanical Aptitude Test. Coefficients for the Automotive Information Test were generally lowest. As a selector for Mechanical MOS, the Mechanical Aptitude test did not yield any appreciable boost in validity when combined with KMQT-4. With respect to differential classification, the mechanical tests failed to meet the basic requirement: higher validity for mechanical courses than for other courses. For example, the highest validities for the two mechanical tests were obtained for the AG course.

On the basis of results obtained in this analysis, the "successive hurdles" system of administering the tests served no useful objective. The main hope of improving the system lay in the development of new tests which could be effectively combined with KMQT-4 as special selectors for the various schools. However, KMQT expectancy charts showed that some improvement in selection would result if new KMQT qualifying scores were established. New qualifying scores shown in Table B-3, were actually implemented in 1964.

Table B-1

INTERCORRELATION COEFFICIENTS FOR KCB TESTS AND EDUCATION IN A PREINDUCTION SAMPLE
(N = 606)

Variable	Mean	SD	Intercorrelations						
			1	2	3	4	5	6	7
1. Years of education	7.0	3.2							
2. KMQT-4	102.2	24.9	.79(.53)[a]						
3. KMAT-2	93.6	18.8	.61	.80(.72)					
4. KVRT-1	100.6	21.9	.71	.91(.77)	.84(.72)				
5. KART-1	101.9	23.0	.68	.90(.76)	.76(.59)	.84(.72)			
6. KCAT	98.0	13.9	.72	.85(.69)	.74(.45)	.93(.58)	.74(.63)		
7. KSMT-1	90.0	23.6	.61	.74(.76)	.78(.72)	.68(.61)	.62(.61)	.70(.45)	

[a]Values in parentheses are corresponding coefficients obtained for counterpart ACB tests.

Table B-2

VALIDITY COEFFICIENTS OF KCB TESTS OBTAINED IN 13 SCHOOL SAMPLES

Samples	N	KCB Tests			
		KMQT-4	KMAT-2	KAIT-1	KMQT-4 + KMAT-2
General Technical and Clerical					
Finance (Basic Finance)	166	.27	.36	.05	.41
AG (Personnel Admin.)	160	.54	.46	.38	.67
Intelligence (Gen. Intelligence)	150	.64	.36	.29	.45
Chemical (Chemical Supply)	200	.47	.42	.14	.48
Medical (Gen. Medical)	200	.48	.44	.08	.51
Mechanical					
Signal (Wireless Comm.)	200	.32	.32	---	.37
Engineer (Gen. Supply)	200	.41	.28	.27	.38
Ordnance (Fuel and Elec. Sys.)	200	.57	.38	---	.54
Transportation (Vehicle Maint.)	153	.30	---	.30	---
QM (QM Supply)	200	.42	.29	.27	.45
Combat					
Armor (Armor Crewman)	200	.53	.32	.22	.53
Artillery (Ammo and Weather Forecast)	200	.54	.33	---	.46
MP	200	.68	.52	.21	.64

Table B-3

ADJUSTMENTS OF QUALIFYING SCORES ON KMQT-4 RECOMMENDED FOR ROKA SCHOOLS

School	Qualifying Scores (1963-1964)		New KMQT-4 Qualifying Scores	
	KMQT	Other Tests	Recommended	Implemented
Finance	120	100 (KCAT-1)	110	110
AG	100	100 (KCAT-1)	110	110
Intelligence	100	----------	110	100
Chemical	100	80 (KMAT-2)	110	100
Medical	80	----------	90	90
Signal	95	92 (KERIT-1)	115	100
Engineer	70	----------	100	75
Ordnance	80	76 (KSMT-1)	90	90
Transportation	80	80 (KMAT-2)	85	90
QM	80	----------	90	90
Armor	90	82 (KAIT-1)	100	100
Artillery	90	76 (KSMT)	100	100
MP	90	----------	90	90

APPENDIX C

SPECIAL STUDIES ON SELECTION PROBLEMS IN ROKA INFANTRY

In a study to identify possible selectors for Infantry assignment, information was obtained on operational KCB tests, background factors, and personal characteristics as they related to Infantry performance. Analysis of these variables was conducted in a sample selected from the Capital Division, First ROK Army, utilizing data collected 1 and 2 April 1964. Three rifle companies and one weapons company were selected from each of the three regiments in the division to obtain a sample representative of the division as a whole. The analysis was completed in two phases: (1) validation of test and background factors by contrasting effective and ineffective personnel identified by NCO and officer raters; and (2) analysis of the personal characteristics of effective and ineffective personnel as judged by the raters.

Criterion groups were identified for validation purposes by ratings obtained from NCO's officers. Data on personal characteristics of effective and ineffective personnel were collected on a rating form on which NCO raters (2 per squad) and officer raters (2 per platoon) were given the following instructions:

1. To identify four men (the two BEST and the two WORST) on the basis of their promotability to a higher grade.

2. To check at least 3 of 9 personal characteristics listed on the rating form that the two BEST men had most in common, and 3 characteristics that the two WORST men had in common; additional characteristics considered to be important were to be filled in.

3. To circle the two most important characteristics in the case of the two BEST and the two WORST men.

Only the characteristics circled in Step 3 were included in the analysis undertaken in the second phase. A total of 590 effective and 560 ineffective personnel were identified by this procedure. Men who were rated unreliably (rated BEST by one rater and WORST by another rater) were eliminated from the sample.

VALIDATION OF TEST AND BACKGROUND VARIABLES

Table C-1 shows the KMRT distribution by mental category for the division as a whole (less Division Headquarters personnel) and for the total sample under study. The two distributions were quite similar, indicating that results of this study could be generalized to the division as a whole. The bulk of the division strength (84 percent) was selected from the Category IV and V range.

Table C-1

DISTRIBUTIONS OF SCORES ON KMQT-4 FOR THE CAPITAL DIVISION AND FOR THE TOTAL SAMPLE UNDER STUDY

Mental Category	Division as a whole		Sample	
	N	%	N	%
I	23	.4	3	.2
II	255	4.5	64	4.9
III	618	11.1	152	11.6
IV	1,121	20.1	299	23.0
V	3,598	63.9	786	60.0
Totals	5,615	100.0	1,304	99.7

Table C-2

VALIDITY COEFFICIENTS OF KCB TESTS AND BACKGROUND VARIABLES

Variables	Mean Scores		Size of Sample		Validity Coefficients
	Effective	Ineffective	Effective	Ineffective	
1. KMQT-4	70.7	67.9	297	280	.11
2. Korean Mechanical Aptitude Test, KMAT-2	78.0	72.1	515	487	.28
3. Korean Shop Mechanics Test, KSMT-1	71.5	70.2	59	33	.05
4. Age	24.2	24.0	562	532	.08
5. Months of Service	14.7	11.8	558	553	.25
6. Years of Education	4.2	3.7	560	551	.13
7. Urban-rural[a] Residence	----	----	590	560	-.02

[a] Only 3.7% of the cases were from urban provinces.

The sample was also restricted on the Mechanical Aptitude Test (mean score = 75), on the Shop Mechanics Test (mean score = 71) and on years of education (mean score = 4.0 years as compared with 7.0 years for ROKA input in general). The sample was almost exclusively rural in composition (96.3 percent of the cases came from predominantly rural provinces). All results in this study necessarily apply to input which falls in a highly restricted range on KMQT-4.

Validity information for test and background variables is presented in Table C-2. Validity coefficients (biserial correlations) were computed by contrasting the effective and ineffective criterion groups. In general, the validity coefficients were low, indicating that the variables would not be useful in screening ineffective personnel in the low category range. A possible exception was the Mechanical Aptitude Test which had a validity coefficient of .28. A validity coefficient of similar magnitude was obtained for months of service, but this variable, of course, has no relevance for initial selection.

Note that the validity coefficients reported above were not corrected for restriction in range on KMQT-4, inasmuch as this study was primarily concerned with the identification of possible selectors which would be useful within the restricted range. Infantry input in the future was expected to be restricted in this manner. Provisions were made in subsequent research to check on the validity of KCB tests against performance in basic training within a relatively unrestricted KMQT range.

PERSONAL CHARACTERISTICS OF EFFECTIVE AND INEFFECTIVE PERSONNEL

This analysis was undertaken primarily to identify characteristics that raters associated with effective and ineffective personnel. Characteristics were rank-ordered in terms of the number of times they were checked as important by the raters, separately for squad members who were rated by NCOs and for NCOs who were rated by officers. The results obtained in the case of squad members are presented in Tables C-3 and C-4. Table C-3 shows that the characteristics most frequently associated with effective squad members were: Obeys orders very well, and very reliable and trustworthy, and that Good motivation and Good learning ability were additional characteristics most frequently added by raters.

These characteristics, with the exception of Good learning ability, could be subsumed under a general factor which may be called general military adjustment. Table C-4 shows that a different set of characteristics was associated with ineffective personnel: Slow in doing work, Not very intelligent, Poor motivation, and Poor learning ability. These characteristics, with the exception of poor motivation, could be subsumed under the factor of limited ability.

Table C-3

PERSONAL CHARACTERISTICS OF EFFECTIVE SQUAD MEMBERS IN THE ORDER OF IMPORTANCE AS JUDGED BY NCOS

Rank Order	Characteristics	Frequency	Percentage of total
	Characteristics Listed on the Rating Form		
1.	Obeys orders very well	224	30.0
2.	Very reliable and trustworthy	143	19.1
3.	Quick in doing work	81	10.8
4.	Good military appearance	78	10.4
5.	Never gets into trouble	62	8.3
6.	Very intelligent	52	6.9
7.	Keeps calm and collected in emergencies	43	5.7
8.	Physically strong and energetic	35	4.7
9.	Gets along with others	31	4.1
	Total	744	100.0
	Additional Characteristics Reported by Raters		
	Good motivation	15	25.0
	Good learning ability	15	25.0
	Good leadership	8	13.3
	Good example to others	8	13.3
	Hard worker	3	5.0
	Good memory	2	3.3
	Consideration for his men	2	3.3
	Others	7	11.7
	Total	60	99.9

Table C-4

PERSONAL CHARACTERISTICS OF INEFFECTIVE SQUAD MEMBERS RANKED IN ORDER OF IMPORTANCE AS JUDGED BY NCOS

Characteristics	Frequency	Percentage of total
Characteristics Listed on the Rating Form		
Slow in doing work	179	24.0
Not very intelligent	128	17.1
Poor military appearance	100	13.4
Disobeys orders	88	11.8
Gets excited or confused in emergencies	70	9.4
Physically weak and not energetic	62	8.3
Deceitful and untrustworthy	56	7.5
Gets along very poorly with others	38	5.1
Gets into trouble	25	3.4
Total	746	100.0
Additional Characteristics Reported by Raters		
No enthusiasm or motivation	31	49.4
Lack of ability	22	35.0
Bad leadership	4	6.0
Griper	3	4.8
Unreliable	3	4.8
Total	63	100.0

APPENDIX D

PRELIMINARY ANALYSIS OF NEW TESTS FOR ROKA SELECTION AND CLASSIFICATION

This analysis, performed in conjunction with trial administration and standardization studies, was an integral part of the test development effort. The primary objective was to prepare the various tests in final form for the comprehensive school validation study described in the body of the present Research Study, page 15. Additional objectives were to evaluate the Korean Basic Ability Test being developed for screening personnel of marginal ability and to evaluate tests developed for possible use as selectors for combat and KATUSA assignment. For validation of the latter tests, performance evaluation in duty assignment or in basic training were needed.

ANALYSIS IN INDUCTION SAMPLES

The main objective was to assess the adequacy of four experimental tests:

1. Korean Transport Test (KTT-1)--a replacement for the Korea Automotive Information Test.

2. Korean Spatial Test (KST-1)--similar in measurement objective to the ACB Pattern Analysis Test and designed as selector for highly technical MOS in the Mechanical domain.

3. Korean Attention to Detail Test (KATD-1)--hypothesized to be a useful selector for trade-level MOS in the mechanical domain.

4. Korean Clerical Aptitude Test (KCAT-1)--a shorter replacement form for the currently operational KCAT-1.

With the exception of the Spatial Test, the tests were considered to be adequate in terms of mean scores and the approximately normal score distributions obtained in various induction samples. The Spatial Test was found to be too difficult for personnel with less than 6 years of education. An attempt to adjust the difficulty level of the test by increasing testing time from 20 to 25 minutes proved unsuccessful. Since the test was designed as a selector for highly technical MOS requiring a minimum of 9 years of education, the measurement objective was realized to some extent. A decision was made to standardize the test and evaluate its effectiveness in the 1964 school validation program before considering any revision of the test.

In the course of the analysis, test correlations with years of education and test intercorrelations were obtained in the case of three tests (Transport, Attention to Detail, and Spatial). The coefficients shown in Table D-1 were considerably lower than those previously obtained for KCB tests, which ranged from .61 to .96. In this respect, the three tests were considered more appropriate for differential classification in ROKA than the operational KCB tests.

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Table D-1

CORRELATION MATRIX OBTAINED IN AN INDUCTION SAMPLE
(N = 400)

	Variables	Biserial Correlation Coefficients			
		1	2	3	4
1.	Years of education	-			
2.	Korean Spatial Test, KST-1	.43	-		
3.	Korean Attention to Detail Test, KATD-1	.67	.47	-	
4.	Korean Transport Test, KTT-1	.36	.39	.34	-

A rather ambitious effort was also undertaken to identify tests and test composites which correlated differentially with interest and experience in five broad occupational areas: General Maintenance, Technical Maintenance, Clerical, Combat Arms, and General Technical. Job assignments representing each area were incorporated in a short interest blank which required examinees to select the two out of eleven possible assignments which would be most suitable for them. They were also to indicate any training of work experience they had had which was related to their job preference. Very few individuals in the two samples tested (N = 300 in each sample) indicated that they had had any experience related to job preferences. Only 6 percent, for example, indicated that they had had any kind of mechanical experience. The interest measures obtained could not be considered very reliable inasmuch as they were based on relatively few items and had no foundation in actual working experience. They were considered inadequate for use--as originally planned--as criteria of the differential prediction afforded by tests and test composites.

Absence of well-defined interests and relevant training and experience among ROKA preinductees has a general implication for test development. Interest measures were unlikely to have utility for selection and classification, except as applied to very broad occupational areas--general mechanical, general clerical, and professional--rather than to military specialty groups.

ANALYSIS OF THE KOREAN BASIC ABILITY TEST, KBAT-1

KBAT-1 was developed for use in identifying Category V personnel who would be ineffective in military service. Work on this test has progressed through

two trial administrations. The first administration was conducted in June 1964 in a Category IV-V sample selected from an infantry regiment (N = 370). Validity coefficients of .29 and .16 were obtained for the two literacy subtests (Rotated Characters and Basic Reading) as compared with a validity of .11 for KMQT-4 (biserial correlation with ratings by NCOs). The third subtest, Chart Memory, was found to be too difficult and had to be simplified. The second administration of KBAT-1 was conducted in September 1964 in a sample limited to Category V personnel undergoing basic training (N = 300). Results obtained in this administration led to a slight readjustment of time limits for the three subtests (2 minutes for Rotated Characters, 3 minutes for Basic Reading, and 2 minutes for Chart Memory). With this modification, the subtests were considered adequate for Category V personnel in terms of mean scores and test distributions obtained. A third trial administration was scheduled for early 1965, primarily to determine whether the Chart Memory subtest should be included in KBAT in terms of its contribution to the total test validity.

TESTS DEVELOPED FOR USE AS COMBAT SELECTORS

Initial work on the development of tests for use as combat selectors was limited to the Korean Basic Ability Test and two forms of the Korean Personal Inventory:

KPI-1--a word preference form containing 121 two-choice items.

KPI-2--a pictorial preference form containing 82 two-choice items.

The preference technique was utilized to minimize reading requirements in consideration of the type of input available for infantry assignment. However, measures based on these tests showed little promise as combat selectors. They were relatively uncorrelated (.09) with a rating criterion in an infantry sample consisting of Category IV and V personnel tested in June 1964. Most reliance was therefore placed on the Korean Basic Ability Test for discriminating between effective and ineffective personnel in the low mental category range.

Main emphasis in subsequent test development was on tests which could be applied to ROKA input in general. Two tests were developed with this purpose in mind: a revised form of KPI-1 and the Korean Job Specialties Test (KJST-1).

The revised KPI-1 was scored by two keys designed to measure general military adjustment: (1) motivation key--a judgment key of 46 items covering interest in military activities, duties, conditions, and symbols; and (2) conformity key--an empirical key of 18 items scored in terms of responses which had high p-values in a trial administration.

The Korean Job Specialties Test (KJST-1) was developed as a secondary selector for the Combat Arms area. A Combat Arms key based on military information items, as well as keys for the General Maintenance and Motor Maintenance areas, was provided.

Analysis to assess the general adequacy of the revised KPI-1 and KJST-1 as selectors for the Combat Arms was conducted in a basic training sample tested in September 1964. The sample, consisting of personnel in Category IV and above in the last week of basic training, was relatively unrestricted in range on KMQT-4. General performance in basic training was used as a criterion of combat effectiveness, inasmuch as basic training is essentially training for combat. Rank-order ratings were obtained from NCOs--squad leaders and platoon sergeants. Test validity coefficients (biserial) were computed by contrasting upper and lower halves on the criterion. Results are presented in Table D-2. KMQT-4 and the Technical Maintenance key of the Job Specialties Test emerged as the best predictors, followed by the Mechanical Aptitude Test and the KJST-2 Combat Arms key. Validity coefficients of the KPI-1 keys and the KJST-1 General Maintenance key were too low to indicate that the tests would be useful as combat selectors. From a general selection standpoint, a mechanical test on the order of the Mechanical Aptitude Test or Job Specialties Test, used in conjunction with KMQT-4, appears to offer the most promise for improving selection for combat, particularly in view of the fact that the Mechanical Aptitude Test was previously found to be the best single predictor of performance in a sample representative of infantry input.

A comprehensive analysis of these tests in terms of test intercorrelations and validity of test composites was included in the 1964 school validation program to determine whether the tests would be more appropriate as selectors for Armor and Artillery school input than for ROKA infantry input in general. Scope of the school validation studies is indicated in the list of samples, on which data have been obtained (Table D-3) and the tests administered (Table D-4).

Table D-2

VALIDITY COEFFICIENTS FOR SELECTED TESTS OBTAINED IN A BASIC TRAINING SAMPLE (N = 152-170)

Tests	Validity Coefficients
Operational Tests	
KMQT-4	.33
Korean Mechanical Aptitude Test	.22
Korean Job Specialties Test	
Combat Arms	.20
Technical Maintenance	.30
General Maintenance	.13
Korean Personal Inventory, KPI-1	
Conformity	.03
Acceptance of Army	.11

Table D-3

SCHOOL SAMPLES ON WHICH DATA WERE OBTAINED FOR COMPREHENSIVE VALIDATION OF EXPERIMENTAL KCB TESTS

School Courses	N	No. of Classes
Artillery		
Artillery survey	88	2
Artillery maintenance	98	4
Artillery fire control	69	2
Artillery communications	144	4
Armor		
Armor creman	412	7
Signal		
Radio communications	52	2
Radio maintenance	26	1
Wire communications	119	4
Wireless teletype communications	24	2
Teletype operation	50	3
Teletype maintenance	42	2
Photographer	40	2
Signal supply	68	2
Engineer		
Demolition	40	1
Electrician	34	1
Electric device repairman	31	1
Bulldozer driver	33	1

Engineer (continued)	N	No. of Classes
Grader driver	26	1
Crane operations	22	1
Compressor operation	27	1
Water supply	32	1
Field heavy equipment maintenance	32	1
Unit heavy equipment maintenance	27	1
Generator operation	37	1
General supply	30	1
Carpentry	34	1
Crusher machine operation	20	1
Spare part supply	37	1
Ordnance		
Caterpillar vehicle maintenance	62	2
Wheeled vehicle maintenance	32	1
Fuel and electric device repair	32	1
Mechanical repair	30	1
Gun repair	60	2
Weapons repair	30	1
Supply	80	2
Ammo supply and records	76	2
Quartermaster		
Unit supply	120	3
QM supply	163	4
Cook training	120	3

Transportation	N	No. of Classes
Vehicle maintenance	104	2
Vehicle inspection	90	3
Vehicle maintenance	132	3
Vehicle inspection	131	3
Medical		
Medical	214	2
Internal	102	1
Surgery	95	1
Chemical		
Equipment maintenance	106	4
Chemical supply	111	3
Chemical technical	245	6
Adjutant General		
Personnel and Administration	392	4
Finance		
Basic finance	405	9
Military Police		
Basic MP	541	2
Intelligence		
General intelligence	434	9

Table D-4

EXPERIMENTAL TEST ADMINISTRATION AT ROKA SCHOOLS

Tests	ROKA School Administration
Battery I	Artillery, Armor, MP,
1. Korean Job Specialties Test, KJST-1	Ordnance, Engineer,
2. Korean Attention to Detail Test, KATD-1	Transportation
3. Korean Personal Inventory, KPI-1 (revised)	
4. Korean Transport Test, KTT-1	
5. Korean Spatial Test, KST-1	
Battery II	Medical, Chemical, Signal,
1. Korean Job Specialties Test, KJST-1	QM, AG, Finance,
2. Korean Clerical Aptitude Test, KCAT-1	Intelligence
3. Korean Spatial Test, KST-1	
4. Korean Arithmetic Reasoning Test, KART-1	
5. Korean Vocabulary Reading Test, KVRT-1	
6. Korean Attention to Detail Test, KATD-1	

APPENDIX E

DEVELOPMENT OF SELECTORS FOR POSSIBLE USE IN ASSIGNMENT TO KATUSA

A special study was undertaken in the fall of 1964 to identify useful selectors for assignment to KATUSA. The main objective was to determine whether any additional tests should be included in the new classification battery as special selectors for the KATUSA program, particularly tests of English proficiency and general attitudinal factors which might be related to performance in KATUSA. Three tests were developed for this purpose:

The Basic English Test (BET-1)--designed to measure understanding of spoken as well as printed English in language appropriate for personnel with limited use of English.

The Personal Preference Test (PPT-1)--designed to provide a measure of attitudes toward foreigners.

The General Association Test (GAT-1)--designed to provide a measure of attitudes toward Americans.

The technique employed in the two latter tests was to ask the examinees to check characteristics they associate with foreigners (PPT) and with Americans (GAT). Items responses have previously been identified as favorable or unfavorable. The assumption was that personnel who attribute unfavorable characteristics to foreigners or Americans would tend to be less effective in KATUSA assignment.

In the analysis, characteristics were rank-ordered in terms of the number of times they were checked to obtain an index of their relative importance as judged by ROKA personnel. Results obtained with List 1 are presented in Table E-1. Data collected on U. S. Army personnel are presented for comparison only, with no attempt at interpretation. Judging by the rank order of characteristics of effective ROKA and U. S. personnel, ROKA raters attached much more importance to personal characteristics related to general military adjustment--motivation, obeying orders, military appearance, and trustworthiness--than to special skills such as bilingual ability, leadership, social skills, and physical skill and stamina. Results strongly suggested that English proficiency plays a relatively minor role in the adjustment of ROKA personnel in the KATUSA program, in the opinion of ROKA personnel.

Results obtained with List 2 are presented in Table E-2. There was some indication that, if any selection problem existed in the KATUSA program, it was more critical in the case of recruit input (privates and privates first class) than in the case of NCO input. Privates and PFC's were judged to be more ineffective than NCOs. Problems relating to inter-cultural and cross-cultural adjustment were judged greater for U. S. Army personnel than for ROKA personnel, particularly among recruits who were in general much younger than

ROKA recruits[4]. The most critical characteristics of ineffective U. S. Army personnel were judged to be Privates and Pfc's and Have trouble with Americans as well as Koreans. The most critical characteristics of ineffective ROKA personnel were judged to be Insist on special privileges which can't be justified, Drink too much, Poorly trained, and Get irritated quickly. The characteristic Poorly trained undoubtedly applies more to ROKA recruit input than to NCO input, inasmuch as recruits enter the program directly from basic training, whereas most NCOs have had special training for their KATUSA assignment prior to entering the program.

ATTITUDES TOWARD KATUSA PROGRAM

A study was undertaken to obtain information about the attitude of Korean soldiers toward the KATUSA program, both with respect to satisfaction with individual assignments and effectiveness of unit operations. Results reflecting the opinions of Korean personnel exclusively, are presented in Table E-3. Results indicated that ROKA soldiers have a generally favorable attitude toward the KATUSA program, and feel that they contribute significantly to its effectiveness. Only 11.6 percent of the men indicated that they were dissatisfied with their assignment to the extent that they would want to be transferred to another unit. Similarly, only a small percentage indicated that their unit was ineffective.

On other items, ROKA soldiers judged themselves less satisfied with their assignment but more effective than U. S. Army soldiers--56.5 percent felt that ROKA soldiers were generally effective (highest category) compared to 31.2 percent who placed Americans in the highest category in general effectiveness.

ATTITUDES TOWARD FOREIGNERS AND TOWARD AMERICANS

Response frequencies were computed for the Personal Preference Test and the General Association Test in a sample of 180 cases in an effort to identify characteristics which ROKA personnel tend to associate with foreigners and with Americans. In 29 items which were common to the two tests, it was possible to compare characteristics preferred in foreigners with characteristics associated with Americans. Preferred characteristics were defined as those with a p-value exceeding .60 on the Personal Preference Test. With a few exceptions, characteristics preferred in foreigners were also associated with Americans, indicating that Americans were regarded as having characteristics that are relatively acceptable in the Korean culture. The general satisfaction with KATUSA assignment on the part of ROKA personnel, previously noted, may also reflect a generally favorable attitude toward Americans.

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[4] The median age of U. S. recruits in a First Cavalry Division sample of 384 cases was 20.8 as compared with 23.4 in a sample of 126 ROKA recruits included in this analysis.

Table E-1

CHARACTERISTICS OF EFFECTIVE KOREAN AND AMERICAN SOLDIERS
RANKED IN ORDER OF IMPORTANCE (LIST 1)

Characteristics	ROKA Personnel			U.S. Army Personnel		
	Rank Order	f	%	Rank Order	f	%
Very enthusiastic and interested their work	1	147	16.7	1	127	15.9
Good military appearance	2	134	15.3	2	124	15.5
Obeys orders very well	3	111	12.6	3	111	13.9
Very reliable and trustworthy	4	88	10.0	4	81	10.1
Never gets into trouble when away from the unit	5	75	8.6	6	42	5.2
Considerate of others	6	59	6.7	5	73	9.1
Calm and collected in emergencies	7	55	6.3	9	40	5.0
Very well liked by everyone in the unit	8	42	4.8	8	41	5.1
Better in English than other Koreans in unit	9	39	4.4			
Better in Korean than other Americans in the unit	-	-	-	13	8	1.0
Good leadership ability	10	37	4.2	9	40	5.0
Physically strong and energetic	11	32	3.7	7	46	5.8
Quick in doing work	12	31	3.5	11	36	4.5
Very intelligent (good memory, etc.)	13	21	2.4	12	25	3.1
Worked longer in the unit than other Koreans (Americans	14	7	0.8	14	5	0.6
Other important characteristics	15	-	-	-	-	-
TOTALS		878	100.0		799	99.8

Table E-2

CHARACTERISTICS OF INEFFECTIVE KOREAN AND AMERICAN SOLDIERS IN ORDER OF IMPORTANCE (LIST 2)

Characteristics	ROKA Personnel			U.S. Army Personnel		
	Rank Order	f	%	Rank Order	f	%
Insist on special privileges which can't be justified	1	97	14.6	3	116	15.8
Drink too much	2	91	13.7	6	64	8.7
Poorly trained for their jobs	3	85	12.8	8	44	6.0
Get irritated quickly	4	80	12.0	4	71	9.7
Have trouble with Koreans as well as Americans	5	79	11.9	-	--	---
Have trouble with Americans as well as Koreans	-	--	---	1	155	21.2
Jealous or envious of others	6	61	9.2	5	65	8.9
Privates and PFC's	7	56	8.4	2	124	16.9
Engage in illegal activities or are suspected of such	8	51	7.7	7	58	7.9
Don't socialize very much (keep to themselves)	9	49	7.4	9	17	2.3
NCOs	10	16	2.4	9	17	2.3
Commissioned officers	11	1	---	11	1	---
Other important characteristics	12	--	---	-	--	---
TOTALS		666	100.1		732	99.7

Table E-3

RESULTS OBTAINED ON ITEMS DEALING WITH JOB SATISFACTION AND UNIT EFFECTIVENESS

Item		Response Frequency	Percent
1. Generally, how satisfied are the Koreans in the unit?			
a. Generally satisfied		72	24.7
b. Somewhat satisfied		152	52.3
c. Generally dissatisfied		67	23.0
	TOTALS	291	99.9
2. Generally, how satisfied are the Americans in the unit?			
a. Generally satisfied		114	40.4
b. Somewhat satisfied		137	48.5
c. Generally dissatisfied		31	11.0
	TOTALS	282	99.0
3. Generally, how effective are the Koreans in the unit?			
a. Generally effective		164	56.5
b. Somewhat effective		112	38.6
c. Generally ineffective		14	4.8
	TOTALS	290	99.9
4. Generally, how effective are the Americans in the unit?			
a. Generally effective		88	31.2
b. Somewhat effective		162	57.4
c. Generally ineffective		32	11.3
	TOTALS	282	99.9
5. Generally, how effective is the unit as a whole?			
a. Generally effective		150	53.8
b. Somewhat effective		117	41.9
c. Generally ineffective		12	4.3
	TOTALS	279	100.0
6. Generally, how satisfied are you with your assignment in the unit?			
a. Generally satisfied		111	39.1
b. Somewhat satisfied		140	49.3
c. Generally dissatisfied--would want to be transferred to another unit		33	11.6
	TOTALS	284	100.0

Item statistics obtained on the two tests provided a basis for the development of a conformity key. This key was based on 82 items having high p-values (.60 or higher). The hypothesis was that personnel who attributed unfavorable characteristics to Americans or deviated from group preference would tend to be ineffective in KATUSA assignments. In the absence of a satisfactory preference criterion, a crude check on the conformity hypothesis was made in terms of a job satisfaction criterion. Scores on the conformity key were compared for two extreme groups identified on a three-point job satisfaction scale (111 individuals who indicated that they were generally satisfied and 33 who indicated that they were generally dissatisfied with their assignment). Differences in mean scores of the two extreme groups were too small to indicate any significant relationship between the conformity key and job satisfaction. This finding suggested that the conformity key had very little promise as a selector for the KATUSA program.

ENGLISH PROFICIENCY AND JOB SATISFACTION

The level of English proficiency in the analysis sample as a whole appeared to be satisfactory in terms of mean scores obtained on the Basic English Test, which was administered as a speed test. Mean scores were 24.25 on Part I, (53 items), 20.90 on Part II (64 items), and 12.61 on Part III (23 items). Part II, designed to measure understanding of spoken English, appeared to be the most difficult of the three measures.

As in the case of the Personal Preference Test and the General Association Test, a crude check on the validity of the Basic English Test (by comparing generally satisfied and generally dissatisfied groups) failed to reveal any sizable differences in the two groups. This finding was consistent with the fact that raters in the sample under study considered English proficiency to be a relatively unimportant characteristic of the effective ROKA personnel in their unit. However, the results obtained with respect to English proficiency must be interpreted with caution, particularly in the absence of U. S. raters who might be inclined to attach more importance to this variable in their evaluations of ROKA personnel in the KATUSA program than are ROKA raters. Three factors may be responsible for the relative unimportance of English proficiency in the KATUSA program:

1. The language training instituted for Korean personnel in the various units and commands tends to minimize any communication problem that may exist in the program.

2. KATUSA input is pre-selected on education, which is necessarily correlated with English proficiency[5]. (English is taught universally in Korea beginning with grade 7.)

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[5] Part I of the Basic English Test correlated .66 with years of education in the analysis sample.

3. In the course of its development, the KATUSA program may have been gradually adapted to provide for the satisfactory adjustment of ROKA personnel with a minimal level of English proficiency.

GENERAL IMPLICATIONS OF THE ANALYSIS

No selectors were identified as useful for the KATUSA program, with the possible exception of a test of general military adjustment which still remains to be developed. As judged by ROKA raters, personal characteristics relating to general military adjustment were identified as being more important for effective performance in the KATUSA program than English proficiency or other characteristics such as leadership ability, social skills, and physical skill and stamina. Data collected from ROKA raters also tended to indicate that adjustment problems were more difficult for recruit input than for NCO input and that problems of cross-cultural adjustment were greater in the case of U. S. Army personnel in low grades than in the case of their ROKA counterparts who, in general, are older and possibly more mature. In view of these results and the fact that ROKA recruit input is relatively untrained for any specific assignments in the KATUSA program, education requirements for this input should be comparable to and preferably higher than for NCO input (current selection standards on education are lower for recruit input than for NCO input).